File No. 130308 Committee Item No. _____
Board Item No. 19

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: _____ Date _____

Board of Supervisors Meeting Date 5/7/13

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OTHER (Use back side if additional space is needed)

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Completed by: Lynne Howe Date 5/2/13
Completed by: _____ Date _____

An asterisked item represents the cover sheet to a document that exceeds 25 pages.
The complete document can be found in the file.

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

NOTICE OF PUBLIC HEARING

BOARD OF SUPERVISORS OF THE CITY AND COUNTY OF SAN FRANCISCO

NOTICE IS HEREBY GIVEN THAT the Board of Supervisors of the City and County of San Francisco will hold a public hearing to consider the following proposal and said public hearing will be held as follows, at which time all interested parties may attend and be heard:

Date: **Tuesday, May 7, 2013**

Time: **4:00 p.m.**

Location: **Legislative Chamber, Room 250 located at City Hall, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102**

Subject: **File No. 130308.** Hearing of persons interested in or objecting to the Planning Commission's decision, dated March 21, 2013, Certification of a Final Environmental Impact Report identified as Planning Case No. 2008.1084E, through its Motion No. 18829, a proposed mixed-use project at 706 Mission Street (Assessor's Block 3706, Lots 093, 275 and portions of Lot 277), the Mexican Museum and Residential Tower Project. (District 6) (Appellants: Lippe Gaffney Wagner LLP on behalf of the 765 Market Street Residential Owners Association, Friends of Yerba Buena, Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins; and Brandt-Hawley Law Group on behalf of the Tenants and Owners Development Corporation and Yerba Buena Neighborhood Consortium LLC) (Filed April 2, 9 and 10, 2013)

Pursuant to Government Code Section 65009, notice is hereby given, if you challenge, in court, the matter described above, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Board of Supervisors at, or prior to, the public hearing.

In accordance with Section 67.7-1 of the San Francisco Administrative Code, persons who are unable to attend the hearing on these matters may submit written comments to the City prior to the time the hearing begins. These comments will be made part of the official record in these matters, and shall be brought to the attention of The Board of Supervisors. Written comments should be addressed to

Angela Calvillo, Clerk of the Board, Room 244, City Hall, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102. Information relating to this matter is available in the Office of the Clerk of the Board and agenda information will be available for public review on Thursday, May 2, 2012.

Angela Calvillo
Clerk of the Board

DATED: April 25, 2013
MAILED/POSTED: April 26, 2013

BOARD of SUPERVISORS

City Hall
1. Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
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TDD/TTY No. 544-5227

April 11, 2013

Susan Brandt-Hawley, Esq.
Brandt-Hawley Law Group
Chauvet House, POB 1659
Glen Ellen, CA 95422

Thomas N. Lippe, Esq.
Lippe Gaffney Wagner LLP
329 Bryant Street, Suite3D
San Francisco, CA 94107

Subject: Appeal of Final Environmental Impact Report - 706 Mission Street - The Mexican Museum and Residential Tower Project

Dear Ms. Brandt-Hawley and Mr. Lippe:

The Office of the Clerk of the Board is in receipt of your appeals, filed on April 9 and 10, 2013, and of a supplement to the appeal filed on April 2, 2013, received on April 10, 2013. All of these are appeals to the decision of the Planning Commission's March 21, 2013, Certification of a Final Environmental Impact Report identified as Planning Case No. 2008.1084E, through its Motion No. 18829, for a proposed mixed-use project at 706 Mission Street - The Mexican Museum and Residential Tower Project.

Pursuant to San Francisco Administrative Code, Section 31.16 (b), if more than one person submits a letter of appeal on the Final Environmental Impact Report, the Board shall consolidate such appeals so that they are heard simultaneously, and the hearing date will be set based on the last appeal filed.

Therefore, the original hearing date of Tuesday, April 30, 2013, which was set after receipt of the first appeal, has been rescheduled to hear all three consolidated appeals, including the supplement, on **Tuesday, May 7, 2013, at 3:00 p.m.**, at the Board of Supervisors meeting to be held in City Hall, Legislative Chamber, Room 250, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Please provide 1 electronic copy (sent to BOS.Legislation@sfgov.org) and 18 hard copies to the Clerk's Office by:

8 days prior to the hearing:	any documentation which you may want available to the Board members prior to the hearing;
11 days prior to the hearing:	names of interested parties to be notified of the hearing in label format.

If you have any questions, please feel free to contact Legislative Deputy Director, Rick Caldeira, at (415) 554-7711 or Legislation Clerks, Joy Lamug, at (415) 554-7712 / Lynne Howe, at (415) 554-4445.

Sincerely,

Angela Calvillo
Clerk of the Board

c: Project Sponsor, 706 Mission Street, Co., LLC, c/o Millenium Partners,735 Market Street, 6th Floor, San Francisco, CA 94103
Jon Givner, Deputy City Attorney
Kate Stacy, Deputy City Attorney
Marlena Byrne, Deputy City Attorney
AnMarie Rodgers, Manager of Legislative Affairs, Planning Department
Scott Sanchez, Zoning Administrator, Planning Department
Sarah Jones, Acting Environmental Review Officer, Planning Department
Viktoria Wise, Deputy Environmental Review Officer, Planning Department
Joy Navarrete, Senior Environmental Planner, Planning Department
Tina Tam, Senior Preservation Planner, Planning Department
Debra Dwyer, Project Planner, Planning Department
Jonas Ionin, Acting Planning Commission Secretary

BOARD of SUPERVISORS

City Hall
1. Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
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April 3, 2013

Thomas N. Lippe, Esq.
Lippe Gaffney Wagner LLP
329 Bryant Street, Suite. 3D
San Francisco, CA 94107

Subject: Appeal of Final Environmental Impact Report - 706 Mission Street - The Mexican Museum and Residential Tower Project

Dear Mr. Lippe:

The Office of the Clerk of the Board is in receipt of your appeal filed on April 2, 2013, from the decision of the Planning Commission's March 21, 2013, Certification of a Final Environmental Impact Report identified as Planning Case No. 2008.1084E, through its Motion No. 18829, for a proposed mixed-use project at 706 Mission Street - The Mexican Museum and Residential Tower Project.

A hearing date has been scheduled on **Tuesday, April 30, 2013, at 3:00 p.m.**, at the Board of Supervisors meeting to be held in City Hall, Legislative Chamber, Room 250, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Please provide 1 electronic copy and 18 hard copies to the Clerk's Office by:

8 days prior to the hearing: any documentation which you may want available to the Board members prior to the hearing;

11 days prior to the hearing: names of interested parties to be notified of the hearing in label format.

If you have any questions, please feel free to contact Legislative Deputy Director, Rick Caldeira, at (415) 554-7711 or Legislation Clerks, Joy Lamug, at (415) 554-7712 / Lynne Howe, at (415) 554-4445.

Sincerely,

Angela Calvillo
Clerk of the Board

c:
Project Sponsor, 706 Mission Street Co., LLC, c/o Millenium Partners, 735 Market Street, 6th Floor, San Francisco, CA 94103
Jon Givner, Deputy City Attorney
Kate Stacy, Deputy City Attorney
Marlena Byrne, Deputy City Attorney
AnMarie Rodgers, Manager of Legislative Affairs, Planning Department
Scott Sanchez, Zoning Administrator, Planning Department
Sarah Jones, Acting Environmental Review Officer, Planning Department
Viktoriya Wise, Deputy Environmental Review Officer, Planning Department
Joy Navarrete, Senior Environmental Planner, Planning Department
Tina Tam, Senior Preservation Planner, Planning Department
Debra Dwyer, Project Planner, Planning Department
Jonas Ionin, Acting Planning Commission Secretary

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Thomas N. Lippe
Brian Gaffney
Keith G. Wagner
Kelly A. Franger
Henry A. Steinberg

April 10, 2013

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2013 APR 10 PM 1:46

Board President David Chiu and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: **Supplement to April 2, 2013 Notice of Appeal** of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035) filed by the **765 Market Street Residential Owners Association**

Dear President Chiu and Supervisors:

This office represents the 765 Market Street Residential Owners Association ("ROA") regarding the proposed project known as 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). The ROA hereby supplements its notice of appeal of the Planning Commission's certification of the Final Environmental Impact Report ("FEIR") for the Project filed in this matter on April 2, 2013 to include the following grounds for appeal.

The EIR is not procedurally or substantively adequate, accurate, or objective. The EIR fails to lawfully identify the significant adverse environmental impacts or mitigation measures to substantially reduce the Project's significant adverse environmental impacts. The EIR also fails to lawfully assess the significance of the adverse environmental impacts of Project variants. In addition, the Responses to Comments does not adequately respond to comments submitted on the Draft EIR regarding these issues. These legal errors are evident in the EIR's assessment of many issues, including, without limitation, the following.

1. Traffic and Circulation Impacts.

As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, and previously submitted as **Exhibit 2**, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the following:

a. Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

"The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the

eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7." (Exhibit 2, p. 2.) Nelson Nygaard demonstrate that "Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact." (Exhibit 2, p. 5.)

b. Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

"The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact." (Exhibit 2, p. 5.) Again a proper analysis of the trip distribution reveals that Variants 6 & 7 should produce less than significant impacts at the critical Fourth and Market intersection.

c. The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

"The DEIR does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS" (Exhibit 2, p. 7.)

d. Excessive Onsite Parking Creates Traffic Impacts

"The proposed Project's residential parking supply of one space per unit exceeds the standard set in the Planning Code, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant." (Exhibit 2, p. 8.)

e. There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

"The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the Project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant." (Exhibit 2, p. 8.)

2. Pedestrian Traffic and Safety Impacts

The EIR does not lawfully assess the significance of the Project's impacts on pedestrian traffic and safety, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

3. Shadow Impacts on Union Square

a. The EIR does not lawfully assess the significance of the Project's shadow impacts on several City Parks, including Union Square, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

b. The EIR concludes the Project will generate more net new shadow on Union Square (337,744 square feet) than either the Planning Commission or the Recreation and Park Commission have the authority to currently allow pursuant to Proposition K, Planning Code Section 295 and the long standing Regulations adopted by City Planning and Recreation and Parks to carry out Proposition K and Planning Code Section 295.

c. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant." But the EIR concedes that this impact will use up over 100% of the park's current shadow budget (and over 60% of the park's current shadow budget even if the reduction in shadow caused by the Macy's remodel is factored in). Not only is this incremental impact "cumulatively considerable" as the EIR concedes, it is significant in its own right.

d. The EIR essentially concludes that only new shadows that strike Union Square between 10:00 a.m. and 3:00 p.m can be significant despite the fact that both Proposition K and Planning Code Section 295 are set up to limit any new shadow on a park under the jurisdiction of Recreation and Parks from one hour after sunrise to one hour before sunset. These are the hours that have been deemed significant by the voters in passing Proposition K in 1984, the City in establishing Section 295 and the long standing regulations adopted thereunder.

e. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant" but its cumulative shadow impact on Union Square to be "significant." This latter finding triggers an obligation that the EIR identify feasible mitigation measures that would "substantially reduce" the impact. The EIR does not even attempt to do so. Instead, the EIR finds that all mitigation measures that would substantially reduce this significant impact are infeasible, stating: "There is no feasible mitigation for the proposed project's contribution to cumulative shadow impacts, because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters." These are not

legally valid grounds for the EIR to dispense with any mitigation analysis at all.

f. The EIR contends that "there are situations under which new shadow that is considered significant under Planning Code Section 295 would not have a significant environmental impact under CEQA." (DEIR p. IV.I-60.) This is incorrect as matter of law. (See Planning Code § 298(b) ["The City Planning Commission shall conduct a hearing and shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant"].)

g. The Planning Commission agenda for its now canceled hearing of April 11, 2013 contained, as Items 1.a and 1.b:

1.a. 706 MISSION STREET . . . and UNION SQUARE . . . Discussion and possible joint action by the Planning Commission and Recreation and Park Commission to raise the cumulative shadow limit for Union Square, pursuant to the jointly-approved Section 295 Implementation Memo adopted in 1989, in order to accommodate new shadow cast by the 706 Mission Street project.

1.b. 706 MISSON STREET . . . UNION SQUARE . . . Request to Consider whether the net new shadow cast by the project at 706 Mission Street on Union Square will be adverse to the use of the park, and to authorize the allocation of the cumulative shadow limit for Union Square to the project, as required by Section 295 (the Sunlight Ordinance).

(1) The Planning Commission's proposed decision is to increase the cumulative shadow limit for the Park by 0.09%. But the 706 Mission Street EIR does not assess a general increase in the cumulative shadow limit, i.e., one that might be allocated to a different building than 706 Mission Street. Any such different building might cast new shadow at different times of the day or year than the shadow that will be cast by the proposed 706 Mission Street building. This EIR cannot be certified for this broader approval.

(2) The EIR also fails to account for the fact that the Planning and Recreation and Park Commission's serial adjustments to the cumulative shadow limit for Union Square (see e.g., the adjustment approved in October 2012) are based on a "moving baseline" that has no end in sight. Under this flawed logic, small changes can be incrementally approved one at a time, each considered less than significant when made. The result: sunlight on Union Square will suffer death by a thousand cuts.

4. Shadow Impacts on Jessie Square

a. The main text of the DEIR fails to quantify new shadow the Project would generate on Jessie Square. One has to go the letters from Turnstone Consulting buried in the Shadow Appendix to learn that the Project will add **8,031,176** square feet of new shadow to Jessie Square – that is more than **eight million** new square feet of shadow. But somehow the DEIR finds this is to be less than significant. Instead the DEIR states on page IV.I.47 that in the spring the Project new shadowing of Jessie Square and CJM's outdoor seating area would end by 11:00 a.m. and in the summer the new shadows on the outdoor seating area of the CJM would end by noon and the Project would no longer shadow Jessie Square by 12:30 PM. These are not insignificant impacts at insignificant times of the day or year. At a minimum mitigation measures including the set back alterative in B above should be employed.

b. The EIR fails to present any Project alternative that would reduce the Project's new shadow impacts on its immediate neighbor, Jessie Square. The Proposed Project's shadow impacts would reach other important open spaces, including Jessie Square, as described on DEIR pp. IV.I.46-47, and Figures IV.I.6 to IV.I.9. The text discusses the range of use of Jessie Square in morning periods when the Proposed Project would cast new shadows on this important space. Neither DEIR Alternative B nor E would reduce this impact, as stated on DEIR pp. VII.33 and 110 respectively. However, both Alternatives B and E, as illustrated in Figures VII 1 & 2 and VII.7 & 8, would rise on the west project site line with no set back above the base, as can be compared to Figure II.25, Conceptual South Elevation for the Proposed Project. Therefore, both Alternatives B and E, as presented in the DEIR, may produce a slightly greater shadow impact on Jessie Square than those from the Proposed Project.

c. A new Alternative F should be prepared to address the adverse project shadow effects on Jessie Square. Jessie Square is a south-facing open space with excellent access from Market Street, Third Street, and Mission Street, and serves as a calm, smaller-scale open space, compared to the larger Yerba Buena Gardens. While the range of existing activity in Jessie Square increases from mid-morning to mid-day periods, morning use is still notable, per footnote 33, DEIR p. IV.I.47.

d. During the period from 2006 - 2007, Millennium Partners prepared and submitted to 765 Market Street Owners a tower design that gave more prominence to the Mexican Museum, with a bold facade on a modestly scaled tower extension about 35-40 feet high, about the same height as the other structures facing on to Jessie Square, such as the Contemporary Jewish Museum and St. Patrick's Church. The Mexican Museum on the west was attached to a residential tower that was set back approximately 40 feet from the entrance to the Museum. That proposed tower would have produced even greater shadow impacts on Union Square than the proposed Project due to its even greater height, but the concept of setting the Residential Tower back from Jessie Square by about 40 feet with an attached and

identifiable Mexican Museum that opened onto the Square, would reduce the Project's shadow impacts on Jessie Square while at the same time producing an appropriately sized museum element facing directly on to the Square. A revised Alternative E in the form of a new Alternative F with the major part of the 351-foot tower mass realigned about 40 feet to the east would not only provide the same elimination of shadow effects on Union Square but it also would significantly reduce the shadow effects on Jessie Square.

5. Impacts on Historic Resources

The EIR does not lawfully assess the significance of the Project's impacts on land use, aesthetic and historic values in this area and in this Conservation District, including the historic Aronson Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The Aronson Building is a Category I Significant Building located within the New Montgomery-Mission-Second Conservation (NMMS) District.

b. There are several features of the Project that bring the tower portion within the Historic Preservation Commission's permitting jurisdiction and, under Planning Code § 1111, require that the developer obtain the HPC's approval of the tower by way of a permit to alter the Aronson Building or a permit for new construction of the tower in the NMMS District.

c. The western portion of the Aronson Building will be demolished and the tower will be built in its place, directly adjacent to the west side of the reduced Aronson Building. Also, the tower will be physically attached to and programmatically integrated with the Aronson building. Therefore, the tower is an alteration of the Aronson building requiring an HPC permit. Alternatively, the tower is "new construction" partially on the Aronson Building parcel and, therefore, within the Conservation District.

d. Article 11 of the Planning Code includes several zoning rules with which the tower does not comply. Section 1111.6 provides that for Significant Buildings - Category I such as the Aronson Building, any additions to height of the building "shall be limited to one story above the height of the existing roof" and "shall be compatible with the scale and character of the building." Also, all alterations and new construction must be compatible with the character and scale of the Conservation District. Several violations of these zoning rules are apparent. As an alteration of the Aronson building, the tower violates the rule limiting alterations to no more than one additional story over the original building. Second, as an alteration, the tower is not compatible with the scale, particularly the height, of the Aronson building. Third, as new construction in the district, the tower is not compatible with the scale, particularly the predominant height of the district and the predominant height of the buildings that define the conservation characteristics of the district.

e. The above described rule violations also describe significant adverse environmental effects that the EIR fails to disclose. A substantial adverse change in the significance of an historical resource is treated as a significant effect on the environment. (CEQA Guidelines, § 15064.5, subd. (b).) A "substantial adverse change" includes demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired. (CEQA Guidelines, § 15064.5, subd. (b)(1) .) Here, the tower will cause these significant adverse effects.

6. Noise Impacts. The EIR does not lawfully assess the significance of the Project's noise impacts in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. Mitigation Measure M-NO-1a, for Impact NO-1, Construction Noise, includes a provision requiring 14 days advance notice for activities that will generate noise over 90 db. As the EIR recognizes, generating noise at this level is a significant noise impact. Therefore, the acknowledgment in the mitigation measures that noise will , in fact, be generated above this level, subject only to a notice requirement, demonstrates that this impact remains significant after mitigation.

b. Mitigation Measure M-NO-3, for Impact NO-3 (Stationary Operational Noise Sources) is mitigated by measures that require compliance with San Francisco's noise ordinance, which provides a daytime and nightime interior receptor standards of 55 dBA and 45 dBA, respectively. State standards, as recognized in the DEIR, establish an interior receptor standard of 45 dBA. Therefore, mitigating to a standard of 55 dBA is not sufficient to find this impact less than significant.

7. Recreation Impacts. The EIR does not lawfully assess the significance of the Project's impacts on recreation in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The Recreation analysis only looks at impacts in terms of physical deterioration and degradation of nearby parks and park facilities. It does not include any information of rates of utilization of these parks and whether the additional population brought to the area will degrade recreation by causing more overcrowding of these parks.

8. Air Quality. The EIR does not lawfully assess the significance of the Project's impacts on air quality, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The EIR sets forth six criteria (p. IV.G.19) by which it will analyze the significance of air quality impacts.
G.1 Conflict with or obstruct implementation of the applicable air quality plan;
G.2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
G.3 Result in a cumulatively considerable net increase of any criteria air pollutant[1] for which the project region is in nonattainment[2] under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
G.4 Expose sensitive receptors to substantial pollutant concentrations; or
G.5 Create objectionable odors affecting a substantial number of people.

b. Construction of the proposed project would result in earth-moving activities and pollutants emitted by construction vehicles. The proposed project would include the "siting of new sensitive receptors as well as the introduction of new stationary sources of emissions subject to permitting requirements: a diesel fueled back-up emergency generator engine; and natural gas–fired mechanical systems or boilers. ...Development of the proposed project would introduce additional vehicular traffic in the project vicinity." (EIR pp. IV.G.19-20) Further, "land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities." (EIR p. IV.G.22)

c. The EIR fails to assess construction phase exposure of sensitive receptors to increased ozone pollution due to Project-caused increases emissions of ozone precursors (i.e., NOx and ROG.)

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[1] As required by the 1970 federal Clean Air Act, the United States Environmental Protection Agency initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. EPA calls these pollutants **criteria air pollutants** because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. **Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead are the six criteria air pollutants** originally identified by EPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less **(PM10)** and particulate matter of 2.5 microns in diameter or less **(PM2.5)**. (EIR p. IV.G.2)

[2] SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM10 and PM2.5). (EIR p.IV.G.21) Nox and ROG are precursors to ozone. (Air Quality Technical Report, EIR p. 3)

d. Regarding ozone, PM10, and PM2.5, the EIR states, that "Because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22) To the extent that, in taking this approach, the EIR categorically excludes "temporary" impacts from being significant, this violates CEQA. Under CEQA, an EIR must analyze both short term and long term adverse impacts for their significance. The EIR appears to average emissions and thus hide impacts at periods of high stationary pollutant sources and hide variances in impacts based on proximity (distance) to the project site.

e. **Impact AQ-1.** Impact AQ-1 claims to analyze project construction for Threshold of Significance G2 and G3. Threshold of Significance G2 is "violate any air quality standard or contribute substantially to an existing or projected air quality violation." The assessment is based on numerical standards established by the Bay Area Air Quality Management District (BAAQMD) for ROG (54 lbs/day); NOx (54 lbs/day) ; Exhaust PM10 (82 lbs/day); Exhaust PM2.5 (54 lbs/day). But the EIR cannot merely reference a project's compliance with another agency's regulations. Lead agencies must conduct their own fact-based analysis of project impacts, regardless of whether the project complies with other regulatory standards.

f. Beyond the assertion of BAAQMD's standards of significance, the EIR does not present any quantitative analysis of the extent to which the Project will increase ozone precursor emissions and thereby contribute to this regional air basin's "nonattainment" with federal and state ambient air quality standards for ozone. Without explanation, the EIR concludes that "project construction-phase criteria air pollutant emissions that are at levels below the applicable thresholds would not ...contribute substantially to an existing or projected air quality violation." (EIR p. IV.G.29). Table IV.G.5 shows that for NOx, while the total *average* daily emissions does not exceed the threshold of 54 lb/day, it does get substantially close at 49.76 lbs/day. (*Ibid.*) The EIR does not explain why it reaches the conclusion that the Project as proposed would not "contribute" to an existing or projected air quality violation; or "result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment."

g. The EIR claims to quantify construction emissions for each construction phase, but fails to disclose the emissions for each phase. (EIR p. IV.G.28) According to the EIR (EIR p. IV.E.52) there would be six partially overlapping construction phases:

- Phase 1 – Demolition (6 months)
- Phase 2 – Excavation and shoring (5 months)
- Phase 3 – Foundation and below-grade construction (5 months)
- Phase 4 – Building superstructure (14 months)
- Phase 5 – Exterior finishing (12 months)
- Phase 6 – Interior finishing (18 months)

Instead, the EIR combined the emissions to determine "average daily emission." (EIR p. IV.G.28). The EIR does not disclose if there are significant impacts at particular periods that were hidden through such averaging. Elsewhere the EIR asserts that "because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22). Yet, the EIR does not explain why only the averages, rather than peaks or extended periods of higher than average pollution emissions are applicable.

h. **Impact AQ-2.** The EIR fails to disclose whether construction of the Project would cause a potentially significant adverse impact from exposing sensitive receptors to substantial pollutant concentrations of fugitive dust. The EIR fails to perform this CEQA requirement despite conceding that "demolition, excavation, and other construction activities can cause wind-blown dust and a local increase in the concentration of particulate matter" and that, "depending on exposure, adverse health effects can occur due to particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil." (EIR pp. IV.29-30)

i. Rather than analyze the potentially significant adverse impacts, the EIR summarily concludes that regulations and procedures of the San Francisco Health Code and Building Code, including preparation and implementation of a Dust Control Plan, "would ensure that project generated fugitive dust air quality impacts would be less than significant" and thus "no mitigation measures would be necessary." There are a number of problems with this approach. First, the conclusion is not supported by reasoned analysis from facts to conclusion. Two, the Dust Control Plan is a mitigation not a part of the Project. Three, the Dust Control Plan will be submitted to the Director of Public Health after EIR certification, and is thus deferral of both impact analysis and mitigation formulation. The Dust Control Plan is deferral of impact analysis because this plan would for the first time include a map showing all sensitive receptors within 1000 feet of the site and analysis of wind direction. This is analysis that should properly be within the EIR, not created afterwards.

j. The EIR's assessment of construction phase exposure of sensitive receptors to increased emissions of PM2.5 and toxic air contaminants, including diesel particulate matter is based on numerical standards established by the BAAQMD (and EPA for PM2.5, i.e., 0.3 micrograms per cubic meter)). These thresholds are "excess cancer risk of 10 per million, chronic or acute HI of 1.0, or annual average PM2.5 concentrations in excess of 0.3 micrograms per cubic meter." (DEIR IV.G.31.) But the EIR provides no factual evidence to show that these general standards are appropriate for measuring the significance of this Project's impacts in this particular environmental setting, or that the EPA's standard for PM2.5, which is an annual average standard, is approprite for measuring the risk posed by construction activities that exceed the average for extended periods of time.

k. **Impact AQ-3.** The EIR does not clearly state if Project construction would cause a significant impact of exposing sensitive receptors to substantial concentrations PM2.5 and

toxic air contaminants, including diesel particulate matter. The heading for Impact AQ-3 states only "Less than Significant with Mitigation" and Table IV.G.7 has a "yes" for significant excess cancer risk per million, but there is no discussion of the significance in the narrative discussion of the impact.

l. Further, the EIR does not disclose or describe how severe this impact would likely be, contrary to CEQA's requirement of full disclosure. From Table IV.G.7 the inference is that 27.3 people will die from cancer per population of one million. However, the EIR fails to describe the risk or severity of impact to each of the populations listed at Table IV.G.6. Table IV.G.6 shows that residents of the Paramount Residences live within 100 feet of the Project, the St. Regis Residences within 150 feet, the Four Seasons Hotel and Residences 300 feet away, the Ritz-Carlton Club & Residences within 650 feet, the Yerba Buena Gardens Child Development Center 920 feet away, and the residents of the Woolf House Apartments at 1000 feet. The EIR breaks out the excess cancer risk for the Yerba Buena Gardens Child Development Center, but lumps all other sensitive receptors together.

m. The averaging of risk and omission of analysis of risk based on proximity to the Project is particularly troublesome given that the EIR elsewhere discloses that air pollution monitoring has confirmed that health effects "vary with modeled exposure" to particulate matter and NO2. For example, in traffic-related studies, the additional non-cancer health risk attributable to roadway proximity "was seen within 1,000 feet of the roadway" and "was strongest within 300 feet."[3] (EIR p. IV.G.8) "As a result, the ARB [Air Resource Board] recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day." Because of the scientific data on dispersion of Toxic Air Contaminants (TACs) from a source, the BAAQMD recommends assessing impacts of sources of TACs on nearby receptors within a 1,000-foot radius. However, the requirement to analyze within 1000 feet does not obviate the need to conduct analysis for risk and potentially significant adverse impacts based on proximity. Here, in fact, the EIR concedes that "the compact Project site and lack of buffer space between the site boundary and sensitive receptors limit the ability for construction-phase emissions to disperse." (EIR p. IV.G32.) The EIR admits that "the highest pollutant concentrations would occur at the existing residential receptors across Third Street about 100 feet to the northeast" (EIR p. IV.G.32) but doesn't state what those excess cancer levels would be or if they are significant.

n. Likewise, the EIR uses average emissions rates without disclosing the "higher short-term rates" which would occur as emissions vary during the construction period." (EIR p.IV.G.32) Given that emissions will "diminish substantially during the final phase of interior and finishing activities" and that averaging is used, potentially significant adverse impacts may occur, but the EIR has have failed to investigate this impact.

[3] Similarly, "ARB regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area." (EIR p. IV.G.16)

o. **Mitigation Measure M-AQ-3.** The EIR vaguely claims that Mitigation Measure M-AQ-3 implementation would reduce the estimated cancer risk impacts experienced by *off-site receptors* to below the project-level threshold of significance, but fails to disclose if this reduction will be experience by all off-site receptors listed in Table IV.G.6 or only a portion.

p. The EIR relies upon a "Construction Emissions Minimization Plan" which it claims will reduce construction period diesel by 65%, but fails to disclose how it reached this conclusion or more specifically this percentage reduction.

q. The EIR fails to describe the changes in the proposed construction fleet, emissions factors for equipment with and without controls, and the effectiveness of these controls for the project-specific construction fleet. (EIR p. IV.G.36). In regards to these changes, the EIR cites to an attachment to the Air Quality Technical Report which is not available to the public for review as the attachment is not included in the EIR or its Appendices.

9. Greenhouse Gas impacts. The EIR does not lawfully assess the significance of the Project's impacts on greenhouse gases, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The analysis does not quantify the Project's GHG emissions. Therefore, it cannot and does not apply the first of its two stated "thresholds of significance" (i.e., threshold H.1.)[4] Instead, it folds the first threshold into its second one to produce one threshold, i.e., the Project's compliance with the City's "Strategies to Address Greenhouse Gas Emissions." But the "Strategies" does not have a provision addressing GHG emissions associated with the manufacture or transportation to the project site of construction materials to be used in the building. A significant fraction of the global warming impact of construction comes from the greenhouse gasses embedded in the construction materials themselves. These materials take energy, and therefore greenhouse gasses, to make.

10. Recirculation. The Board should require that the Planning Department revise the EIR to include the information discussed above and recirculate a revised draft for public comment.

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[4]"Implementation of the proposed project would have a significant effect on greenhouse gas emissions if the project would: H.1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or H.2. Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs." (DEIR 4.H-16.)

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

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April 10, 2013

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Board President David Chiu and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: **Notice of Appeal** of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035) filed by the **Friends of Yerba Buena, Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins**

Dear President Chiu and Supervisors:

This office represents the Friends of Yerba Buena ("FYB"), Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins (collectively "Appellants") regarding the proposed project known as 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). Appellants hereby appeal the Planning Commission's certification of the Final Environmental Impact Report ("FEIR") for the Project and confirm their continuing objections to the City's approval of the Project in violation of the California Environmental Quality Act (CEQA).

A copy of the Planning Commission's March 21, 2013, Motion 18829, certifying the FEIR is attached hereto as **Exhibit 1**. Further documentation in support of this appeal will follow prior to the Board hearing.

The subject EIR is not procedurally or substantively adequate, accurate, or objective. The EIR fails to lawfully identify the significant adverse environmental impacts or mitigation measures to substantially reduce the Project's significant adverse environmental impacts. The EIR also fails to lawfully assess the significance of the adverse environmental impacts of Project variants. In addition, the Responses to Comments does not adequately respond to comments submitted on the Draft EIR regarding these issues. These legal errors are evident in the EIR's assessment of many issues, including, without limitation, the following:

1. Traffic and Circulation Impacts.

As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as **Exhibit 2**, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the

following:

a. Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

"The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7." (Exhibit 2, p. 2.) Nelson Nygaard demonstrate that "Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact." (Exhibit 2, p. 5.)

b. Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

"The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact." (Exhibit 2, p. 5.) Again a proper analysis of the trip distribution reveals that Variants 6 & 7 should produce less than significant impacts at the critical Fourth and Market intersection.

c. The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

"The DEIR does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS" (Exhibit 2, p. 7.)

d. Excessive Onsite Parking Creates Traffic Impacts

"The proposed Project's residential parking supply of one space per unit exceeds the standard set in the Planning Code, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant." (Exhibit 2, p. 8.)

e. There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

"The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the Project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant." (Exhibit 2, p. 8.)

2. Pedestrian Traffic and Safety Impacts

The EIR does not lawfully assess the significance of the Project's impacts on pedestrian traffic and safety, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

3. Shadow Impacts on Union Square

a. The EIR does not lawfully assess the significance of the Project's shadow impacts on several City Parks, including Union Square, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

b. The EIR concludes the Project will generate more net new shadow on Union Square (337,744 square feet) than either the Planning Commission or the Recreation and Park Commission have the authority to currently allow pursuant to Proposition K, Planning Code Section 295 and the long standing Regulations adopted by City Planning and Recreation and Parks to carry out Proposition K and Planning Code Section 295.

c. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant." But the EIR concedes that this impact will use up over 100% of the park's current shadow budget (and over 60% of the park's current shadow budget even if the reduction in shadow caused by the Macy's remodel is factored in). Not only is this incremental impact "cumulatively considerable" as the EIR concedes, it is significant in its own right.

d. The EIR essentially concludes that only new shadows that strike Union Square between 10:00 a.m. and 3:00 p.m can be significant despite the fact that both Proposition K and Planning Code Section 295 are set up to limit any new shadow on a park under the jurisdiction of Recreation and Parks from one hour after sunrise to one hour before sunset. These are the hours that have been deemed significant by the voters in passing Proposition K in 1984, the City in establishing Section 295 and the long standing regulations adopted thereunder.

e. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant" but its cumulative shadow impact on Union Square to be "significant." This latter finding triggers an obligation that the EIR identify feasible mitigation measures that would "substantially reduce" the impact. The EIR does not even attempt to do so. Instead, the EIR finds that all mitigation measures that would substantially reduce this significant impact are infeasible, stating: "There is no feasible mitigation for the proposed project's contribution to cumulative shadow impacts, because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters." These are not legally valid grounds for the EIR to dispense with any mitigation analysis at all.

f. The EIR contends that "there are situations under which new shadow that is considered significant under Planning Code Section 295 would not have a significant environmental impact under CEQA." (DEIR p. IV.I-60.) This is incorrect as matter of law. (See Planning Code § 298(b) ["The City Planning Commission shall conduct a hearing and shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant"].)

g. The Planning Commission agenda for its now canceled hearing of April 11, 2013 contained, as Items 1.a and 1.b:

1.a. 706 MISSION STREET . . . and UNION SQUARE . . . Discussion and possible joint action by the Planning Commission and Recreation and Park Commission to raise the cumulative shadow limit for Union Square, pursuant to the jointly-approved Section 295 Implementation Memo adopted in 1989, in order to accommodate new shadow cast by the 706 Mission Street project.

1.b. 706 MISSON STREET . . . UNION SQUARE . . . Request to Consider whether the net new shadow cast by the project at 706 Mission Street on Union Square will be adverse to the use of the park, and to authorize the allocation of the cumulative shadow limit for Union Square to the project, as required by Section 295 (the Sunlight Ordinance).

i. The Planning Commission's proposed decision is to increase the cumulative shadow limit for the Park by 0.09%. But the 706 Mission Street EIR does not assess a general increase in the cumulative shadow limit, i.e., one that might be allocated to a different building than 706 Mission Street. Any such different building might cast new shadow at

different times of the day or year than the shadow that will be cast by the proposed 706 Mission Street building. This EIR cannot be certified for this broader approval.

ii. The EIR also fails to account for the fact that the Planning and Recreation and Park Commission's serial adjustments to the cumulative shadow limit for Union Square (see e.g., the adjustment approved in October 2012) are based on a "moving baseline" that has no end in sight. Under this flawed logic, small changes can be incrementally approved one at a time, each considered less than significant when made. The result: sunlight on Union Square will suffer death by a thousand cuts.

4. Shadow Impacts on Jessie Square

a. The main text of the DEIR fails to quantify new shadow the Project would generate on Jessie Square. One has to go the letters from Turnstone Consulting buried in the Shadow Appendix to learn that the Project will add **8,031,176** square feet of new shadow to Jessie Square – that is more than **eight million** new square feet of shadow. But somehow the DEIR finds this is to be less than significant. Instead the DEIR states on page IV.I.47 that in the spring the Project new shadowing of Jessie Square and CJM's outdoor seating area would end by 11:00 a.m. and in the summer the new shadows on the outdoor seating area of the CJM would end by noon and the Project would no longer shadow Jessie Square by 12:30 PM. These are not insignificant impacts at insignificant times of the day or year. At a minimum mitigation measures including the set back alterative in B above should be employed.

b. The EIR fails to present any Project alternative that would reduce the Project's new shadow impacts on its immediate neighbor, Jessie Square. The Proposed Project's shadow impacts would reach other important open spaces, including Jessie Square, as described on DEIR pp. IV.I.46-47, and Figures IV.I.6 to IV.I.9. The text discusses the range of use of Jessie Square in morning periods when the Proposed Project would cast new shadows on this important space. Neither DEIR Alternative B nor E would reduce this impact, as stated on DEIR pp. VII.33 and 110 respectively. However, both Alternatives B and E, as illustrated in Figures VII 1 & 2 and VII.7 & 8, would rise on the west project site line with no set back above the base, as can be compared to Figure II.25, Conceptual South Elevation for the Proposed Project. Therefore, both Alternatives B and E, as presented in the DEIR, may produce a slightly greater shadow impact on Jessie Square than those from the Proposed Project.

c. A new Alternative F should be prepared to address the adverse project shadow effects on Jessie Square. Jessie Square is a south-facing open space with excellent access from Market Street, Third Street, and Mission Street, and serves as a calm, smaller-scale

open space, compared to the larger Yerba Buena Gardens. While the range of existing activity in Jessie Square increases from mid-morning to mid-day periods, morning use is still notable, per footnote 33, DEIR p. IV.I.47.

d. During the period from 2006 - 2007, Millennium Partners prepared and submitted to 765 Market Street Owners a tower design that gave more prominence to the Mexican Museum, with a bold facade on a modestly scaled tower extension about 35-40 feet high, about the same height as the other structures facing on to Jessie Square, such as the Contemporary Jewish Museum and St. Patrick's Church. The Mexican Museum on the west was attached to a residential tower that was set back approximately 40 feet from the entrance to the Museum. That proposed tower would have produced even greater shadow impacts on Union Square than the proposed Project due to its even greater height, but the concept of setting the Residential Tower back from Jessie Square by about 40 feet with an attached and identifiable Mexican Museum that opened onto the Square, would reduce the Project's shadow impacts on Jessie Square while at the same time producing an appropriately sized museum element facing directly on to the Square. A revised Alternative E in the form of a new Alternative F with the major part of the 351-foot tower mass realigned about 40 feet to the east would not only provide the same elimination of shadow effects on Union Square but it also would significantly reduce the shadow effects on Jessie Square.

5. Impacts on Historic Resources

The EIR does not lawfully assess the significance of the Project's impacts on land use, aesthetic and historic values in this area and in this Conservation District, including the historic Aronson Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The Aronson Building is a Category I Significant Building located within the New Montgomery-Mission-Second Conservation (NMMS) District.

b. There are several features of the Project that bring the tower portion within the Historic Preservation Commission's permitting jurisdiction and, under Planning Code § 1111, require that the developer obtain the HPC's approval of the tower by way of a permit to alter the Aronson Building or a permit for new construction of the tower in the NMMS District.

c. The western portion of the Aronson Building will be demolished and the tower will be built in its place, directly adjacent to the west side of the reduced Aronson Building. Also, the tower will be physically attached to and programmatically integrated with the Aronson building. Therefore, the tower is an alteration of the Aronson building

requiring an HPC permit. Alternatively, the tower is "new construction" partially on the Aronson Building parcel and, therefore, within the Conservation District.

d. Article 11 of the Planning Code includes several zoning rules with which the tower does not comply. Section 1111.6 provides that for Significant Buildings - Category I such as the Aronson Building, any additions to height of the building "shall be limited to one story above the height of the existing roof" and "shall be compatible with the scale and character of the building." Also, all alterations and new construction must be compatible with the character and scale of the Conservation District. Several violations of these zoning rules are apparent. As an alteration of the Aronson building, the tower violates the rule limiting alterations to no more than one additional story over the original building. Second, as an alteration, the tower is not compatible with the scale, particularly the height, of the Aronson building. Third, as new construction in the district, the tower is not compatible with the scale, particularly the predominant height of the district and the predominant height of the buildings that define the conservation characteristics of the district.

e. The above described rule violations also describe significant adverse environmental effects that the EIR fails to disclose. A substantial adverse change in the significance of an historical resource is treated as a significant effect on the environment. (CEQA Guidelines, § 15064.5, subd. (b).) A "substantial adverse change" includes demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired. (CEQA Guidelines, § 15064.5, subd. (b)(1) .) Here, the tower will cause these significant adverse effects.

6. Noise Impacts. The EIR does not lawfully assess the significance of the Project's noise impacts in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. Mitigation Measure M-NO-1a, for Impact NO-1, Construction Noise, includes a provision requiring 14 days advance notice for activities that will generate noise over 90 db. As the EIR recognizes, generating noise at this level is a significant noise impact. Therefore, the acknowledgment in the mitigation measures that noise will , in fact, be generated above this level, subject only to a notice requirement, demonstrates that this impact remains significant after mitigation.

b. Mitigation Measure M-NO-3, for Impact NO-3 (Stationary Operational Noise Sources) is mitigated by measures that require compliance with San Francisco's noise ordinance, which provides a daytime and nightime interior receptor standards of 55 dBA and 45 dBA, respectively. State standards, as recognized in the DEIR, establish an

interior receptor standard of 45 dBA. Therefore, mitigating to a standard of 55 dBA is not sufficient to find this impact less than significant.

7. **Recreation Impacts.** The EIR does not lawfully assess the significance of the Project's impacts on recreation in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The Recreation analysis only looks at impacts in terms of physical deterioration and degradation of nearby parks and park facilities. It does not include any information of rates of utilization of these parks and whether the additional population brought to the area will degrade recreation by causing more overcrowding of these parks.

8. **Air Quality.** The EIR does not lawfully assess the significance of the Project's impacts on air quality, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The EIR sets forth six criteria (p. IV.G.19) by which it will analyze the significance of air quality impacts.
G.1 Conflict with or obstruct implementation of the applicable air quality plan;
G.2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
G.3 Result in a cumulatively considerable net increase of any criteria air pollutant[1] for which the project region is in nonattainment[2] under an applicable federal or state

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[1] As required by the 1970 federal Clean Air Act, the United States Environmental Protection Agency initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. EPA calls these pollutants **criteria air pollutants** because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. **Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead are the six criteria air pollutants** originally identified by EPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less **(PM10)** and particulate matter of 2.5 microns in diameter or less **(PM2.5)**. (EIR p. IV.G.2)

[2] SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM10 and PM2.5). (EIR p.IV.G.21) Nox and ROG are precursors to ozone. (Air Quality Technical Report, EIR p. 3)

ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
G.4 Expose sensitive receptors to substantial pollutant concentrations; or
G.5 Create objectionable odors affecting a substantial number of people.

b. Construction of the proposed project would result in earth-moving activities and pollutants emitted by construction vehicles. The proposed project would include the "siting of new sensitive receptors as well as the introduction of new stationary sources of emissions subject to permitting requirements: a diesel fueled back-up emergency generator engine; and natural gas–fired mechanical systems or boilers. ...Development of the proposed project would introduce additional vehicular traffic in the project vicinity." (EIR pp. IV.G.19-20) Further, "land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities." (EIR p. IV.G.22)

c. The EIR fails to assess construction phase exposure of sensitive receptors to increased ozone pollution due to Project-caused increases emissions of ozone precursors (i.e., NOx and ROG.)

d. Regarding ozone, PM10, and PM2.5, the EIR states, that "Because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22) To the extent that, in taking this approach, the EIR categorically excludes "temporary" impacts from being significant , this violates CEQA. Under CEQA, an EIR must analyze both short term and long term adverse impacts for their significance. The EIR appears to average emissions and thus hide impacts at periods of high stationary pollutant sources and hide variances in impacts based on proximity (distance) to the project site.

e. **Impact AQ-1**. Impact AQ-1 claims to analyze project construction for Threshold of Significance G2 and G3. Threshold of Significance G2 is "violate any air quality standard or contribute substantially to an existing or projected air quality violation." The assessment is based on numerical standards established by the Bay Area Air Quality Management District (BAAQMD) for ROG (54 lbs/day); NOx (54 lbs/day) ; Exhaust PM10 (82 lbs/day); Exhaust PM2.5 (54 lbs/day). But the EIR cannot merely reference a project's compliance with another agency's regulations. Lead agencies must conduct their own fact-based analysis of project impacts, regardless of whether the project complies with other regulatory standards.

f. Beyond the assertion of BAAQMD's standards of significance, the EIR does not present any quantitative analysis of the extent to which the Project will increase ozone precursor emissions and thereby contribute to this regional air basin's "nonattainment"

with federal and state ambient air quality standards for ozone. Without explanation, the EIR concludes that "project construction-phase criteria air pollutant emissions that are at levels below the applicable thresholds would not ...contribute substantially to an existing or projected air quality violation." (EIR p. IV.G.29). Table IV.G.5 shows that for NOx, while the total *average* daily emissions does not exceed the threshold of 54 lb/day, it does get substantially close at 49.76 lbs/day. (*Ibid.*) The EIR does not explain why it reaches the conclusion that the Project as proposed would not "contribute" to an existing or projected air quality violation; or "result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment."

g. The EIR claims to quantify construction emissions for each construction phase, but fails to disclose the emissions for each phase. (EIR p. IV.G.28) According to the EIR (EIR p. IV.E.52) there would be six partially overlapping construction phases:

- Phase 1 – Demolition (6 months)
- Phase 2 – Excavation and shoring (5 months)
- Phase 3 – Foundation and below-grade construction (5 months)
- Phase 4 – Building superstructure (14 months)
- Phase 5 – Exterior finishing (12 months)
- Phase 6 – Interior finishing (18 months)

Instead, the EIR combined the emissions to determine "average daily emission." (EIR p. IV.G.28). The EIR does not disclose if there are significant impacts at particular periods that were hidden through such averaging. Elsewhere the EIR asserts that "because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22). Yet, the EIR does not explain why only the averages, rather than peaks or extended periods of higher than average pollution emissions are applicable.

h. **Impact AQ-2.** The EIR fails to disclose whether construction of the Project would cause a potentially significant adverse impact from exposing sensitive receptors to substantial pollutant concentrations of fugitive dust. The EIR fails to perform this CEQA requirement despite conceding that "demolition, excavation, and other construction activities can cause wind-blown dust and a local increase in the concentration of particulate matter" and that, "depending on exposure, adverse health effects can occur due to particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil." (EIR pp. IV.29-30)

i. Rather than analyze the potentially significant adverse impacts, the EIR summarily concludes that regulations and procedures of the San Francisco Health Code and Building Code, including preparation and implementation of a Dust Control Plan, "would ensure that project generated fugitive dust air quality impacts would be less than

significant" and thus "no mitigation measures would be necessary." There are a number of problems with this approach. First, the conclusion is not supported by reasoned analysis from facts to conclusion. Two, the Dust Control Plan is a mitigation not a part of the Project. Three, the Dust Control Plan will be submitted to the Director of Public Health after EIR certification, and is thus deferral of both impact analysis and mitigation formulation. The Dust Control Plan is deferral of impact analysis because this plan would for the first time include a map showing all sensitive receptors within 1000 feet of the site and analysis of wind direction. This is analysis that should properly be within the EIR, not created afterwards.

j. The EIR's assessment of construction phase exposure of sensitive receptors to increased emissions of PM2.5 and toxic air contaminants, including diesel particulate matter is based on numerical standards established by the BAAQMD (and EPA for PM2.5, i.e., 0.3 micrograms per cubic meter)). These thresholds are "excess cancer risk of 10 per million, chronic or acute HI of 1.0, or annual average PM2.5 concentrations in excess of 0.3 micrograms per cubic meter." (DEIR IV.G.31.) But the EIR provides no factual evidence to show that these general standards are appropriate for measuring the significance of this Project's impacts in this particular environmental setting, or that the EPA's standard for PM2.5, which is an annual average standard, is approprite for measuring the risk posed by construction activities that exceed the average for extended periods of time.

k. **Impact AQ-3.** The EIR does not clearly state if Project construction would cause a significant impact of exposing sensitive receptors to substantial concentrations PM2.5 and toxic air contaminants, including diesel particulate matter. The heading for Impact AQ-3 states only "Less than Significant with Mitigation" and Table IV.G.7 has a "yes" for significant excess cancer risk per million, but there is no discussion of the significance in the narrative discussion of the impact.

l. Further, the EIR does not disclose or describe how severe this impact would likely be, contrary to CEQA's requirement of full disclosure. From Table IV.G.7 the inference is that 27.3 people will die from cancer per population of one million. However, the EIR fails to describe the risk or severity of impact to each of the populations listed at Table IV.G.6. Table IV.G.6 shows that residents of the Paramount Residences live within 100 feet of the Project, the St. Regis Residences within 150 feet, the Four Seasons Hotel and Residences 300 feet away, the Ritz-Carlton Club & Residences within 650 feet, the Yerba Buena Gardens Child Development Center 920 feet away, and the residents of the Woolf House Apartments at 1000 feet. The EIR breaks out the excess cancer risk for the Yerba Buena Gardens Child Development Center, but lumps all other sensitive receptors together.

m. The averaging of risk and omission of analysis of risk based on proximity to the

Project is particularly troublesome given that the EIR elsewhere discloses that air pollution monitoring has confirmed that health effects "vary with modeled exposure" to particulate matter and NO2. For example, in traffic-related studies, the additional non-cancer health risk attributable to roadway proximity "was seen within 1,000 feet of the roadway" and "was strongest within 300 feet."[3] (EIR p. IV.G.8) "As a result, the ARB [Air Resource Board] recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day." Because of the scientific data on dispersion of Toxic Air Contaminants (TACs) from a source, the BAAQMD recommends assessing impacts of sources of TACs on nearby receptors within a 1,000-foot radius. However, the requirement to analyze within 1000 feet does not obviate the need to conduct analysis for risk and potentially significant adverse impacts based on proximity. Here, in fact, the EIR concedes that "the compact Project site and lack of buffer space between the site boundary and sensitive receptors limit the ability for construction-phase emissions to disperse." (EIR p. IV.G32.) The EIR admits that "the highest pollutant concentrations would occur at the existing residential receptors across Third Street about 100 feet to the northeast" (EIR p. IV.G.32) but doesn't state what those excess cancer levels would be or if they are significant.

n. Likewise, the EIR uses average emissions rates without disclosing the "higher short-term rates" which would occur as emissions vary during the construction period." (EIR p.IV.G.32) Given that emissions will "diminish substantially during the final phase of interior and finishing activities" and that averaging is used, potentially significant adverse impacts may occur, but the EIR has have failed to investigate this impact.

o. **Mitigation Measure M-AQ-3.** The EIR vaguely claims that Mitigation Measure M-AQ-3 implementation would reduce the estimated cancer risk impacts experienced by *off-site receptors* to below the project-level threshold of significance, but fails to disclose if this reduction will be experience by all off-site receptors listed in Table IV.G.6 or only a portion.

p. The EIR relies upon a "Construction Emissions Minimization Plan" which it claims will reduce construction period diesel by 65%, but fails to disclose how it reached this conclusion or more specifically this percentage reduction.

q. The EIR fails to describe the changes in the proposed construction fleet, emissions factors for equipment with and without controls, and the effectiveness of these controls for the project-specific construction fleet. (EIR p. IV.G.36). In regards to these changes, the EIR cites to an attachment to the Air Quality Technical Report which is not

[3] Similarly, "ARB regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area." (EIR p. IV.G.16)

available to the public for review as the attachment is not included in the EIR or its Appendices.

9. Greenhouse Gas impacts. The EIR does not lawfully assess the significance of the Project's impacts on greenhouse gases, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The analysis does not quantify the Project's GHG emissions. Therefore, it cannot and does not apply the first of its two stated "thresholds of significance" (i.e., threshold H.1.)[4] Instead, it folds the first threshold into its second one to produce one threshold, i.e., the Project's compliance with the City's "Strategies to Address Greenhouse Gas Emissions." But the "Strategies" does not have a provision addressing GHG emissions associated with the manufacture or transportation to the project site of construction materials to be used in the building. A significant fraction of the global warming impact of construction comes from the greenhouse gasses embedded in the construction materials themselves. These materials take energy, and therefore greenhouse gasses, to make.

10. Recirculation. The Board should require that the Planning Department revise the EIR to include the information discussed above and recirculate a revised draft for public comment.

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

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[4]"Implementation of the proposed project would have a significant effect on greenhouse gas emissions if the project would: H.1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or H.2. Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs." (DEIR 4.H-16.)

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Planning Commission Motion 18829

HEARING DATE: March 21, 2013

Date:	March 7, 2013
Case No.:	**2008.1084E**
Project Address:	**706 Mission Street – The Mexican Museum and Residential Tower Project**
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Blocks/Lots:	Block 3706, Lots 093, 275 and portions of Lot 277
Project Sponsor:	706 Mission Street Co., LLC c/o Millennium Partners 735 Market Street, 6th Floor San Francisco, CA 94103
Staff Contact:	Debra Dwyer – (415) 575-9031 Debra.Dwyer@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED MIXED-USE PROJECT AT 706 MISSION STREET (ASSESSOR'S BLOCK 3706, Lots 093, 275 and portions of Lot 277).

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on April 13, 2011.

   B. On June 27, 2012, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

A. Will have a significant effect on the environment in that it would result in the following significant and unavoidable transportation and circulation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-1: Variant 6 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 6 only*)

Impact Variant TR-2: Variant 6 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 6 only*)

Impact Variant TR-5: Variant 7 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 7 only*)

Impact Variant TR-6: Variant 7 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 7 only*)

B. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following significant and unavoidable cumulative transportation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-3: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-4: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-7: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

NELSON
NYGAARD

MEMORANDUM

To: 765 Market Street Residential Owners Association

From: Bonnie Nelson and Brian Canepa

Date: July 24, 2012

Subject: Comment Letter Findings

Nelson\Nygaard was retained by 765 Market Street Residential Owners to assess the traffic and transportation analysis completed in the 706 Mission Mexican Museum and Residential Tower project Draft Environmental Impact Report (DEIR) and to identify any potential issues impacting their property. Our assessment includes the following findings:

- The DEIR analysis contains several flaws in (1) identifying which movements are "critical" at specific intersections and (2) forecasting the likely trip assignment (i.e., the anticipated path of travel) for vehicle trips that would be generated by the Project, which result in an inaccurate assessment of both the Proposed Project and vehicle access variants.
- Due to the assumptions used in the analysis of vehicular traffic, transit, parking, and pedestrians, significant impacts may be underrepresented in certain scenarios and overrepresented in others. In particular, the impacts of the Project are underrepresented and the impacts of Alternatives 6 and 7 are overrepresented in the analysis.
- Given the lack of vehicle trip reducing strategies in the DEIR, more robust improvement measures should be designated for the project to reflect San Francisco sustainable, multi-modal environment to effectively encourage walking, biking, and transit use.
- Several major City planning efforts have not been represented in the transportation analysis, which will have profound circulation impacts around the study site.

TRAFFIC ANALYSIS

Key Issue #1: Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

Summary: The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7.

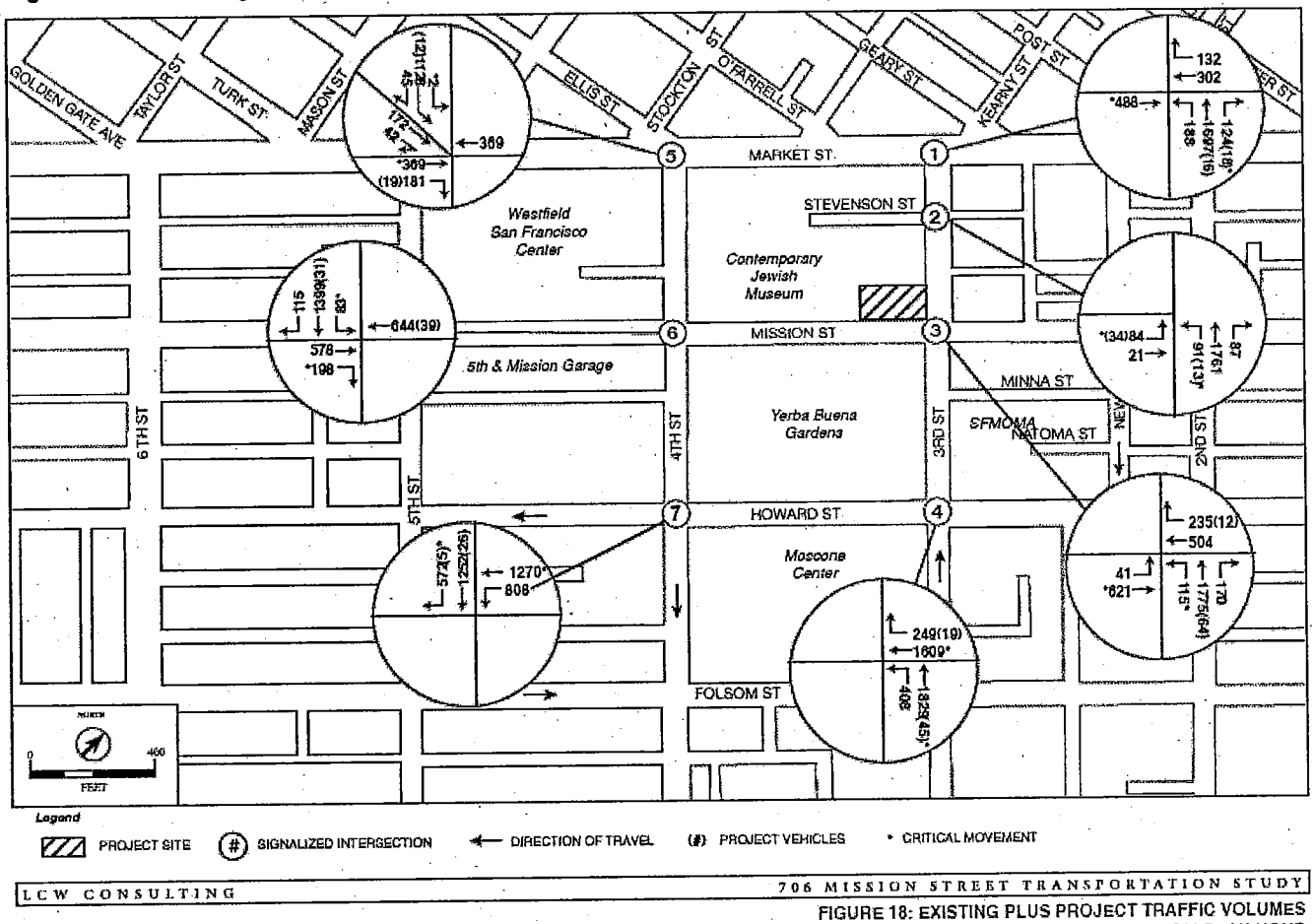
Discussion: The analysis of PM peak hour traffic is flawed in its determination of which movements are "critical movements" at some intersections. According to the analysis, "for an intersection that operates at LOS E or LOS F under existing conditions, there may be a significant adverse impact depending on the magnitude of the project's contribution to the worsening of delay."[1] Specifically, San Francisco traffic studies determine the level of significance in such cases based on the Project contribution to "critical movements". Figure 1 shows the PM peak hour Existing Plus Project traffic volumes and "critical movements" as described in the DEIR.

Critical movements are those intersection movements that require specific allocations of "green time", thus affecting the capacity of other movements within a fixed cycle length. The Highway Capacity Manual (HCM) provides the following description of the basic parameters for conducting a Critical Movements analysis:

- *Critical movement analysis is based on the following fundamental basic principle: The amount of time in an hour is fixed, as is the fact that two vehicles (or a vehicle and a pedestrian) cannot safely occupy the same space at the same time. Critical movement analysis identifies the set of movements that cannot time concurrently and require the most time to serve demand. Critical movement analysis is an effective tool to quickly estimate green times for various movements at an intersection and to estimate its overall performance in terms of volume-to-capacity ratios.*

[1] Appendix E: 706 Mission Street Transportation Study (Without Appendices), p.67.

Figure 1 Existing Plus Project Traffic Volumes, PM Peak Hour[2]



LCW CONSULTING 706 MISSION STREET TRANSPORTATION STUDY

FIGURE 18: EXISTING PLUS PROJECT TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

[2] Appendix E, p. 70.

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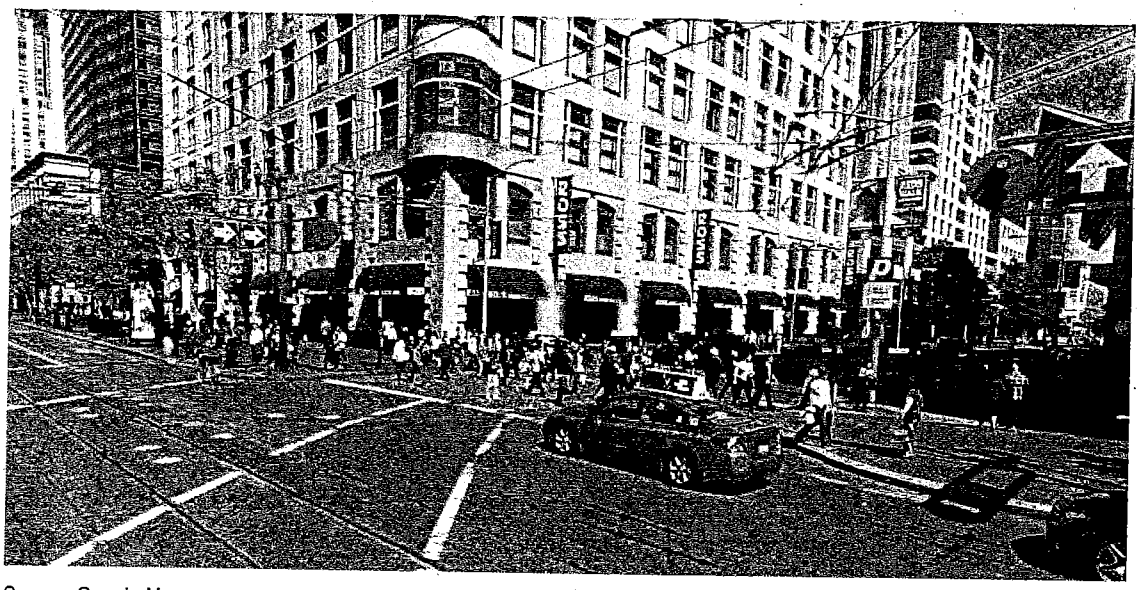
The DEIR identifies the eastbound through movement at Market and Fourth Street as a critical movement, and found that the Project would result in a significant impact to that eastbound through movement based on the DEIR assumption that the Project will generate vehicle trips that will travel eastbound on Market Street.

- However, in the absence of westbound left-turning movements (which are prohibited), eastbound through traffic should not be considered a critical movement as that flow is relatively unimpeded, particularly during the PM Peak Hour when transit boardings are higher in the westbound direction. Since buses and F-line trains stop directly within the center "through" lanes on Market Street, to pick up passengers waiting for to board transit vehicles from island platforms, the critical "through" movement during the PM Peak Hour is the westbound through movement, not the eastbound through movement, given the higher volume of PM peak hour bus westbound bus boardings that results in a higher number of conflicting movements that affect vehicle circulation (transit boardings, in this case, represent a conflicting movement that affects through circulation in the westbound direction).
- In the eastbound direction, the eastbound right-turn movement, not the eastbound through movement, should be considered a critical movement at this intersection given the high volume of conflicting pedestrian movements crossing Fourth Street that requires a significant allocation of "green time" within each signal cycle, and causes vehicle delay and queuing for right-turn traffic. Additions to that movement will exacerbate to that critical right-turn movement (Figure 2 depicts the intersection on a typical day, and shows several vehicles waiting to make the critical right-turn movement).

Figure 2 Market and Fourth Street Intersection



Source: Google Maps

Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact.[3]

Key Issue #2: Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

Summary: The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact.

Discussion: The PM peak hour distribution of vehicle trips estimated in Variants 6 and 7 do not accurately reflect the likely paths of travel taken by motorists. Specifically, the DEIR transportation analysis predicts that traffic exiting via Mission Street with an ultimate destination east of the project will travel via Fifth Street to head eastbound through the Fourth and Market intersection.[4] In reality, eastbound motorists would have several potential routes to choose from, including routes north of Market Street that allow for quicker eastbound travel via parallel routes such as Bush or California Street.

Furthermore, the great majority of project trips will be via foot or bike in the area between the project site and the Ferry Building, while vehicle trips traveling further north (e.g. with destinations in the vicinity of North Beach) would be much more likely cross Market at Sixth Street and continue on a quicker north-south street, such as Taylor Street, rather than a more circuitous route via Market Street, especially considering that Market Street does not connect directly with the Embarcadero. Furthermore, driving on Market Street can be time consuming and is rarely chosen by local motorists that are familiar with the left-turn restrictions that make it an inefficient route for private vehicle circulation.

Key Issue #3: Analyzing only PM Conditions Ignores Potentially Significant Impacts on Inbound Streets and Inaccurately Supports the Project Alternative

Summary: AM peak hour traffic is likely more congested on Third Street (and other inbound streets) than during the PM peak hour as commuter travel to downtown. By examining only PM peak hour conditions, the DEIR analysis is not identifying likely significant traffic impacts, including failing LOS at Third Street intersections, for the Proposed Project and Variants 1-5 with access points on Stevenson and Third Street.

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[3] Appendix E, p.110 and 114.

[4] Appendix E, p.109.

Discussion: Although analysis of AM peak hour traffic conditions is not required for most EIRs in San Francisco, accurate and complete analysis of the significant impacts of this project require analyzing both the AM and PM peak hour conditions. Because this project has substantial impact on the one way south of market grid, a PM-only analysis will naturally identify impacts only on those streets that are most congested in the afternoon, while minimizing and potentially missing significant impacts on "inbound" streets that are more congested during the morning peak period. In particular, Third Street is a one-way "inbound" thoroughfare, carrying morning commute traffic into downtown. By examining solely PM peak hour conditions, the DEIR transportation analysis ignores potentially significant impacts which likely include failing LOS at intersections bordering the site, specifically, the intersections at both Third and Market Streets and Third and Stevenson Streets. The impacts of the proposed project on these intersections is likely grossly underestimated by the use of PM only data.

Figure 3 Current AM Peak Hour Conditions, Third and Stevenson Street Intersection



Source: Nelson\Nygaard

Figure 4 shows Existing and Existing plus Proposed Project and Variant Conditions for the PM peak hour, when northbound (i.e. inbound) traffic is less congested than during the AM peak hour, when traffic is queuing from Market Street to Folsom Street. The figure demonstrates that even during a less congested period, vehicle delay at the Third and Market Streets and Third and Stevenson Streets intersections in the Proposed Project and Variants 1 -5 increases from 6 to 18% (while Variants 6 and 7 result in a 8 to 18% *decrease* in delay).

Figure 4 Intersection Levels of Service, Existing plus Project and Variant Conditions (Weekday PM Peak Hour)

Intersection	Existing		Proposed Project & Variants 2, 5		Variants 1, 4		Variant 3		Variants 6, 7	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Third/Market	56.2	E	63.8	E	63.8	E	63.8	E	45.9	D
Third/Stevenson	12.1	B	12.8	B	14.3	B	12.8	B	11.1	B
Third/Mission	20.1	C	20.9	C	20.9	C	21.0	C	21.1	C
Third/Howard	36.1	D	40.4	D	40.4	D	40.4	D	40.4	D
Fourth/Market	>80	F	>80	F	>80	F	>80	F	>80	F
Fourth/Mission	41.8	D	45.7	D	45.7	D	45.7	D	54.2	D
Fourth/Howard	42.5	D	44.5	D	44.5	D	44.5	D	44.5	D

Source: Appendix E, Table 19

An analysis of AM peak hour conditions would likely show both a greater percentage increase in delay at these intersections that would cause a reduction in level of service and possibly an adverse impact on critical movements, such as the eastbound right-turn movement from Third Street to Market Street – both of which would trigger a significant impact.[5] Given the high likelihood that AM peak hour traffic will adversely impact intersections along Third Street, it is essential that this analysis be conducted to ensure a comprehensive picture of potential points of congestion.

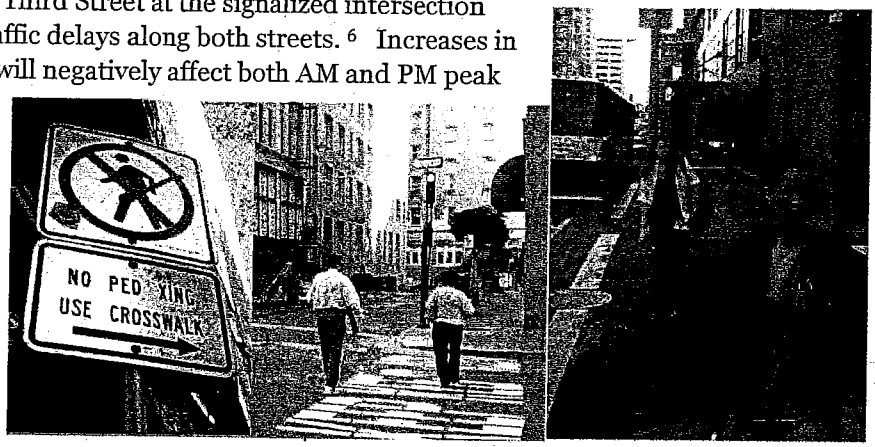
PEDESTRIAN ANALYSIS

Key Issue #4: The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

Summary: The DEIR analysis does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS.

[5] Per Appendix E, p. 67 – "The threshold for a significant adverse impact on traffic has been established as deterioration in the LOS at a signalized intersection from LOS D or better to LOS E or LOS F, or from LOS E to LOS F."

Discussion: Although the DEIR analysis examined pedestrian conditions, it focused solely on LOS standards, which measure only pedestrian flow rates and crosswalk space allowed for pedestrians to cross streets – no consideration was given to the impacts of pedestrians on vehicular traffic. In other settings, pedestrian crossings may not pose an obstacle to vehicle traffic, but given the high number of illegal crossings on Third Street, and particularly across the relatively narrow Stevenson Street, higher pedestrian volumes result in greater vehicle delay. Observations of the intersection at all hours of the day reveal that pedestrians are crossing both Stevenson Street and Third Street at the signalized intersection and are increasing traffic delays along both streets. [6] Increases in pedestrian crossings will negatively affect both AM and PM peak hour congestion. As such, in the Proposed Project and Variants 1-5, increased pedestrian crossings could cause a failing LOS at the Third and Stevenson Street intersection. Conversely, as Variants 6 & 7 do not have access on Third Street or Stevenson Street, and are actually estimated to *reduce* vehicle delay at the Third and Stevenson Street intersection, increased pedestrian volumes will not present a substantial impact in those scenarios.



PARKING ANALYSIS

Key Issue #5: Excessive Onsite Parking Creates Traffic Impacts

Summary: The Proposed Project's residential parking supply of one space per unit exceeds the standard set in the *Planning Code*, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant.

Discussion: The Proposed Project's residential parking supply contributes to the study area's traffic levels and runs contrary to the City's stated goals. As submitted, the project proposes one residential parking space per unit for both the residential and office flex options. Meanwhile, the *Planning Code* permits only one parking space for every four dwelling units, unless a special permit is granted.[7] Although there is a special permit process, by providing more than the standard allowance of parking, the project will be producing greater levels of vehicle trips and contradicting the spirit of both the Code and City policy.

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[6] Photo sources: Nelson\Nygaard.

[7] In which case, up to one space per unit may be provided for the dwelling units with at least two-bedrooms and at least 1,000 square feet of occupied space, which encompasses all of the proposed project's units.

The City's "transit first" policy is designed to maximize the multi-modal resources of San Francisco, particularly in denser, mixed use areas with excellent transit service. The policy states explicitly that, "Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation" (San Francisco City Charter). By meeting the City's Charter and allowing for fewer parking spaces to be built, projected vehicle trips will be lowered, benefiting the community. This would not preclude residents from leasing parking spaces in nearby facilities, if desired. The DEIR transportation analysis shows that there is sufficient parking available during the peak hour at several garages in the study area.[8]

By limiting the amount of parking onsite, the impact analyses for both the Proposed Project and vehicle access variants would be greatly affected. In particular, fewer vehicle trips will likely alleviate any "significant and unavoidable" impacts generated at the Fourth and Market Street intersection in the Existing Plus Variant Conditions 6 and 7 as well as those generated in the 2030 Cumulative Conditions at both the Fourth and Market and Fourth and Mission intersections.

Furthermore, the reduction in vehicle trips would likely resolve Variants 6 and 7 transit impact. With Mission Street serving as the only entry point for all non-loading vehicles in Variants 6 and 7, the DEIR anticipates 113 vehicles entering via Mission Street in the PM peak hour, which may cause queuing issues onto Mission Street, creating a conflict with Muni bus service and representing a significant impact to transit operations.[9] A reduction in vehicle trips caused by fewer parking spaces would eliminate the "significant and unavoidable" impact caused by Existing Plus Variant Conditions 6 and 7 in terms of excessive queuing into the bus bay on Mission Street. Figure 5 illustrates the "less than significant" and "significant and unavoidable" impact details for the Proposed Project and vehicle access variants.

Figure 5 Summary of Transportation Impacts for Proposed Project and Variants, Existing Plus Conditions

		Variants						
Criteria	Project	1	2	3	4	5	6	7
Traffic	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Transit	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Pedestrians	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Bicycles	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Loading	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Emergency Vehicle Access	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Construction	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS

Source: Appendix E, Table 28. LTS = Less than Significant, SU = Significant and Unavoidable.

[8] Appendix E, p. 50.

[9] Appendix E, p.112 and 114.

Key Issue #6: Inadequate Parking Enforcement on Stevenson Street Creates Traffic Congestion

Summary: Although on-street parking is currently prohibited on Stevenson Street, motorists frequently park their vehicles, creating bottlenecks on the narrow street. If Stevenson Street is to be used as an access point as in the Proposed Project and Variants 1-5, vehicle delay will be intensified.



Source: Nelson\Nygaard

Discussion: The DEIR analyzes parking demand in the Jessie Square Garage as well as other facilities in the immediate area, but does not adequately address on-street parking conditions on Stevenson Street. Currently, no parking is allowed along both sides of the street, but both private and loading vehicles continually park and partially block the street, thereby causing traffic delays. These delays will be exacerbated if Stevenson Street is to be used as a primary entry and exit point as suggested in the Proposed Project and Variants 1-5.

MITIGATION MEASURE ANALYSIS

Key Issue #7: There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

Summary: The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant.

Discussion: The DEIR analysis establishes several improvement measures for various aspects of the project, but does not provide adequate transportation measures to encourage walking, biking, and taking transit. Specifically, although several improvement measures pertain to enhanced transportation conditions (e.g. traffic signal timing modifications, "garage full" sign on Third Street, coordination of moving activities, etc.) for the proposed project and variants, there is no measure directed at *reducing vehicle trips*.[10]

Improvement Measure I-TR-N: Transportation Demand Management proposes the distribution of informational materials to tenants, but this strategy will have a very minimal impact, if any. Instead, there should be a mitigation measure requiring the implementation of resident and employee transportation demand management (TDM) measures that have proven to be effective

[10] Table S.2: Summary of Improvement Measures for Proposed Project and Vehicular Access Variants.

in reducing vehicle trips. By doing so, it will provide a benefit both to residents and the city as a whole through improved transportation choices and lower traffic levels. These strategies may act as mitigation measures for both the Proposed Project and seven vehicle access variants. Two of the more effective strategies include:

Subsidized transit passes. In recent years, growing numbers of developments have provided residents and employees with subsidized transit passes to reduce vehicle trips. The proposed development should provide Muni Fast Passes to its residents and employees, which will allow for unlimited rides on local transit. The bulk purchase of transit passes allows the transit operator (i.e. Muni) to sell its passes at a highly discounted rate. Studies have shown from other areas, such as Santa Clara Valley, that the introduction of subsidized passes can nearly double the transit mode to work, thereby decreasing peak hour vehicle trips.

Alternative mode subsidies. Alternative mode subsidies encourage employees to ride transit, carpool, vanpool, walk or bicycle to work, thus decreasing vehicle trips. The benefit is particularly valuable to low-income employees, who are less likely to drive to work alone. Research performed by Donald Shoup at the University of California, Los Angeles found that single occupancy vehicle trips declined by 17% and other modes increased significantly (carpooling by 64%, transit by 50%, and walking/biking by 33%) after an alternative mode subsidy program was introduced at various worksites with varying levels of transit service.

CONSIDERATION OF CITY PLANS

Key Issue #8: Failure to Consider All Existing City Plans Results in an Inadequate Analysis of Impacts

Summary: Several major City planning efforts were not included in the DEIR. These plans will significantly affect travel patterns on all streets around the project site and will impact the results of the traffic analysis for both the Proposed Project and vehicle access variants.

Discussion: While the DEIR analysis assessed the impacts of the Temporary Transbay Terminal, the Central Subway Project, and Muni's Transit Effectiveness Project, there are other major projects omitted from consideration that affect traffic and multi-modal circulation in the study area. The omitted projects have the potential to cause significant changes to the traffic patterns around the project site, thereby drastically influencing predicted transportation impacts for both the Proposed Project and seven vehicle access variants. These projects should be accounted for in the Existing plus Project Conditions, Existing plus Variant Conditions, and in the 2030 Cumulative Conditions. The plans include:

Central Corridor Project. The project represents an integrated community vision for the southern portion of the Central Subway rail corridor with the study site placed in the heart of the project area bounded by Second to Sixth Streets and Mission to Townsend Streets. The Central Corridor Plan will propose changes to the allowed land uses, building heights, and may include an increase in permitted residential and/or commercial densities in the area. The plan may also include proposals to increase the amount of streets space devoted to pedestrian and bicycle facilities while reducing the number of mixed traffic lanes. These alterations can profoundly affect pedestrian, bicycle,

transit, and private vehicle travel patterns, thereby producing potentially different results regarding the thresholds of significance for traffic, transit, pedestrians, and bicycles.

Better Market Street Plan. The plan to revitalize Market Street includes a study of mobility issues. Currently, the options for Market Street include (a) prohibiting private autos, except for those vehicles crossing Market Street, (b) creating a series of forced or prohibited turns along Market Street to redirect traffic along particular thoroughfares, and (c) closing a one-block stretch of Market Street in an area of high pedestrian use. Each of the options considered may have a strong impact on traffic distribution and volumes on both sides of Market Street. In particular, the options which remove traffic from Market Street all are likely to increase traffic on Mission Street and on the South of Market network. These new traffic patterns and increased traffic levels will affect all of the project's study intersections and should be accounted for in the analysis.

Eastern Neighborhood Transportation Implementation Planning Study (EN TRIPS). EN TRIPS prepared a series of recommendations for circulation changes in San Francisco's Eastern Neighborhoods, which include Eastern SoMa, the Mission, Showplace Square/Potrero Hill and the Central Waterfront together with surrounding high-growth areas of Western SoMa, Transbay District, Rincon Hill and Mission Bay. The majority of the City's new residential and commercial growth over the next 25 years will occur in these areas, including the proposed project. These neighborhoods also contain key local and regional transit service, including Muni bus and light rail, BART, Caltrain and future High-Speed Rail. The area's combined development potential and rich transit access present a tremendous opportunity to create integrated, mixed use, transit-rich neighborhoods.

EN TRIPS made specific proposals for circulation changes, including a number of alternatives for potential reconfiguration of Folsom and Howard Streets. All of these include increasing space for pedestrians, bicycles, and public space, and reducing total travel lanes. The range of alternatives still under consideration by the SFMTA includes a design that maintains one-way circulation, as well as a design that converts both Folsom and Howard Streets to two-way operation. These streets are major thoroughfares for eastbound and westbound traffic, and their reconfigurations may cause increased traffic delay in both intersections on those streets as well as other nearby intersections as motorists attempt to find alternative routes. As such, an analysis of its impacts should be included in the DEIR analysis.

Transit Center District Plan. Although the DEIR transportation analysis accounted for the Temporary Transbay Terminal, it did not take into consideration the comprehensive Transit Center District Plan for the area around the Transbay Terminal. The plan area is bounded by Steuart, Market, Annie, and Folsom Streets.

The plan significantly increases allowable residential and employment densities within its boundaries. In addition to zoning changes, the plan also calls for street and circulation changes on Mission, Howard, Folsom, Fremont, Beale, and Main Street. Generally, these changes would reduce the amount of space dedicated to mixed-flow travel and increase space for walking and cycling with new signalized mid-block pedestrian crossings would be added at 14 intersections. While this area is outside the study area of this project, north-and southbound vehicle capacity reduction could result in some traffic being diverted onto nearby streets causing increases in vehicle delay and affecting both the Proposed Project and seven vehicle access variants.

Brandt-Hawley Law Group

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2013 APR -9 PM 1:11

MEMORANDUM

TO: Angela Calvillo
Clerk of the Board of Supervisor
for the City of San Francisco

FROM: Theresa Stoops

DATE: March 29, 2013

RE: *Appeal of EIR Certification*
706 Mission Street –
The Mexican Museum and Residential Tower Project

Enclosed please find an original and 17 copies of the above-mentioned appeal on behalf of Tenants and Owners Development Corporation and Yerba Buena Neighborhood Consortium LLC. I have also provided an additional copy for endorsement of receipt with a self-addressed envelope to be returned to us.

Our understanding is that since the appellants are a pre-established organization, the appeal fee is to be waived.

Thank you.

Brandt-Hawley Law Group

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preservationlawyers.com

March 29, 2013

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David Chiu, Board President
and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Subject: ***Appeal of EIR Certification***
706 Mission Street --
The Mexican Museum and Residential Tower Project

Dear President Chiu and Supervisors:

On behalf of the Tenants and Owners Development Corporation (TODCO) in Yerba Buena and the Yerba Buena Neighborhood Consortium LLC, I appeal the Planning Commission's certification of the EIR for the Mexican Museum and Residential Tower Project, File No. 2008.1084E. A copy of the certification dated March 21, 2013, is attached.

As a number of the Planning Commissioners acknowledged, the EIR does not address cumulative impacts relating to pedestrian traffic and safety in the Yerba Buena CBD area. The EIR also fails to adequately consider the installation of a mid-block crosswalk across Mission from the Center of the Arts to Jessie Square. An adequate EIR must comprehensively study the area's past, present, and future projects that affect pedestrians, and must also identify a feasible mitigation plan.

The fact that no cumulative impact analysis was done by the San Francisco Redevelopment Agency during the 40-year Yerba Buena Redevelopment Project for its program EIRs, and the fact that the Planning Department is now evaluating projects on an isolated piecemeal basis in the former Redevelopment Area, including the Museum of Modern Art Expansion Project, further exacerbate the import of the EIR's deficient analysis — with very negative real-life consequences for the 2000 elders and other residents living in the Yerba Buena neighborhood.

The EIR's responses to comments on the issues of pedestrian traffic, capacity, and safety are correspondingly insufficient. Every lead agency is required to provide a "good faith, reasoned analysis" in response to comments: "[c]onclusory statements unsupported by factual information will not suffice." (Guidelines, § 15088, subd.(b); *Laurel Heights Improvement Association. v. Regents of the University of California* (1993) 6 Cal.4th 1112, p. 1124.) *Sutter Sensible Planning, Inc. v. Board of Supervisors* (1981) 122 Cal.App.3d 813, 820, explains that EIR responses "insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug." Last year, *Flanders Foundation v. City of Carmel-by-the Sea* [202 Cal.App.4th 603] affirmed the importance of adequate comment responses.

This EIR's response to the requests for cumulative pedestrian analyses notes in part that the Planning Department does not require such study for individual projects. That is irrelevant, as CEQA's mandates are a matter of state rather than local law. Absent adequate analysis and mitigation of cumulative impacts, the City cannot justify continued approvals of projects in an area demonstrably burdened with significant, solvable pedestrian capacity and safety problems. The City's deferral of analysis to the program Central Corridor Plan EIR a few years away, as endorsed by the majority of the Planning Commissioners, is insufficient as well as untimely to deal with cumulative environmental issues impacting this project.

The EIR's comment responses acknowledge that cumulative impacts are addressed in many other EIR topic areas, including short-term construction impacts, aesthetic impacts, noise impacts, air quality impacts, wind impacts, and impacts of hazardous materials. (Final EIR, III.E.68-69.) This does not excuse its failure to address pedestrian issues and instead proves the point. Cumulative impact analysis and mitigation are mandated by CEQA. The City recognizes this in other areas of environmental concern and must similarly follow through with full cumulative analyses of pedestrian capacity and safety issues.

The EIR must analyze impacts and feasible mitigation of cumulative pedestrian capacity and safety issues. The revised EIR should be circulated for additional agency and public comment, in turn resulting in the timely adoption of feasible mitigation measures.

Thank you for your consideration.

Sincerely,

Susan Brandt-Hawley

cc: Bill Wycko, Acting Environmental Review Officer

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Planning Commission Motion 18829

HEARING DATE: March 21, 2013

Date:	March 7, 2013
Case No.:	**2008.1084E**
Project Address:	**706 Mission Street – The Mexican Museum and Residential Tower Project**
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Blocks/Lots:	Block 3706, Lots 093, 275 and portions of Lot 277
Project Sponsor:	706 Mission Street Co., LLC c/o Millennium Partners 735 Market Street, 6th Floor San Francisco, CA 94103
Staff Contact:	Debra Dwyer – (415) 575-9031 Debra.Dwyer@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED MIXED-USE PROJECT AT 706 MISSION STREET (ASSESSOR'S BLOCK 3706, Lots 093, 275 and portions of Lot 277).

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on April 13, 2011.

   B. On June 27, 2012, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

C. Notices of availability of the DEIR and of the date and time of the public hearing were posted at the project site by the project sponsor on June 27, 2012.

D. On June 27, 2012, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies, the latter both directly and through the State Clearinghouse.

E. Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on June 27, 2012.

2. The Commission held a duly advertised public hearing on said DEIR on August 2, 2012 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on August 13, 2012.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 47-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a Draft Responses to Comments document, published on March 7, 2013, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.

4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Responses to Comments document all as required by law.

5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400 as part of case file 2008.1084E, and are part of the record before the Commission.

6. On March 21, 2013, the Commission reviewed and considered the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.

7. The Planning Commission hereby does find that the FEIR concerning File No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project, reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate and objective, and that the Responses to Comments document contains no significant revisions to the DEIR, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA and the CEQA Guidelines.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the project described in the EIR:

A. Will have a significant effect on the environment in that it would result in the following significant and unavoidable transportation and circulation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-1: Variant 6 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 6 only*)

Impact Variant TR-2: Variant 6 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 6 only*)

Impact Variant TR-5: Variant 7 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 7 only*)

Impact Variant TR-6: Variant 7 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 7 only*)

B. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following significant and unavoidable cumulative transportation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-3: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-4: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-7: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

Impact Variant TR-8: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

C. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following unavoidable significant cumulative effect with respect to shadow:

Impact C-WS-2: The proposed project, or any of its variants, in combination with past, present, and reasonably foreseeable future projects in the project vicinity would create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas resulting in a significant cumulative shadow impact. The proposed project would make a cumulatively considerable contribution to this significant cumulative shadow impact.

9. The Planning Commission will consider the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of March 21, 2013.

Jonas P. Ionin
Acting Commission Secretary

AYES: Fong, Antonini, Borden, Hillis

NOES: Moore, Sugaya

ABSENT: Wu

ADOPTED: March 21, 2013

TODCO
GROUP

The Yerba Buena Neighborhood Consortium

c/o 230 Fourth St. San Francisco, CA 94103
A Council of the Yerba Buena Neighborhood's Residents and Community Organizations

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2013 APR -9 PM 1:11

Clerk of the Board
San Francisco Board of Supervisors
City Hall
San Francisco, CA 94102

April 8, 2013

RE: Request for Appeal Fee Waiver
Appeal of 706 Mission Street Project Environmental Report
2008.1084E

Tenants and Owners Development Corp. and its affiliate Yerba Buena Neighborhood Consortium have jointly appealed Certification the above referenced EIR (by letter of our legal counsel, Susan Brandt-Hawley, of March 28, 2013). We are now requesting waiver of the appeal fee (check enclosed).

I am the President/CEO of Tenants and Owners Development Corp. and the Chair of the Yerba Buena Neighborhood Consortium, and am authorized to file such appeals, including acting through legal counsel as in this case.

Both organizations are listed as neighborhood organizations with the Planning Department ("Yerba Buena Consortium" is the name on that list for the Yerba Buena Neighborhood Consortium, a recent name modification).

Both organizations have been active in addressing community issues of the Yerba Buena Neighborhood where the 706 Mission project is located since 1980, especially issues of pedestrian safety addressed by the current Appeal. Both have previously filed EIR appeals for other projects in the past as well.

Please let me know if you need any further information (415) 896-1882.

Sincerely,

John Elberling
President, Tenants and Owners Development Corp.
Chair, Yerba Buena Neighborhood Consortium

230 Fourth St. San Francisco, CA 94103

Application to Request a
Board of Supervisors Appeal Fee Waiver

CASE NUMBER (For Staff Use only)

APPLICATION FOR
Board of Supervisors Appeal Fee Waiver

1. Applicant and Project Information

APPLICANT NAME: JOHN ELBERLING, PRESIDENT / CHAIR	
APPLICANT ADDRESS: ↓	TELEPHONE: 415 896-1882
	EMAIL: jetodco@todco.org
TENANT / LAND OWNER / DEVELOPMENT CORP.	
NEIGHBORHOOD ORGANIZATION NAME: YERBA BUENA CONSORTIUM	
NEIGHBORHOOD ORGANIZATION ADDRESS: 230 FOURTH ST. SF CA 94103	TELEPHONE: ( )
	EMAIL:

PROJECT ADDRESS: 706 MISSION ST. SF CA 94103		
PLANNING CASE NO.: 2008.1084E	BUILDING PERMIT APPLICATION NO.: N/A	DATE OF DECISION (IF ANY): 3/21/13

2. Required Criteria for Granting Waiver

(All must be satisfied; please attach supporting materials)

☒ The appellant is a member of the stated neighborhood organization and is authorized to file the appeal on behalf of the organization. Authorization may take the form of a letter signed by the President or other officer of the organization.

☒ The appellant is appealing on behalf of an organization that is registered with the Planning Department and that appears on the Department's current list of neighborhood organizations.

☒ The appellant is appealing on behalf of an organization that has been in existence at least 24 months prior to the submittal of the fee waiver request. Existence may be established by evidence including that relating to the organization's activities at that time such as meeting minutes, resolutions, publications and rosters.

☒ The appellant is appealing on behalf of a neighborhood organization that is affected by the project and that is the subject of the appeal.

For Department Use Only

Application received by Planning Department:

By: _____ Date: 4/8/13

Submission Checklist:

- ☒ APPELLANT AUTHORIZATION
- ☒ CURRENT ORGANIZATION REGISTRATION
- ☒ MINIMUM ORGANIZATION AGE
- ☐ PROJECT IMPACT ON ORGANIZATION

☐ WAIVER APPROVED ☐ WAIVER DENIED

SAN FRANCISCO PLANNING DEPARTMENT

FOR MORE INFORMATION:
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San Francisco CA 94103-2479

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San Francisco CA 94103-2479

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Planning staff are available by phone and at the PIC counter. No appointment is necessary.

Lippe Gaffney Wagner LLP www.lgwlawyers.com

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Thomas N. Lippe
Brian Gaffney
Keith G. Wagner
Kelly A. Franger
Henry A. Steinberg

April 2, 2013

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BY

Board President David Chiu
and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: Notice of Appeal of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035)

Dear President Chiu and Supervisors:

This office represents the 765 Market Street Residential Owners Association ("ROA") regarding the proposed project known as 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). The ROA hereby appeals the Planning Commission's certification of the Final Environmental Impact Report ("FEIR") for the Project and confirms its continuing objections to the City's approval of the Project in violation of the California Environmental Quality Act (CEQA).

A copy of the Planning Commission's March 21, 2013 Motion 18829 certifying the FEIR is attached hereto as **Exhibit 1**. Further documentation in support of this appeal will follow prior to the Board hearing.

The subject EIR is not procedurally or substantively adequate, accurate, or objective. The EIR fails to lawfully identify the significant adverse environmental impacts or mitigation measures to substantially reduce the Project's significant adverse environmental impacts. The EIR also fails to lawfully assess the significance of the adverse environmental impacts of Project variants. In addition, the Responses to Comments does not adequately respond to comments submitted on the Draft EIR regarding these issues.

These legal errors are evident in the EIR's assessment of many issues, including, without limitation, the following:

1. Traffic and Circulation Impacts.

As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as **Exhibit 2**, the EIR's assessment of traffic and circulation

impacts is informationally deficient in number of respects, including, without limitation, the following:

a. Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

"The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7." (Exhibit 2, p. 2.) Nelson Nygaard demonstrate why "Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact." (Exhibit 2, p. 5.)

b. Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

"The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact." (Exhibit 2, p. 5.) Again a proper analysis of the trip distribution reveals that Variants 6 & 7 should produce less than significant impacts at the critical Fourth and Market intersection.

c. The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

"The DEIR does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS" (Exhibit 2, p. 7.)

d. Excessive Onsite Parking Creates Traffic Impacts

"The proposed Project's residential parking supply of one space per unit exceeds the standard set in the Planning Code, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant." (Exhibit 2, p. 8.)

e. There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

"The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the Project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant." (Exhibit 2, p. 8.)

2. Pedestrian Traffic and Safety Impacts

The EIR does not lawfully assess the significance of the Project's impacts on pedestrian traffic and safety, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

3. Shadow Impacts on City Parks

The EIR does not lawfully assess the significance of the Project's shadow impacts on several City Parks, including Union Square and Jessie Square, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

4. Impacts on Historic Resources

The EIR does not lawfully assess the significance of the Project's impacts on historic and aesthetic values in this Conservation District, especially on the historic Aronson Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

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SAN FRANCISCO
PLANNING DEPARTMENT

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Information:
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Planning Commission Motion 18829

HEARING DATE: March 21, 2013

Date:	March 7, 2013
Case No.:	**2008.1084E**
Project Address:	**706 Mission Street – The Mexican Museum and Residential Tower Project**
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Blocks/Lots:	Block 3706, Lots 093, 275 and portions of Lot 277
Project Sponsor:	706 Mission Street Co., LLC c/o Millennium Partners 735 Market Street, 6th Floor San Francisco, CA 94103
Staff Contact:	Debra Dwyer – (415) 575-9031 Debra.Dwyer@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED MIXED-USE PROJECT AT 706 MISSION STREET (ASSESSOR'S BLOCK 3706, Lots 093, 275 and portions of Lot 277).

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on April 13, 2011.

   B. On June 27, 2012, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

EXHIBIT 1

C. Notices of availability of the DEIR and of the date and time of the public hearing were posted at the project site by the project sponsor on June 27, 2012.

D. On June 27, 2012, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies, the latter both directly and through the State Clearinghouse.

E. Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on June 27, 2012.

2. The Commission held a duly advertised public hearing on said DEIR on August 2, 2012 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on August 13, 2012.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 47-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a Draft Responses to Comments document, published on March 7, 2013, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.

4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Responses to Comments document all as required by law.

5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400 as part of case file 2008.1084E, and are part of the record before the Commission.

6. On March 21, 2013, the Commission reviewed and considered the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.

7. The Planning Commission hereby does find that the FEIR concerning File No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project, reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate and objective, and that the Responses to Comments document contains no significant revisions to the DEIR, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA and the CEQA Guidelines.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the project described in the EIR:

A. Will have a significant effect on the environment in that it would result in the following significant and unavoidable transportation and circulation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-1: Variant 6 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 6 only*)

Impact Variant TR-2: Variant 6 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 6 only*)

Impact Variant TR-5: Variant 7 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 7 only*)

Impact Variant TR-6: Variant 7 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 7 only*)

B. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following significant and unavoidable cumulative transportation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-3: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-4: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-7: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

Impact Variant TR-8: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

C. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following unavoidable significant cumulative effect with respect to shadow:

Impact C-WS-2: The proposed project, or any of its variants, in combination with past, present, and reasonably foreseeable future projects in the project vicinity would create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas resulting in a significant cumulative shadow impact. The proposed project would make a cumulatively considerable contribution to this significant cumulative shadow impact.

9. The Planning Commission will consider the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of March 21, 2013.

Jonas P. Ionin
Acting Commission Secretary

AYES: Fong, Antonini, Borden, Hillis

NOES: Moore, Sugaya

ABSENT: Wu

ADOPTED: March 21, 2013

NELSON
NYGAARD

MEMORANDUM

To: 765 Market Street Residential Owners Association

From: Bonnie Nelson and Brian Canepa

Date: July 24, 2012

Subject: Comment Letter Findings

Nelson\Nygaard was retained by 765 Market Street Residential Owners to assess the traffic and transportation analysis completed in the 706 Mission Mexican Museum and Residential Tower project Draft Environmental Impact Report (DEIR) and to identify any potential issues impacting their property. Our assessment includes the following findings:

- The DEIR analysis contains several flaws in (1) identifying which movements are "critical" at specific intersections and (2) forecasting the likely trip assignment (i.e., the anticipated path of travel) for vehicle trips that would be generated by the Project, which result in an inaccurate assessment of both the Proposed Project and vehicle access variants.
- Due to the assumptions used in the analysis of vehicular traffic, transit, parking, and pedestrians, significant impacts may be underrepresented in certain scenarios and overrepresented in others. In particular, the impacts of the Project are underrepresented and the impacts of Alternatives 6 and 7 are overrepresented in the analysis.
- Given the lack of vehicle trip reducing strategies in the DEIR, more robust improvement measures should be designated for the project to reflect San Francisco sustainable, multi-modal environment to effectively encourage walking, biking, and transit use.
- Several major City planning efforts have not been represented in the transportation analysis, which will have profound circulation impacts around the study site.

EXHIBIT 2

TRAFFIC ANALYSIS

Key Issue #1: Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

Summary: The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7.

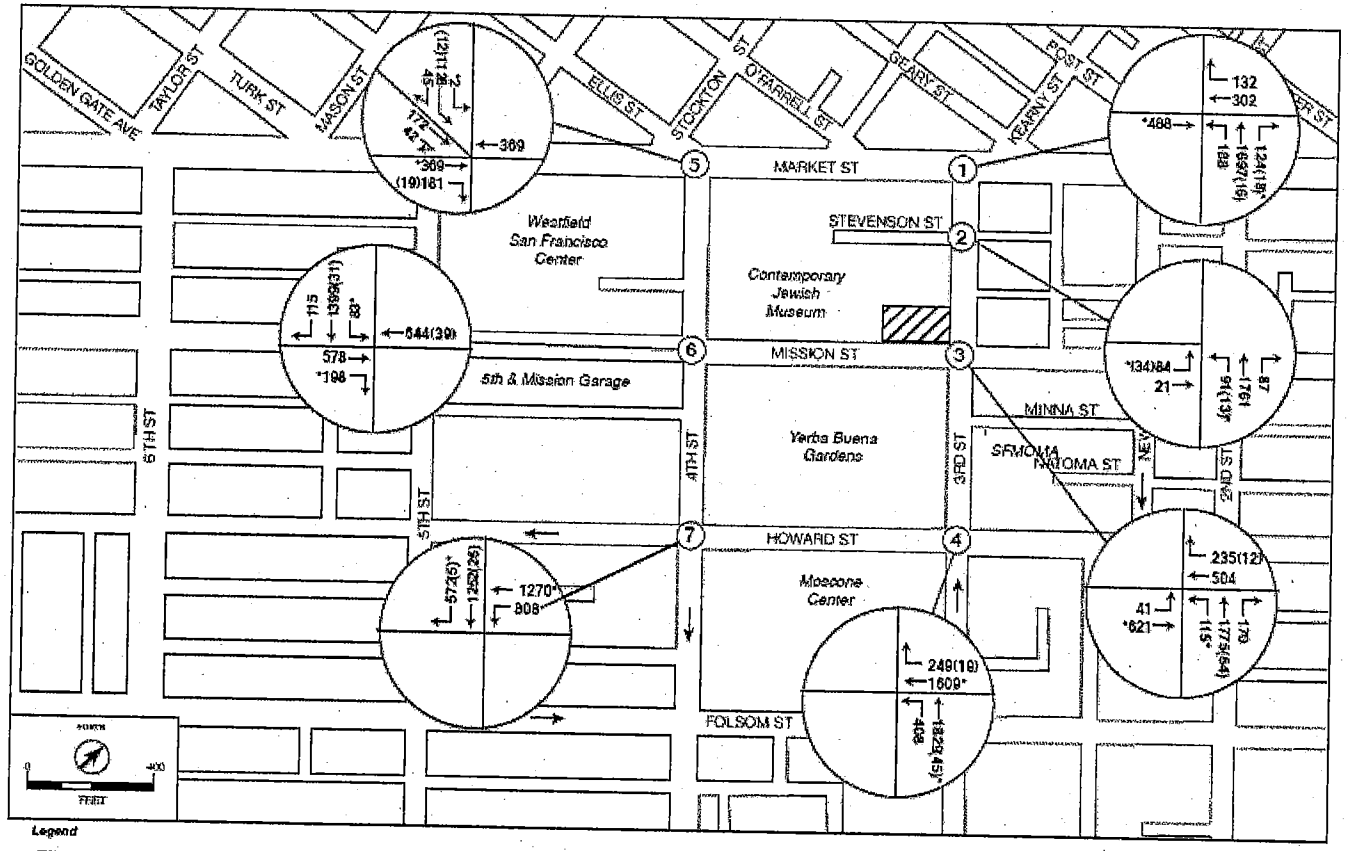
Discussion: The analysis of PM peak hour traffic is flawed in its determination of which movements are "critical movements" at some intersections. According to the analysis, "for an intersection that operates at LOS E or LOS F under existing conditions, there may be a significant adverse impact depending on the magnitude of the project's contribution to the worsening of delay."[1] Specifically, San Francisco traffic studies determine the level of significance in such cases based on the Project contribution to "critical movements". Figure 1 shows the PM peak hour Existing Plus Project traffic volumes and "critical movements" as described in the DEIR.

Critical movements are those intersection movements that require specific allocations of "green time", thus affecting the capacity of other movements within a fixed cycle length. The Highway Capacity Manual (HCM) provides the following description of the basic parameters for conducting a Critical Movements analysis:

- *Critical movement analysis is based on the following fundamental basic principle: The amount of time in an hour is fixed, as is the fact that two vehicles (or a vehicle and a pedestrian) cannot safely occupy the same space at the same time. Critical movement analysis identifies the set of movements that cannot time concurrently and require the most time to serve demand. Critical movement analysis is an effective tool to quickly estimate green times for various movements at an intersection and to estimate its overall performance in terms of volume-to-capacity ratios.*

[1] Appendix E: 706 Mission Street Transportation Study (Without Appendices), p.67.

Figure 1 Existing Plus Project Traffic Volumes, PM Peak Hour[2]



LCW CONSULTING 706 MISSION STREET TRANSPORTATION STUDY

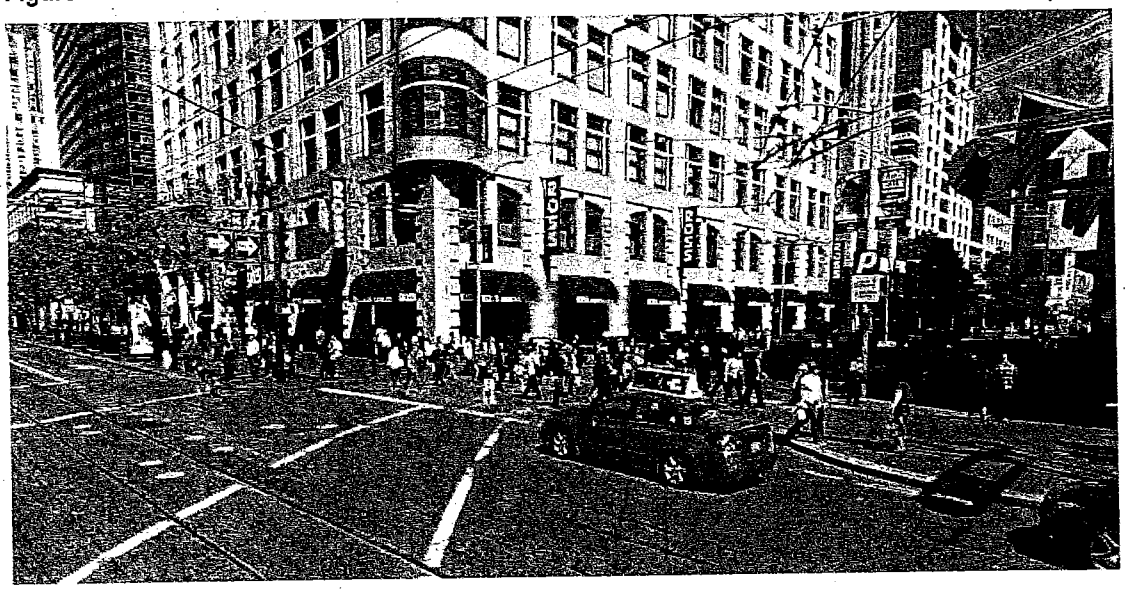
FIGURE 18: EXISTING PLUS PROJECT TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

[2] Appendix E, p. 70.

The DEIR identifies the eastbound through movement at Market and Fourth Street as a critical movement, and found that the Project would result in a significant impact to that eastbound through movement based on the DEIR assumption that the Project will generate vehicle trips that will travel eastbound on Market Street.

- However, in the absence of westbound left-turning movements (which are prohibited), eastbound through traffic should not be considered a critical movement as that flow is relatively unimpeded, particularly during the PM Peak Hour when transit boardings are higher in the westbound direction. Since buses and F-line trains stop directly within the center "through" lanes on Market Street, to pick up passengers waiting for to board transit vehicles from island platforms, the critical "through" movement during the PM Peak Hour is the westbound through movement, not the eastbound through movement, given the higher volume of PM peak hour bus westbound bus boardings that results in a higher number of conflicting movements that affect vehicle circulation (transit boardings, in this case, represent a conflicting movement that affects through circulation in the westbound direction).
- In the eastbound direction, the eastbound right-turn movement, not the eastbound through movement, should be considered a critical movement at this intersection given the high volume of conflicting pedestrian movements crossing Fourth Street that requires a significant allocation of "green time" within each signal cycle, and causes vehicle delay and queuing for right-turn traffic. Additions to that movement will exacerbate to that critical right-turn movement (Figure 2 depicts the intersection on a typical day, and shows several vehicles waiting to make the critical right-turn movement).

Figure 2 Market and Fourth Street Intersection



Source: Google Maps

Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact.[3]

Key Issue #2: Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

Summary: The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact.

Discussion: The PM peak hour distribution of vehicle trips estimated in Variants 6 and 7 do not accurately reflect the likely paths of travel taken by motorists. Specifically, the DEIR transportation analysis predicts that traffic exiting via Mission Street with an ultimate destination east of the project will travel via Fifth Street to head eastbound through the Fourth and Market intersection.[4] In reality, eastbound motorists would have several potential routes to choose from, including routes north of Market Street that allow for quicker eastbound travel via parallel routes such as Bush or California Street.

Furthermore, the great majority of project trips will be via foot or bike in the area between the project site and the Ferry Building, while vehicle trips traveling further north (e.g. with destinations in the vicinity of North Beach) would be much more likely cross Market at Sixth Street and continue on a quicker north-south street, such as Taylor Street, rather than a more circuitous route via Market Street, especially considering that Market Street does not connect directly with the Embarcadero. Furthermore, driving on Market Street can be time consuming and is rarely chosen by local motorists that are familiar with the left-turn restrictions that make it an inefficient route for private vehicle circulation.

Key Issue #3: Analyzing only PM Conditions Ignores Potentially Significant Impacts on Inbound Streets and Inaccurately Supports the Project Alternative

Summary: AM peak hour traffic is likely more congested on Third Street (and other inbound streets) than during the PM peak hour as commuter travel to downtown. By examining only PM peak hour conditions, the DEIR analysis is not identifying likely significant traffic impacts, including failing LOS at Third Street intersections, for the Proposed Project and Variants 1-5 with access points on Stevenson and Third Street.

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[3] Appendix E, p.110 and 114.

[4] Appendix E, p.109.

Discussion: Although analysis of AM peak hour traffic conditions is not required for most EIRs in San Francisco, accurate and complete analysis of the significant impacts of this project require analyzing both the AM and PM peak hour conditions. Because this project has substantial impact on the one way south of market grid, a PM-only analysis will naturally identify impacts only on those streets that are most congested in the afternoon, while minimizing and potentially missing significant impacts on "inbound" streets that are more congested during the morning peak period. In particular, Third Street is a one-way "inbound" thoroughfare, carrying morning commute traffic into downtown. By examining solely PM peak hour conditions, the DEIR transportation analysis ignores potentially significant impacts which likely include failing LOS at intersections bordering the site, specifically, the intersections at both Third and Market Streets and Third and Stevenson Streets. The impacts of the proposed project on these intersections is likely grossly underestimated by the use of PM only data.

Figure 3 Current AM Peak Hour Conditions, Third and Stevenson Street Intersection



Source: Nelson\Nygaard

Figure 4 shows Existing and Existing plus Proposed Project and Variant Conditions for the PM peak hour, when northbound (i.e. inbound) traffic is less congested than during the AM peak hour, when traffic is queuing from Market Street to Folsom Street. The figure demonstrates that even during a less congested period, vehicle delay at the Third and Market Streets and Third and Stevenson Streets intersections in the Proposed Project and Variants 1 -5 increases from 6 to 18% (while Variants 6 and 7 result in a 8 to 18% *decrease* in delay).

Figure 4 **Intersection Levels of Service, Existing plus Project and Variant Conditions (Weekday PM Peak Hour)**

Intersection	Existing		Proposed Project & Variants 2, 5		Variants 1, 4		Variant 3		Variants 6, 7	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Third/Market	56.2	E	63.8	E	63.8	E	63.8	E	45.9	D
Third/Stevenson	12.1	B	12.8	B	14.3	B	12.8	B	11.1	B
Third/Mission	20.1	C	20.9	C	20.9	C	21.0	C	21.1	C
Third/Howard	36.1	D	40.4	D	40.4	D	40.4	D	40.4	D
Fourth/Market	>80	F	>80	F	>80	F	>80	F	>80	F
Fourth/Mission	41.8	D	45.7	D	45.7	D	45.7	D	54.2	D
Fourth/Howard	42.5	D	44.5	D	44.5	D	44.5	D	44.5	D

Source: Appendix E, Table 19

An analysis of AM peak hour conditions would likely show both a greater percentage increase in delay at these intersections that would cause a reduction in level of service and possibly an adverse impact on critical movements, such as the eastbound right-turn movement from Third Street to Market Street – both of which would trigger a significant impact.[5] Given the high likelihood that AM peak hour traffic will adversely impact intersections along Third Street, it is essential that this analysis be conducted to ensure a comprehensive picture of potential points of congestion.

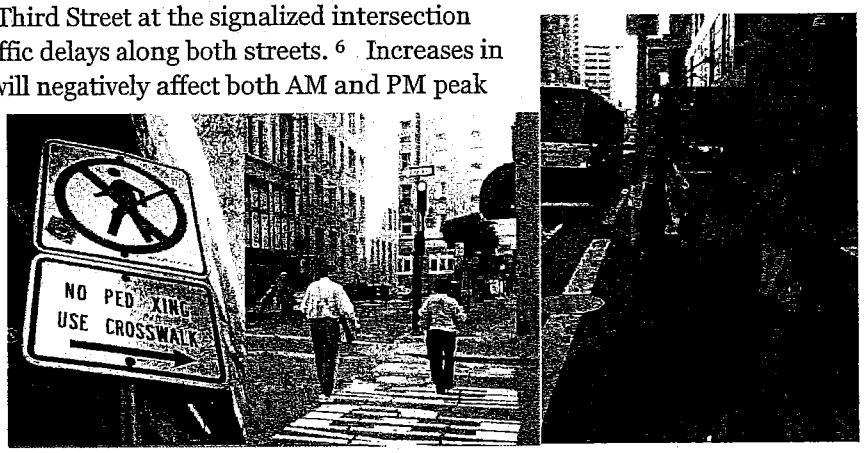
PEDESTRIAN ANALYSIS

Key Issue #4: The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

Summary: The DEIR analysis does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS.

[5] Per Appendix E, p. 67 – "The threshold for a significant adverse impact on traffic has been established as deterioration in the LOS at a signalized intersection from LOS D or better to LOS E or LOS F, or from LOS E to LOS F."

Discussion: Although the DEIR analysis examined pedestrian conditions, it focused solely on LOS standards, which measure only pedestrian flow rates and crosswalk space allowed for pedestrians to cross streets – no consideration was given to the impacts of pedestrians on vehicular traffic. In other settings, pedestrian crossings may not pose an obstacle to vehicle traffic, but given the high number of illegal crossings on Third Street, and particularly across the relatively narrow Stevenson Street, higher pedestrian volumes result in greater vehicle delay. Observations of the intersection at all hours of the day reveal that pedestrians are crossing both Stevenson Street and Third Street at the signalized intersection and are increasing traffic delays along both streets. [6] Increases in pedestrian crossings will negatively affect both AM and PM peak hour congestion. As such, in the Proposed Project and Variants 1-5, increased pedestrian crossings could cause a failing LOS at the Third and Stevenson Street intersection. Conversely, as Variants 6 & 7 do not have access on Third Street or Stevenson Street, and are actually estimated to *reduce* vehicle delay at the Third and Stevenson Street intersection, increased pedestrian volumes will not present a substantial impact in those scenarios.



PARKING ANALYSIS

Key Issue #5: Excessive Onsite Parking Creates Traffic Impacts

Summary: The Proposed Project's residential parking supply of one space per unit exceeds the standard set in the *Planning Code,* resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant.

Discussion: The Proposed Project's residential parking supply contributes to the study area's traffic levels and runs contrary to the City's stated goals. As submitted, the project proposes one residential parking space per unit for both the residential and office flex options. Meanwhile, the *Planning Code* permits only one parking space for every four dwelling units, unless a special permit is granted.[7] Although there is a special permit process, by providing more than the standard allowance of parking, the project will be producing greater levels of vehicle trips and contradicting the spirit of both the Code and City policy.

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[6] Photo sources: Nelson\Nygaard.

[7] In which case, up to one space per unit may be provided for the dwelling units with at least two-bedrooms and at least 1,000 square feet of occupied space, which encompasses all of the proposed project's units.

The City's "transit first" policy is designed to maximize the multi-modal resources of San Francisco, particularly in denser, mixed use areas with excellent transit service. The policy states explicitly that, "Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation" (San Francisco City Charter). By meeting the City's Charter and allowing for fewer parking spaces to be built, projected vehicle trips will be lowered, benefiting the community. This would not preclude residents from leasing parking spaces in nearby facilities, if desired. The DEIR transportation analysis shows that there is sufficient parking available during the peak hour at several garages in the study area.[8]

By limiting the amount of parking onsite, the impact analyses for both the Proposed Project and vehicle access variants would be greatly affected. In particular, fewer vehicle trips will likely alleviate any "significant and unavoidable" impacts generated at the Fourth and Market Street intersection in the Existing Plus Variant Conditions 6 and 7 as well as those generated in the 2030 Cumulative Conditions at both the Fourth and Market and Fourth and Mission intersections.

Furthermore, the reduction in vehicle trips would likely resolve Variants 6 and 7 transit impact. With Mission Street serving as the only entry point for all non-loading vehicles in Variants 6 and 7, the DEIR anticipates 113 vehicles entering via Mission Street in the PM peak hour, which may cause queuing issues onto Mission Street, creating a conflict with Muni bus service and representing a significant impact to transit operations.[9] A reduction in vehicle trips caused by fewer parking spaces would eliminate the "significant and unavoidable" impact caused by Existing Plus Variant Conditions 6 and 7 in terms of excessive queuing into the bus bay on Mission Street. Figure 5 illustrates the "less than significant" and "significant and unavoidable" impact details for the Proposed Project and vehicle access variants.

Figure 5 Summary of Transportation Impacts for Proposed Project and Variants, Existing Plus Conditions

		Variants						
Criteria	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Traffic	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Transit	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Pedestrians	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Bicycles	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Loading	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Emergency Vehicle Access	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Construction	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS

Source: Appendix E, Table 28. LTS = Less than Significant, SU = Significant and Unavoidable.

[8] Appendix E, p. 50.

[9] Appendix E, p.112 and 114.

Key Issue #6: Inadequate Parking Enforcement on Stevenson Street Creates Traffic Congestion

Summary: Although on-street parking is currently prohibited on Stevenson Street, motorists frequently park their vehicles, creating bottlenecks on the narrow street. If Stevenson Street is to be used as an access point as in the Proposed Project and Variants 1-5, vehicle delay will be intensified.



Source: Nelson\Nygaard

Discussion: The DEIR analyzes parking demand in the Jessie Square Garage as well as other facilities in the immediate area, but does not adequately address on-street parking conditions on Stevenson Street. Currently, no parking is allowed along both sides of the street, but both private and loading vehicles continually park and partially block the street, thereby causing traffic delays. These delays will be exacerbated if Stevenson Street is to be used as a primary entry and exit point as suggested in the Proposed Project and Variants 1-5.

MITIGATION MEASURE ANALYSIS

Key Issue #7: There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

Summary: The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant.

Discussion: The DEIR analysis establishes several improvement measures for various aspects of the project, but does not provide adequate transportation measures to encourage walking, biking, and taking transit. Specifically, although several improvement measures pertain to enhanced transportation conditions (e.g. traffic signal timing modifications, "garage full" sign on Third Street, coordination of moving activities, etc.) for the proposed project and variants, there is no measure directed at *reducing vehicle trips*.[10]

Improvement Measure I-TR-N: Transportation Demand Management proposes the distribution of informational materials to tenants, but this strategy will have a very minimal impact, if any. Instead, there should be a mitigation measure requiring the implementation of resident and employee transportation demand management (TDM) measures that have proven to be effective

[10] Table S.2: Summary of Improvement Measures for Proposed Project and Vehicular Access Variants.

in reducing vehicle trips. By doing so, it will provide a benefit both to residents and the city as a whole through improved transportation choices and lower traffic levels. These strategies may act as mitigation measures for both the Proposed Project and seven vehicle access variants. Two of the more effective strategies include:

Subsidized transit passes. In recent years, growing numbers of developments have provided residents and employees with subsidized transit passes to reduce vehicle trips. The proposed development should provide Muni Fast Passes to its residents and employees, which will allow for unlimited rides on local transit. The bulk purchase of transit passes allows the transit operator (i.e. Muni) to sell its passes at a highly discounted rate. Studies have shown from other areas, such as Santa Clara Valley, that the introduction of subsidized passes can nearly double the transit mode to work, thereby decreasing peak hour vehicle trips.

Alternative mode subsidies. Alternative mode subsidies encourage employees to ride transit, carpool, vanpool, walk or bicycle to work, thus decreasing vehicle trips. The benefit is particularly valuable to low-income employees, who are less likely to drive to work alone. Research performed by Donald Shoup at the University of California, Los Angeles found that single occupancy vehicle trips declined by 17% and other modes increased significantly (carpooling by 64%, transit by 50%, and walking/biking by 33%) after an alternative mode subsidy program was introduced at various worksites with varying levels of transit service.

CONSIDERATION OF CITY PLANS

Key Issue #8: Failure to Consider All Existing City Plans Results in an Inadequate Analysis of Impacts

Summary: Several major City planning efforts were not included in the DEIR. These plans will significantly affect travel patterns on all streets around the project site and will impact the results of the traffic analysis for both the Proposed Project and vehicle access variants.

Discussion: While the DEIR analysis assessed the impacts of the Temporary Transbay Terminal, the Central Subway Project, and Muni's Transit Effectiveness Project, there are other major projects omitted from consideration that affect traffic and multi-modal circulation in the study area. The omitted projects have the potential to cause significant changes to the traffic patterns around the project site, thereby drastically influencing predicted transportation impacts for both the Proposed Project and seven vehicle access variants. These projects should be accounted for in the Existing plus Project Conditions, Existing plus Variant Conditions, and in the 2030 Cumulative Conditions. The plans include:

Central Corridor Project. The project represents an integrated community vision for the southern portion of the Central Subway rail corridor with the study site placed in the heart of the project area bounded by Second to Sixth Streets and Mission to Townsend Streets. The Central Corridor Plan will propose changes to the allowed land uses, building heights, and may include an increase in permitted residential and/or commercial densities in the area. The plan may also include proposals to increase the amount of streets space devoted to pedestrian and bicycle facilities while reducing the number of mixed traffic lanes. These alterations can profoundly affect pedestrian, bicycle,

transit, and private vehicle travel patterns, thereby producing potentially different results regarding the thresholds of significance for traffic, transit, pedestrians, and bicycles.

Better Market Street Plan. The plan to revitalize Market Street includes a study of mobility issues. Currently, the options for Market Street include (a) prohibiting private autos, except for those vehicles crossing Market Street, (b) creating a series of forced or prohibited turns along Market Street to redirect traffic along particular thoroughfares, and (c) closing a one-block stretch of Market Street in an area of high pedestrian use. Each of the options considered may have a strong impact on traffic distribution and volumes on both sides of Market Street. In particular, the options which remove traffic from Market Street all are likely to increase traffic on Mission Street and on the South of Market network. These new traffic patterns and increased traffic levels will affect all of the project's study intersections and should be accounted for in the analysis.

Eastern Neighborhood Transportation Implementation Planning Study (EN TRIPS). EN TRIPS prepared a series of recommendations for circulation changes in San Francisco's Eastern Neighborhoods, which include Eastern SoMa, the Mission, Showplace Square/Potrero Hill and the Central Waterfront together with surrounding high-growth areas of Western SoMa, Transbay District, Rincon Hill and Mission Bay. The majority of the City's new residential and commercial growth over the next 25 years will occur in these areas, including the proposed project. These neighborhoods also contain key local and regional transit service, including Muni bus and light rail, BART, Caltrain and future High-Speed Rail. The area's combined development potential and rich transit access present a tremendous opportunity to create integrated, mixed use, transit-rich neighborhoods.

EN TRIPS made specific proposals for circulation changes, including a number of alternatives for potential reconfiguration of Folsom and Howard Streets. All of these include increasing space for pedestrians, bicycles, and public space, and reducing total travel lanes. The range of alternatives still under consideration by the SFMTA includes a design that maintains one-way circulation, as well as a design that converts both Folsom and Howard Streets to two-way operation. These streets are major thoroughfares for eastbound and westbound traffic, and their reconfigurations may cause increased traffic delay in both intersections on those streets as well as other nearby intersections as motorists attempt to find alternative routes. As such, an analysis of its impacts should be included in the DEIR analysis.

Transit Center District Plan. Although the DEIR transportation analysis accounted for the Temporary Transbay Terminal, it did not take into consideration the comprehensive Transit Center District Plan for the area around the Transbay Terminal. The plan area is bounded by Steuart, Market, Annie, and Folsom Streets.

The plan significantly increases allowable residential and employment densities within its boundaries. In addition to zoning changes, the plan also calls for street and circulation changes on Mission, Howard, Folsom, Fremont, Beale, and Main Street. Generally, these changes would reduce the amount of space dedicated to mixed-flow travel and increase space for walking and cycling with new signalized mid-block pedestrian crossings would be added at 14 intersections. While this area is outside the study area of this project, north-and southbound vehicle capacity reduction could result in some traffic being diverted onto nearby streets causing increases in vehicle delay and affecting both the Proposed Project and seven vehicle access variants.

BOARD of SUPERVISORS

City Hall
Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 544-5227

April 4, 2013

FILE NO. 130308

Received from the Board of Supervisors-Clerk's Office a check in the amount of Five Hundred Twenty One Dollars ($521), representing filing fee paid by Tom Lippe of Lippe Gaffney Wagner LLP (appellant) for 706 Mission Street - The Mexican Museum and Residential Tower Project FEIR Appeal.

Planning Department
By:

Theresa Moncha
Print Name

4/4/13
Signature and Date

TODCO

7378

Payee San Francisco Planning Department
Vendor ID SF Planning Dept. Account #:

7378
04/08/2013

Description	Amount
SF Planning Dept. -appeal fee 706 Mission	$521.00

1046

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DATE	AMOUNT
04/08/2013	$521.00

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San Francisco Planning Department

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BOARD of SUPERVISORS

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Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 544-5227

April 12, 2013

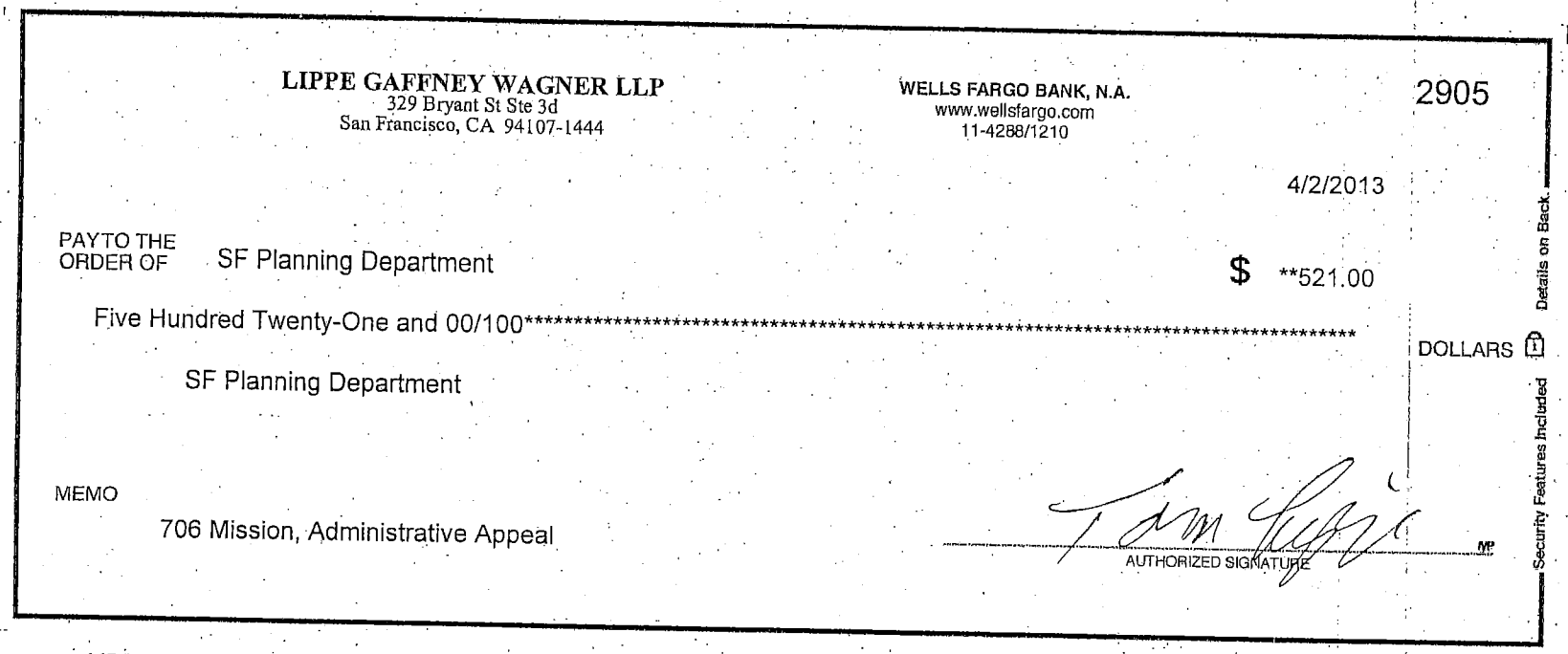
FILE NO. 130308

Received from the Board of Supervisors-Clerk's Office two checks in the amount of Five Hundred Twenty One Dollars ($521) each, representing filing fee paid by TODCO and Tom Lippe of Lippe Gaffney Wagner LLP (Appellants) for 706 Mission Street - The Mexican Museum and Residential Tower Project FEIR Appeal.

Planning Department
By:

Theresa Moncheve
Print Name

4/15/13
Signature and Date



LIPPE GAFFNEY WAGNER LLP
329 Bryant St Ste 3d
San Francisco, CA 94107-1444

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SF Planning Department

MEMO 706 Mission, Administrative Appeal

AUTHORIZED SIGNATURE

Details on Back. Security Features Included

1048

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SF Planning Department 4/2/2013

706 Mission, Administrative Appeal 521.00

Wells LLP OA 0964 706 Mission, Administrative Appeal 521.00

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SF Planning Department

MEMO 706 Mission, Administrative Appeal (FY13)

AUTHORIZED SIGNATURE

Details on Back. Security Features Included

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San Francisco Heritage
2007 Franklin Street
San Francisco, CA 94109

Mike Billings
The Examiner
71 Stevenson Street
San Francisco, CA 94105

Margaret Yuen
San Francisco Planning Department
1650 Mission Street, 4th Floor
San Francisco, CA 94103

(2 CDs)

Sarah Ballard
McLaren Lodge-Golden Gate Park
501 Stanyan Street
San Francisco, CA 94117

San Francisco Recreation and Park Commission
Attn: Commission Secretary
501 Stanyan Street
San Francisco, CA 94117

Karen Mauney-Brodek
San Francisco Recreation and Park Department
30 Van Ness Avenue, 4th Floor
San Francisco, CA 94103

Marlena Byrne
Deputy City Attorney
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Interim Board Secretary
Office of Community Investment and Infrastructure
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San Francisco, CA 94103

Sean Jeffries
706 Mission Street Co., LLC
c/o Millennium Partners
735 Market Street, 6th Floor
San Francisco, CA 94103

Susan Cleveland-Knowles
Deputy City Attorney
San Francisco City Hall, Room 234
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Christine Maher
Office of Community Investment and Infrastructure
One South Van Ness, 5th Floor
San Francisco, CA 94103

Howe, Lynne

From: Howe, Lynne
Sent: Thursday, April 04, 2013 10:29 AM
To: 'tlippe@lgwlawyers.com'; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra
Cc: Caldeira, Rick; Calvillo, Angela; Lamug, Joy
Subject: FEIR Appeal: 706 Mission Street - The Mexican Museum and Residential Tower Project
Attachments: 706 Mission Street Appeal Receipt Letter.pdf

The Office of the Clerk of the Board is in receipt of your appeal filed on April 2, 2013, from the decision of the Planning Commission's March 21, 2013, Certification of a Final Environmental Impact Report identified as Planning Case No. 2008.1084E, through its Motion No. 18829, for a proposed mixed-use project at 706 Mission Street - The Mexican Museum and Residential Tower Project.

A hearing date has been scheduled on **Tuesday, April 30, 2013, at 3:00 p.m.,** at the Board of Supervisors meeting to be held in City Hall, Legislative Chamber, Room 250, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Please provide 1 electronic copy and 18 hard copies to the Clerk's Office by:

8 days prior to the hearing: any documentation which you may want available to the Board members prior to the hearing;
11 days prior to the hearing: names of interested parties to be notified of the hearing in label format.

If you have any questions, please feel free to contact Legislative Deputy Director, Rick Caldeira, at (415) 554-7711 or Legislation Clerks, Joy Lamug, at (415) 554-7712 / Lynne Howe, at (415) 554-4445.

Lynne Howe
Legislation Clerk
Board of Supervisors
1 Dr. Carlton B. Goodlett Place, City Hall, Room 244
San Francisco, CA 94102
Phone: (415) 554-4445 | Fax: (415) 554-5163
lynne.howe@sfgov.org | www.sfbos.org

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Howe, Lynne

From:	Lamug, Joy
Sent:	Friday, April 12, 2013 11:37 AM
To:	tlippe@lgwlawyers.com; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra; dengler@coxcastle.com; Jain, Devyani
Cc:	Calvillo, Angela; Caldeira, Rick; Howe, Lynne
Subject:	FEIR Appeal: 706 Mission Street - The Mexican Museum and Residential Tower Project
Attachments:	706 Mission St FEIR Appeal Ltr.to Appealants2.pdf

The Office of the Clerk of the Board is in receipt of your appeals, filed on April 9 and 10, 2013, and of a supplement to the appeal filed on April 2, 2013, received on April 10, 2013. All of these are appeals to the decision of the Planning Commission's March 21, 2013, Certification of a Final Environmental Impact Report identified as Planning Case No. 2008.1084E, through its Motion No. 18829, for a proposed mixed-use project at 706 Mission Street - The Mexican Museum and Residential Tower Project.

Pursuant to San Francisco Administrative Code, Section 31.16 (b), if more than one person submits a letter of appeal on the Final Environmental Impact Report, the Board shall consolidate such appeals so that they are heard simultaneously, and the hearing date will be set based on the last appeal filed.

Therefore, the original hearing date of Tuesday, April 30, 2013, which was set after receipt of the first appeal, has been rescheduled to hear all three consolidated appeals, including the supplement, on **Tuesday, May 7, 2013, at 3:00 p.m.,** at the Board of Supervisors meeting to be held in City Hall, Legislative Chamber, Room 250, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Please provide 1 electronic copy (sent to BOS.Legislation@sfgov.org) and 18 hard copies to the Clerk's Office by:

8 days prior to the hearing: any documentation which you may want available to the Board members prior to the hearing;

11 days prior to the hearing: names of interested parties to be notified of the hearing in label format.

If you have any questions, please feel free to contact Legislative Deputy Director, Rick Caldeira, at (415) 554-7711 or Legislation Clerks, Joy Lamug, at (415) 554-7712 / Lynne Howe, at (415) 554-4445.

Thank you,

Joy Lamug
Board of Supervisors-Clerk's Office
1 Dr. Carlton B. Goodlett Place,
City Hall, Room 244
San Francisco, CA 94102
Phone: (415) 554-7712
Email: joy.lamug@sfgov.org

Howe, Lynne

From:	Howe, Lynne
Sent:	Friday, April 26, 2013 8:35 AM
To:	'tlippe@lgwlawyers.com'; 'susanbh@preservationlawyers.com'; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra; dengler@coxcastle.com; Jain, Devyani
Cc:	Caldeira, Rick; Calvillo, Angela; Lamug, Joy
Subject:	706 Mission Street - The Mexican Museum and Residential Tower Project - Notice of Public Hearing
Attachments:	706 Mission Street Hearing Notice.pdf

Please find attached the Notice of Public Hearing for May 7, 2013 at 4:00pm for 706 Mission Street - The Mexican Museum and Residential Tower Project.

Lynne Howe
Legislation Clerk
Board of Supervisors
1 Dr. Carlton B. Goodlett Place, City Hall, Room 244
San Francisco, CA 94102
Phone: (415) 554-4445 | Fax: (415) 554-5163
lynne.howe@sfgov.org | www.sfbos.org

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http://www.sfbos.org/index.aspx?page=104

Howe, Lynne

From:	Dwyer, Debra
Sent:	Monday, April 29, 2013 4:46 PM
To:	BOS Legislation; Young, Victor; Howe, Lynne; Caldeira, Rick
Cc:	Rodgers, AnMarie; Jain, Devyani; Jones, Sarah; Byrne, Marlena; Cleveland-Knowles, Susan
Subject:	Planning Department Appeals Response for Appeals of EIR Certification 706 Mission Street - The Mexican Museum and Residential Tower Project
Attachments:	Appealresponse_Electronic transmittal memoBOS_706 Mission.doc

Attached please find the Planning Department's Notice of Submission of Appeal Response to the Appeals of the EIR Certification for the 706 Mission Street - The Mexican Museum and Residential Tower Project.

This afternoon the Planning Department provided one hard copy of the Department's Appeals Response, with attachments including the Appeal letters, EIR Certification Motion, Draft EIR and Responses to Comments documents and 18 CDs with the same information to the Clerk of the Board for distribution to the Supervisors. Additional hard copies may be requested by contacting Debra Dwyer of the Planning Department at 415-575-9031.

Please note that the environmental documents (DEIR and RTC) are also available online from the Planning Department Web site at http://tinyurl.comsfceqadocs under Department Case Number 2008.1084E.

Best regards,

Debra Dwyer

Debra Dwyer
Environmental Planner

ph 415.575.9031
fax 415.558.6409

San Francisco Planning Department
1650 Mission Street, Suite 400, San Francisco, CA 94103
www.sfgov.org/planning

Howe, Lynne

From: Howe, Lynne
Sent: Tuesday, April 30, 2013 11:10 AM
To: 'tlippe@lgwlawyers.com'; 'susanbh@preservationlawyers.com'; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra; 'dengler@coxcastle.com'; Jain, Devyani
Cc: Caldeira, Rick; Calvillo, Angela; Young, Victor; Lamug, Joy
Subject: RE: 706 Mission Street - The Mexican Museum and Residential Tower Project - Appellant Lippe Submission
Attachments: Lippe Air Quality 1.pdf; Lippe Air Quality 2.pdf; Lippe Air Quality 3.pdf; Lippe Shadow and Noise.pdf; Lippe Historic 1.pdf; Lippe Historic 2.pdf; Lippe Historic 3.pdf

Hello:

Please find attached, Appellant Lippe's, Lippe Gaffney Wagner LLP, submission for the Appeal of EIR Certification for 706 Mission Street - The Mexican Museum and Residential Tower Project, scheduled to be heard by the Board of Supervisors on May 7, 2013, at **4:00 p.m.**, as indicated in the Hearing Notice of April 26, 2013. There are seven attachments, which comprise electronic versions of three hard copy documents identified as Impacts on Air Quality, Shadow Impacts on Union Square * Noise Impacts, and Impacts on Historic Resources.

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Legislation Clerk
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San Francisco, CA 94102
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http://www.sfbos.org/index.aspx?page=104

Howe, Lynne

From:	Howe, Lynne
Sent:	Tuesday, April 30, 2013 11:10 AM
To:	'tlippe@lgwlawyers.com'; 'susanbh@preservationlawyers.com'; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra; 'dengler@coxcastle.com'; Jain, Devyani
Cc:	Caldeira, Rick; Calvillo, Angela; Young, Victor; Lamug, Joy
Subject:	RE: 706 Mission Street - The Mexican Museum and Residential Tower Project - Planning Department Response
Attachments:	01 - 706 Mission Street Appeal Response - BOS Transmittal.pdf; 02 - Final 706 Mission EIR Appeal Response 04-29-13.pdf; 706 Mission Street Appeal - Attachment A.pdf; 706 Mission Street Appeal - Attachment B.pdf; 706 Mission Street Appeal - Attachment C.pdf; 706 Mission Street Appeal - Attachment D.pdf; 706 Mission Street Appeal - Attachment E.pdf

Hello:

Please find attached, Planning Department's response to the letters of Appeal of EIR Certification for 706 Mission Street - The Mexican Museum and Residential Tower Project, scheduled to be heard by the Board of Supervisors on May 7, 2013, at **4:00 p.m.**, as indicated in the Hearing Notice of April 26, 2013. The environmental documents (DEIR and RTC), identified by Planning as Attachment F, are available online from the Planning Department Web site at http://www.sf-planning.org/index.aspx?page=1828 under Case number 2008.1084E.

Lynne Howe
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lynne.howe@sfgov.org | www.sfbos.org

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http://www.sfbos.org/index.aspx?page=104

Howe, Lynne

From: Susan Brandt-Hawley [susanbh@preservationlawyers.com]
Sent: Tuesday, April 30, 2013 2:07 PM
To: Howe, Lynne
Subject: 706 Mission Street appeal

Hello. I just wanted you to know that I am planning to submit information on behalf of appellant TODCO tomorrow. Thank you for the emails and documents. Susan

Susan Brandt-Hawley
Brandt-Hawley Law Group
707.938.3900
preservationlawyers.com

Howe, Lynne

From: Howe, Lynne
Sent: Tuesday, April 30, 2013 2:17 PM
To: 'tlippe@lgwlawyers.com'; 'susanbh@preservationlawyers.com'; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra; 'dengler@coxcastle.com'; Jain, Devyani; 'sjeffries@millenniumptrs.com'; 'Cristina Mor'
Cc: Caldeira, Rick; Calvillo, Angela; Young, Victor; Lamug, Joy
Subject: RE: 706 Mission Street - The Mexican Museum and Residential Tower Project - Appellant Brandt-Hawley

We have been informed that Appellant Brandt-Hawley, Brandt-Hawley Law Group, will be submitting documents tomorrow in relation to the May 7, 2013 Hearing for the 706 Mission Street - The Mexican Museum and Residential Tower Project. They will be forwarded upon receipt.

Lynne Howe
Legislation Clerk
Board of Supervisors
1 Dr. Carlton B. Goodlett Place, City Hall, Room 244
San Francisco, CA 94102
Phone: (415) 554-4445 | Fax: (415) 554-5163
lynne.howe@sfgov.org | www.sfbos.org

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http://www.sfbos.org/index.aspx?page=104

Howe, Lynne

From: Susan Brandt-Hawley [susanbh@preservationlawyers.com]
Sent: Wednesday, May 01, 2013 3:01 PM
To: Yadegar, Danny; Howe, Lynne
Subject: Re: 706 Mission Appellant Submission

Sorry I am still dealing with family emergencies here in San Diego and so will need to email the info to you tomorrow morning. I regret the delay. SBH

Susan Brandt-Hawley
Brandt-Hawley Law Group
707.938.3900
preservationlawyers.com

Howe, Lynne

From: BOS Legislation
Sent: Wednesday, May 01, 2013 4:54 PM
To: tlippe@lgwlawyers.com; susanbh@preservationlawyers.com; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra; dengler@coxcastle.com; Jain, Devyani; sjeffries@millenniumptrs.com; Cristina Mor
Cc: Caldeira, Rick; Calvillo, Angela; Young, Victor; Lamug, Joy
Subject: RE: 706 Mission Street - The Mexican Museum and Residential Tower Project - Appellant Brandt-Hawley

We just received this message from Appellant Brandt-Hawley:

Sorry I am still dealing with family emergencies here in San Diego and so will need to email the info to you tomorrow morning. I regret the delay.

From: Howe, Lynne
Sent: Tuesday, April 30, 2013 2:17 PM
To: 'tlippe@lgwlawyers.com'; 'susanbh@preservationlawyers.com'; Givner, Jon; Stacy, Kate; Byrne, Marlena; Rodgers, AnMarie; Sanchez, Scott; Jones, Sarah; Wise, Viktoriya; Navarrete, Joy; Tam, Tina; Ionin, Jonas; BOS-Supervisors; BOS-Legislative Aides; Dwyer, Debra; 'dengler@coxcastle.com'; Jain, Devyani; 'sjeffries@millenniumptrs.com'; 'Cristina Mor'
Cc: Caldeira, Rick; Calvillo, Angela; Young, Victor; Lamug, Joy
Subject: RE: 706 Mission Street - The Mexican Museum and Residential Tower Project - Appellant Brandt-Hawley

We have been informed that Appellant Brandt-Hawley, Brandt-Hawley Law Group, will be submitting documents tomorrow in relation to the May 7, 2013 Hearing for the 706 Mission Street - The Mexican Museum and Residential Tower Project. They will be forwarded upon receipt.

Lynne Howe
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JACK CLUMECK
765 MARKET STREET, #26-A
SAN FRANCISCO, CA 94103-2038
TEL: (415) 525-3118
FAX: (415) 655-9310
CELL: (415) 517-0151
E-MAIL: jrclumeck@comcast.net

April 29, 2013

Angela Calvillo
Clerk of the Board of Supervisors
Room 244
City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco CA 94102

Re: 706 Mission Street Tower Project

Dear Members of The Board of Supervisors,

I m writing you in response to your Notice of Public Hearing on Tuesday, May 7, 2013, dated April 25, 2013 and mailed on April 26, 2013, as permitted and indicated therein.

I was among those who spoke at the Planning Commission meeting on August 2, 2012, and delivered to them a transcript of my comments regarding the Draft EIR for the 706 Mission Street Tower Project.

I was dismayed last month when I received the EIR that had been reviewed and presented by the Planning Department staff. The only consistent comment was that there was almost universally "no significant impact" from the several thoughtful and considered concerns that were expressed by many persons attending the meeting, whether lay people or experts.

I am unable to understand or reconcile these findings with what is the actual situation currently affecting the access and egress along Stevenson Alley west of Third Street and the impact on the already often grid-locked Third Street and its more often than not blocked intersection at Stevenson Alley that would be further exacerbated by allowing the 706 Mission Street Tower's residents' and visitors' cars to add to the already egregious and dangerous situation that currently exists in Stevenson Alley.

Historically, Stevenson Alley was just that—a narrow one-way alley for deliveries to businesses fronting on Market Street. Despite its now seemingly being a two-way thoroughfare, one of its two narrow lanes is often blocked for the same delivery activities, despite the "No Parking-Tow Away" signs that are prominently displayed, but never, to my knowledge, enforced by DPT or SFPD. When this occurs, cars are delayed and then forced to queue, swerve, or "play chicken" to proceed down or up the alley.

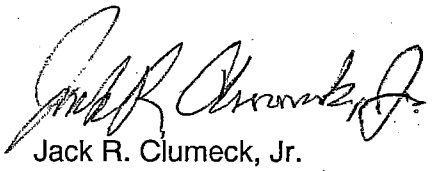
To: The Board of Supervisors of the City and County of San Francisco
Re: 706 Mission Street Tower Project
April 29, 2013

In addition, entering or crossing Third Street further impedes the safe and orderly traffic flow into and out of Stevenson Alley. Despite the fast fading and seemingly unnoticeable or unnoticed painted "KEEP CLEAR" markings in the intersection, again, more often than not, there seems to be no attention paid to these markings by traffic on Third Street, including the Muni busses that operate in the far right lanes. Once again, there has, to my knowledge, been no DPT or SFPD enforcement of this situation, as well as of the often running of the red light by drivers seeking to reach Market Street and ignoring the stop signals at Stevenson Alley.

I also have concerns about the integrity of Jessie Plaza, which was originally conceived and designed to have three buildings (St. Paul's Church, The Contemporary Jewish Museum, and a free-standing Mexican Museum) of similar size, scale, and mass at its boundaries. If the 706 Mission Street Tower is allowed to move westward onto the original Mexican Museum parcel, this massive structure will dwarf, shade, and overpower the intimate and pleasant plaza (as well as at its present proposed height and mass casting its gigantic shadow across Market Street and onto Union Square in contravention of the shadow ordinance that was voted-in to preclude such a negative impact and intrusion).

For these reasons, I request that the Board of Supervisors consider these deficiencies that appear to be contained in the EIR as presented by the Planning Department and its staff, and see that the "no significant impact" conclusions are, in fact, faulty and should be reconsidered, addressed, and corrected before approval is granted for the 706 Mission Street Tower project as currently proposed by the EIR.

Thank you for your consideration.



Jack R. Clumeck, Jr.

Lippe Gaffney Wagner LLP www.lgwlawyers.com

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SACRAMENTO • 9333 Sparks Way, Sacramento, CA 95827 • T 916.361.3887 • F 916.361.3897

Thomas N. Lippe
Brian Gaffney
Keith G. Wagner
Kelly A. Franger
Henry A. Steinberg

April 28, 2013

Board President David Chiu and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: Argument in Support of Appeal of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035)
- **Impacts on Air Quality**

Dear President Chiu and Supervisors:

This office represents the following appellants: the 765 Market Street Residential Owner's Association ("ROA"), Friends of Yerba Buena ("FYB"), Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins (collectively "Appellants"), regarding the 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). I am writing to provide additional argument in support of appellants' grounds for appeal relating to Impacts on Air Quality.

This letter incorporates the comments set forth in the attached report from air quality consultant Greg Gilbert (Exhibit 6), which details the factual basis for several legal flaws in the EIR. As Mr. Gilbert notes, several of the mitigation measures intended to reduce diesel particulate and toxic air contaminant emissions to "less than significant" are not detailed enough to be enforceable or effective, especially regarding the qualifications of the "Environmental Planning Air Quality Specialist." Therefore, the EIR's conclusion that such impacts will be less than significant is unsupported. Also, the EIR defers the development of mitigation measures to reduce emissions to "less than significant" to the post-approval preparation and "approval" of a "Construction Emission Minimization Plan." But the EIR presents no evidence suggesting that developing this Plan now is impractical or infeasible; therefore, this procedure violates CEQA. Mr. Gilbert also discusses the EIR's use of inappropriate and inapplicable thresholds of significance for assessing the Project's emissions of criteria air pollutants, a topic that is discussed in greater detail in this letter.

Impact AQ-1 analyzes Project construction against "Thresholds of Significance" G2 and G3. Threshold of Significance G2 is "violate any air quality standard or contribute substantially to an existing or projected air quality violation." The assessment is based on numerical standards previously established by the Bay Area Air Quality Management District (BAAQMD) for ROG (54 lbs/day); NOx (54 lbs/day) ; Exhaust PM10 (82 lbs/day); Exhaust PM2.5 (54 lbs/day).

The EIR states:

> Although BAAQMD's adoption of significance thresholds in 2010 and 2011 are the subject of recent judicial actions, the Planning Department has determined that Appendix D of the BAAQMD CEQA Air Quality Guidelines,[n 26] in combination with BAAQMD's Revised Draft Options and Justification Report [n 27] provide substantial evidence to support the BAAQMD recommended thresholds. Therefore, the Planning Department has determined these thresholds are appropriate for use in this analysis.
> N 26 BAAQMD Guidelines, Appendix D.
> N 27 BAAQMD, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, October 2009.

(DEIR pp. IV.G -20 - IV.G -21.)

The EIR relies on the BAAQMD numerical standards to determine the significance of the Project's incremental and cumulative impacts on ozone precursors and other criteria pollutants, stating:

> Cumulative Air Quality Impacts
> Regional air quality impacts are by their very nature cumulative impacts. Emissions from past, present and future projects contribute to adverse regional air quality impacts on a cumulative basis. No single project by itself would be sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.[n 51] As described above, the project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, if a project's emissions are below the project-level thresholds, the project would not be considered to result in a considerable contribution to cumulative regional air quality impacts.
> N. 51 BAAQMD, California Environmental Quality Act (CEQA) Air Quality Guidelines, June 2010; and adopted Thresholds of Significance, June 2010, p. 2-1. Available online at http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQAGuidelines.aspx. Accessed April 18, 2012.

(DEIR pp. IV.G -26.)

EIR Table IV.G.5 shows that Construction-Phase Daily Emissions of Criteria Air Pollutants (lb/day) for NOx are 49.76 lbs/day, for ROG are 28.66 lbs/day, both of which are below the BAAQMD threshold of 54 lb/day. (DEIR p. IV.G.29.) On this basis the EIR concludes that these impacts are less than significant.

The EIR's analysis of these impacts fails as an informational document for several reasons.

The EIR should have, but did not, inform the public, that the referenced "judicial action" resulted in the Superior Court ordering BAAQMD to void its approval of its numerical thresholds.[1] The EIR should have, but did not, inform the public, that as a result of the referenced "judicial action," BAAQMD no longer recommends that public agencies use its numerical thresholds to determine the significance of air quality impacts.[2]

The City of San Francisco uses these numerical thresholds for virtually all land use development projects in the city that require CEQA review. This is shown by a random, small sample of excerpts from recent Environmental Impacts Reports and Negative Declarations attached hereto as Exhibits 7 -14. All of them use the BAAMQD numbers as the thresholds of significance for these pollutants. Therefore, the City was required to undertake its own rule-making proceeding to adopt these thresholds as its own and determine in a public process that they are supported by substantial evidence.

> (b) Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence.
> (c) When adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

(CEQA Guideline, § 15064.7.) Since the City has not formally adopted the air quality significance thresholds in a public process supported by substantial evidence, it cannot use these thresholds on an ad hoc basis as it has done in this EIR.

Indeed, the DEIR does not specify which evidence in the three documents referenced at footnote 26 [Appendix D of the BAAQMD CEQA Air Quality Guidelines],[3] footnote 27 [BAAQMD's Revised Draft Options and Justification Report, October 2009],[4] and footnote 51 [Bay Area AQMD Proposed Air Quality CEQA Thresholds of Significance, May 3, 2010],[5] as

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[1]Exhibit 1 [Judgment and Statement of Decision, Case No. RG10-548693].

[2]Exhibit 2 [Print of BAAQMD Website, accessed April 23, 2013]

[3]Attached as Exhibit 5.

[4]Attached as Exhibit 4.

[5]Attached as Exhibit 3.

purportedly constitute "substantial evidence" supporting its use of these numerical thresholds. This violates CEQA's informational requirements. (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405 ["whatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report"]; *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442 ["[I]nformation 'scattered here and there in EIR appendices' or a report 'buried in an appendix,' is not a substitute for 'a good faith reasoned analysis'"], 443 ["The audience to whom an EIR must communicate is not the reviewing court but the public and the government officials deciding on the project. That a party's briefs to the court may explain or supplement matters that are obscure or incomplete in the EIR, for example, is irrelevant . . . The question is therefore not whether the project's significant environmental effects *can* be clearly explained, but whether they *were*"] (emphasis in original).)

Moreover, regardless of what evidence might be included in these other BAAQMD documents, that evidence cannot overcome a fundamental logical and legal flaw in the EIR's assumption that these thresholds are appropriate for the purpose for which they are used. Using the EIR's logic, if the City finds that one project will add 46 lbs/day of ozone precursors, it is considered a less-than-significant impact, but if that project will add 55 lbs/day of ozone precursors, it is considered significant. Yet, if the City approved 2 new large projects in the area in the same 2- or 3-year period that construction of such large projects takes, each emitting 46 lbs/day of ozone precursors, it is considered a less-than-significant impact even though the total of the two added together equals 92 lbs/day of ozone precursors. This scenario is not hypothetical; it is unfolding in San Francisco now. As evidenced by the EIR excerpts attached as Exhibits 7-11, this scenario is occurring with the many large construction projects the City has recently approved and is considering approving in the downtown area that will be under construction at the same time. As a result, the thresholds violate a fundamental CEQA principal that regardless of whether projects' incremental impacts are deemed insignificant in isolation, they may be cumulatively significant.

This area is in "non-attainment" status under federal and State clean air laws for these criteria pollutants; and this project, along with many others, will substantially contribute to that existing significant adverse impact. There is no evidence to the contrary. The City's untenable position is that public agencies in the Air Basin can approve project after project, each emitting (in the case of ozone precursors) up to 54 lbs/day of new and additional ozone precursors, without ever causing a cumulatively considerable increase in air pollution. This approach runs counter to the reason for conducting cumulative impact analysis. If the City (and other agencies in the Air Basin) continues to find that projects that make air quality worse - when it is already significantly degraded - do not have a significant adverse cumulative impact on air quality, then the City will have no legal obligation to adopt feasible mitigation measures to reduce the significant cumulative impact.

While the BAAQMD publications cited above purport to include substantial evidence supporting the use of these thresholds for all criteria air pollutants for which the Bay Area is in non-attainment, it does not. Instead, BAAQMD CEQA Guidelines [Exhibit 5] merely provide policy rationales for why it is a good idea to have thresholds of significance. Nowhere, does the document

actually provide evidence for why any number of pounds per day below, for example, 54 for NOx or ROG, is not "cumulatively considerable."

The BAAQMD's Revised Draft Options and Justification Report (October, 2009) cited in the EIR states, regarding the numerical thresholds: "These levels are based on the trigger levels for the federal New Source Review (NSR) Program and BAAQMD's Regulation 2, Rule 2 for new or modified sources."[6] These New Source Review Program rules provides that any new source that will emit pollutants above the levels stated in the left hand column of Table 4 (e.g., 10 lbs/day of NOx and ROG) must impose "Best Available Control Technology ("BACT")."[7] These New Source Review Program rules also provide that any new source that will emit pollutants above the levels stated in the right hand column of Table 4 (e.g., 54 lbs/day of NOx and ROG) must offset any emissions above these "triggers."[8]

However, it is inappropriate to base the EIR's significance determination for purposes of CEQA on the Air District's 'triggers" for an entirely different regulatory program, i.e., New Source Review under the Clean Air Act ("CAA").[9] One of CEQA key purposes is to require "disclosure" of significant impact, and it allows agencies to approve project where emissions exceed its thresholds of significance as long as the project's benefits outweigh the environmental harm. The CAA, in contrast, is not primarily concerned with public disclosure, and it provides absolute limits on emissions (i.e., the offset triggers in Table 4) that cannot be exceeded under any circumstances. A standard that shuts down economic activity (i.e., the CAA offset standard) is necessarily and appropriately different than a standard (i.e. a CEQA threshold of significance) that requires disclosure of the impact to the public and the adoption of feasible mitigation measures.

Indeed, if it is possible to borrow any CAA NSR standard for use as a CEQA threshold of significance, it would be the BACT triggers in Table 4 because those standards force the adoption of feasible mitigation measures, similar to CEQA's thresholds of significance. The New Source rules require imposition of BACT when levels exceed, for ROG and NOx, only 10 lbs/day, which is much lower than the offset/CEQA standard of 54 lbs/day. But, there is no parallel requirement in the EIR or under CEQA for imposing anything like BACT to this Project's construction impacts

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[6]Exhibit 4, p. 2.

[7]Exhibit 4, pp. 16-17.

[8]Exhibit 4, pp. 16-17.

[9]The CAA establishes health-based ambient air quality standards and ranks air districts nationwide based on their level of attainment of those standards. The CAA also establishes a timetable for air districts to reach attainment, and authorizes specific penalties where a deadline is not met. CEQA, on the other hand, requires lead agencies to analyze and discuss significant impacts on air quality, and to continue to mitigate those impacts so long as they remain significant or no additional mitigation is feasible.

due to its emissions of ROG and Nox, which are well above the 10 lbs/day BACT standard.

Regarding the offset standards, the BAAQMD's Revised Draft Options and Justification Report (October, 2009) cited in the EIR observes that "These levels represent a cumulatively considerable contribution."[10] Appellants agree with this observation, but there is no evidence that quantities below these levels do not also "represent a cumulatively considerable contribution."

The significance of a cumulative impact depends on the environmental setting in which it occurs, especially the severity of existing environmental harm. (*Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 120 ("*CBE*") ["[T]he relevant question"... is not how the effect of the project at issue compares to the preexisting cumulative effect, but whether "any additional amount" of effect should be considered significant in the context of the existing cumulative effect. [footnote omitted] In the end, the greater the existing environmental problems are, the lower the threshold should be for treating a project's contribution to cumulative impacts as significant. [footnote omitted]"]; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720-721.)

Here, the BAAQMD CEQA Guidelines present ample evidence that the Bay Area's air quality is seriously degraded and has been for a very long time. Therefore, the idea that agencies can forever approve multiple projects that each add 53 lbs of ROG and NOx to the air every day and never be deemed cumulatively considerable is absurd. Rather than explain why this is not true, the BAAQMD documents simply ignore the issue.

The DEIR's use of the BAAQMD thresholds of significance is erroneous as a matter of law for several other reasons.[11] The EIR cannot merely reference a project's compliance with another agency's regulations. Lead agencies must conduct their own fact-based analysis of project impacts, regardless of whether the project complies with other regulatory standards. The EIR uses BAAQMD's thresholds of significance uncritically, without any factual analysis of its own, in violation of CEQA.[12] This uncritical application of the BAAQMD's thresholds of significance

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[10]Exhibit 4, p. 2.

[11] *Endangered Habitats League v County of Orange* (2005) 131 Cal.App.4th 777, 793 ("The use of an erroneous legal standard [for the threshold of significance in an EIR] is a failure to proceed in the manner required by law that requires reversal.").

[12] *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109 [underscore emphasis added], citing *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 114 ("*CBE*"); accord *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 342 ["A threshold of significance is not conclusive...and does not relieve a public agency of the duty to consider the evidence under the fair argument standard."].)

represents a failure of the City to exercise its independent judgement in preparing the EIR.[13] Just as disagreement from another agency does not deprive a lead agency of discretion under CEQA to judge whether substantial evidence supports its conclusions,[14] agreement from another agency does not relieve a lead agency of separately discharging its obligations under CEQA. The BAAQMD CEQA Guidelines do not provide any factual explanation as to why the 54 lbs. per day standard represents an appropriate threshold of significance for judging the significance of project-level ozone pollution impacts. More importantly, the DEIR also fails to include any such explanation, and is therefore inadequate as a matter of law.[15] It is well-settled that compliance with other regulatory standards cannot be used under CEQA as a basis for finding that a project's effects are insignificant, nor can it substitute for a fact-based analysis of those effects.[16]

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

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[13] *Friends of La Vina v. County of Los Angeles* (1991) 232 Cal.App.3d 1446.

[14] *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 626.

[15] *Santiago County Water Dist. v. County of Orange*, *supra*, 118 Cal.App.3d 818.

[16] *See*, e.g., *Californians for Alternatives to Toxics v. Department of Food & Agriculture* (2005) 136 Cal.App.4th 1, 16 (lead agencies must review the site-specific impacts of pesticide applications under their jurisdiction, because "DPR's [Department of Pesticide Regulation] registration does not and cannot account for specific uses of pesticides..., such as the specific chemicals used, their amounts and frequency of use, specific sensitive areas targeted for application, and the like"); *Citizens for Non-Toxic Pest Control v. Department of Food & Agriculture* (1986) 187 Cal.App.3d 1575, 1587-1588 (state agency applying pesticides cannot rely on pesticide registration status to avoid further environmental review under CEQA); *Oro Fino Gold Mining Corporation v. County of El Dorado* (1990) 225 Cal.App.3d 872, 881-882 (rejects contention that project noise levelwould be insignificant simply by being consistent with general plan standards for the zone in question). *See also City of Antioch v. City Council of the City of Pittsburg* (1986) 187 Cal.App.3d 1325, 1331-1332 (EIR required for construction of road and sewer lines even though these were shown on city general plan); *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 712-718 (agency erred by "wrongly assum[ing] that, simply because the smokestack emissions would comply with applicable regulations from other agencies regulating air quality, the overall project would not cause significant effects to air quality.").

List of Exhibits

1. Judgment and Statement of Decision, Case No. RG10-548693.

2. Bay Area Air Quality Management District Web Page, accessed April 23, 2013.

3. Bay Area Air Quality Management District (BAAQMD), California Environmental Quality Act Air Quality Guidelines, May 2010.

4. Bay Area Air Quality Management District (BAAQMD), Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, October 2009.

5. Appendix D of the BAAQMD CEQA Air Quality Guidelines, May 3, 2010.

6. Letter dated April 26, 2013 from Greg Gilbert, Autumn Wind Associates.

7. Excerpts from EIR for the 8 Washington Street/Seawall Lot 351 Project, dated June 15, 2011, pp. IV.E.15-IV.E.18.

8. Excerpts from EIR for the 801 Brannan St 1 Henry Adams St Project, dated June 22, 2011, pp.262-266, 270-272.

9. Excerpts from EIR for the Transit Center District Plan and Transit Tower Project, dated September 28, 2011, pp. 381-382, 387-388, 413-414, 419-420.

10. Excerpts from EIR for the 34th America's Cup and James R. Herman Cruise Terminal and Northeast Wharf Plaza Project, dated July 11, 2011, pp. 5.8-15 - 5.8-20, 5.8-26 - 5.8-27, 5.8-32 - 5.8-33.

11. Excerpts from EIR for the Western SoMa Community Plan, Rezoning of Adjacent Parcels and 350 Eighth Street Project, dated June 20, 2012, pp. 4.G.18 - 4.G.21, 4.G.53 - 4.G.54, 4.G.58 - 4.G.59.

12. Excerpts from DEIR for the 200-214 6th Street Affordable Housing with Ground-Floor Retail Project, dated February 27, 2013, pp. 69 - 72, 76 - 78.

13. Excerpts from Preliminary Mitigated Negative Declaration for the 345 Brannan Street Project, dated March 20, 2013, pp.63 - 66, 69 - 72.

14. Excerpts from Preliminary Mitigated Negative Declaration for the 101 Polk Street Residential Project, dated March 27, 2013, pp. 63 - 64, 68 - 69, 74.

EXHIBIT 1

6043264

FILED
ALAMEDA COUNTY
MAR 05 2012
CLERK OF THE SUPERIOR COURT
By Pam Williams
Deputy

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF ALAMEDA

California Building Industry Association, Petitioner/Plaintiff, vs. Bay Area Air Quality Management, Respondent/Defendant.	Case No. RG10-548693 ~~PROPOSED~~ JUDGMENT

Plaintiff and Petitioner California Building Industry Association ("CBIA") challenged the June 2, 2010, decision of the Bay Area Air Quality Management District ("District") to adopt Resolution No. 2010-06 by which it adopted its new California Environmental Quality Act ("CEQA") thresholds ("the Thresholds"). This matter came for hearing on the petition for writ of mandate on January 9, 2012, in Department 24 of the Superior Court for the State of California, Alameda County, the Honorable Frank

Roesch presiding. Appearing for CBIA was Andrew B. Sabey, Esq. and Christian H. Cebrian, Esq. Appearing for the District was Ellison Folk, Esq. and Erin Chalmers, Esq.

GOOD CAUSE APPEARING THEREFORE IT IS ORDERED AND ADJUDGED THAT:

1. For the reasons set forth in this Court's Statement of Decision, Judgment GRANTING the petition for writ of mandate is entered in favor of Petitioner, CBIA, as to the District's approval of Resolution No. 2010-06 being a CEQA project.

2. A peremptory writ of mandate directed to the District shall issue under seal of the Court, ordering the District to set aside all approvals set forth in Resolution No. 2010-06 and ordering the District to not disseminate these or any new approvals of officially sanctioned air quality thresholds of significance until the District fully complies with CEQA.

3. The District shall make its return to the writ no later than 90 days after service of the writ. This Court shall retain jurisdiction over the District's proceedings by way of return to the peremptory writ of mandate until the Court has determined that the District has complied with CEQA.

4. CBIA is awarded its costs of suit. The Court reserves jurisdiction to award attorney's fees, if appropriate, pursuant to any properly and timely filed motion by CBIA.

Date: March 5, 2012

Frank Roesch
Judge of the Superior Court

CLERK'S CERTIFICATE OF SERVICE BY MAIL
CCP 1013a(3)

CASE NAME: California Building Industry Association
Vs
Bay Area Quality Management District

ACTION NO.: RG10-548693

I certify that the following is true and correct: I am the clerk in Dept. 24 of the Superior Court of California, County of Alameda and not a party to this cause. I served the JUDGMENT by placing copies in envelopes addressed as shown below and then by sealing and placing them for collection, stamping or metering with prepaid postage, and mailing on the date stated below, in the United States mail at Alameda County, California, following standard court practices.

Andrew B. Sabey, Esq.
COX CASTLE & NICHOLSON
555 California Street, 10th Floor
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396 Hayes Street
San Francisco, CA 94102

Brian C. Bunger, Esq.
Randi L. Wallach, Esq,
939 Ellis Street
San Francisco, CA 94109

I declare under penalty of perjury that the following is true and correct

Executed on March 6, 2012 at Oakland, California.

Pat Sweeten
Executive Officer/Clerk
by _____
Deputy

6043260

FILED
ALAMEDA COUNTY
MAR 05 2012
CLERK OF THE SUPERIOR COURT
By Pam Williams
Deputy

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF ALAMEDA

California Building Industry Association,
Petitioner and Plaintiff

vs.

Bay Area Air Quality Management District,
Respondent and Defendant.

Case No. RG10-548693

Statement of Decision

Petitioner and Plaintiff, California Building Industry Association (CBIA), challenged the June 2, 2010 decision of the Bay Area Air Quality Management District (BAAQMD) to adopt its Resolution No. 2010-06 (1 AR 01-4)[1]. By its resolution, it adopted its new California Environmental Quality Act ("CEQA") air quality thresholds of significance (the Thresholds). After this court's orders on demurrer, only CBIA's Second

[1] Citations to the Administrative Record take the Format of "[*Volume*] AR [*Page Number*]".

Claim for Relief (Violation of CEQA) and Third Claim for Relief ("Arbitrary & Capricious Rulemaking Without Rational Basis") remained in controversy. This matter came on regularly for hearing on the Petition for Writ of Mandate on January 9, 2012 in Department 24. Appearing for CBIA was Andrew B. Sabey, Esq. and Christian H. Cebrian, Esq. of Cox, Castle and Nicholson LLP. Appearing for BAAQMD was Ellison Folk, Esq. and Erin Chalmers, Esq. of Shute, Mihaly & Weinberger LLP.

After hearing the arguments and considering all papers filed with the court, including the certified administrative record, the court issued an oral tentative decision granting the Petition for the Writ of Mandate and directed CBIA to prepare a Proposed Statement of Decision for the court's review and consideration. Having considered CBIA's Proposed Statement of Decision, the Court issued a Proposed Statement of Decision, and has, since, considered the Objections filed by BAAQMD on February 29, 2012. Good cause appearing therefore, the Petition is GRANTED.

BACKGROUND

BAAQMD is a public agency; a regional air pollution control district as described in Health & Safety Code § 40000, *et seq.* It is charged with the primary responsibility for control of air pollution from all sources other than motor vehicle emissions in its region. (Health & Safety Code § 40000).

In furtherance of its important charge, BAAQMD created and adopted a set of Air

Quality CEQA Thresholds of Significance. The adoption of the thresholds included the thresholds themselves, and the Resolution that BAAQMD and all other lead agencies in the district apply BAAQMD's Air Quality Thresholds of Significance on all CEQA projects, (1 AR03-4) and, further, that projects failing to meet the Thresholds "will normally be determined to have a significant effect on the environment for purposes of CEQA."(1AR 03.)

Prior to its adoption of Resolution 2010-06, BAAQMD did not engage in any CEQA analysis. BAAQMD maintains the position that CEQA does not apply to its discretionary act of the promulgation of the Thresholds on the theory that its Resolution is not a CEQA "project."

CBIA asserts four arguments in support of its Petition:

First, CBIA argues that the promulgation of the Thresholds is a CEQA "Project" and, as such, must be evaluated in the manner required by CEQA.

Second, CBIA argues that BAAQMD's Thresholds are arbitrary and capricious because they mandate a finding of "significant environmental effect" that is contrary to CEQA. The argument is that the Thresholds require an impermissible evaluation "of the environment on the project" and that such analysis imposes an improper requirement on the proponent of any project which has the effect of requiring a higher level of CEQA review solely because of the improper requirement.

Third, CBIA argues that the Thresholds include thresholds, for which no substantial

evidentiary support can be found in the administrative record, thus violating CEQA's requirement that thresholds of significance be supported by substantial evidence.

Fourth, CBIA argues that BAAQMD's promulgation of the Thresholds fails the "rational basis test" because substantial evidence does not exist for agency approval.

BAAQMD responds that the adoption of the Thresholds is not a "project" under CEQA. This argument has three parts: first, that it is not a "project" and thus the matter of its CEQA compliance is not ripe for adjudication; second, it is not a "project" and thus no environmental review is required; and third, even if the promulgation of the Thresholds were a project it would be exempt from CEQA review under the "common sense exemption" found in CEQA Guidelines § 15061(b)(3)[2].

BAAQMD also argues that while its Thresholds do require an analysis of the impact of the baseline air quality on a CEQA construction project, such an analysis is required by CEQA to evaluate air quality impacts to the health of people who may later reside in or visit a proposed construction project.

Finally, BAAQMD argues that the Thresholds are supported by substantial evidence and that the Thresholds are not arbitrary or capricious.

DISCUSSION

A CEQA analysis must be performed at some level for any "project". The

[2] CEQA Guidelines are found at California's Code of Regulations title 14, chapter 3. §15000-15387 ("Guidelines".)

legislature in 1994, defined "project" in Public Resource Code § 21065, to include any activity directly undertaken by any public agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. This definition has been the subject of multiple appellate determinations which have made clear that the definition of "project" calls for a broad reading. See *e.g. Muzzy Ranch Co. v. Solano County Airport Land Commission,* (2007) 41 Cal 4th 372, ("Muzzy Ranch"); *Plastic Pipe and Fittings Association v. California Building Standards Commission,* (2004) 124 Cal App 4th 1390; *Azuza Land Reclamation Co. v. Main San Gabriel Watermaster,* (1997) 52 Cal App 4th 1165 and *City of Livermore v. Local Agency Formation Commission,* (1986) 184 Cal App 3rd 531.

The court finds that BAAQMD's promulgation of the Thresholds is a "project" under CEQA and, as such, BAAQMD is obligated by CEQA to evaluate the potential impact on the environment consequent to the project. The promulgation of the Thresholds fits the Public Resources Code § 21065 definition; it is a discretionary activity directly undertaken by a public agency which may cause a reasonably foreseeable indirect physical change in the environment. (Public Resources Code § 21065.)

The evidence in the administrative record supports the position that the promulgation of the Thresholds is intended to cause a change in the environment. See e.g. 1 AR 24, 1 AR 68, 29 AR 6584, 29 AR 6590, 29 AR 6643, 29 AR 6702.

While the evidence is not overwhelming, it does raise a fair argument that the implementation of the Thresholds may cause a reasonably foreseeable indirect change in

the environment.

BAAQMD is incorrect that the challenge to the Thresholds is not ripe. The Thresholds here are much more like the "guidelines" in *Communities for a Better Environment v. California Resources Agency,* (2002)103 Cal App 4th 98 than they are like the "guidelines" in *Pacific Legal Foundation v. California Coastal Commission,* (1982) 33 Cal 3rd 158. The action in *Pacific Legal Foundation v. California Coastal Commission* was a challenge to the policy underlying a set of guidelines relating to public access. The court determined that the challenge was not ripe as "the guidelines are not mandatory...but rather adopt a flexible approach: the Commission is to determine the appropriateness of access exactions on a case-by-case basis." (*Pacific Legal Foundation v. California Coastal Commission,* (1982) 33 Cal 3rd 158, 174.) In contrast, *Communities for a Better Environment v. California Resources Agency* was a challenge to the CEQA guidelines promulgated by the California Resources Agency applicable in every relevant case and not subject to any case-by-case appropriateness determination. While the Thresholds are mandatory only on BAAQMD itself, they are not mandatory on other agencies. The Thresholds are not flexible and, moreover, the Thresholds do not provide for a further determination by BAAQMD of the appropriateness of their application in any particular proposed project. The matter before the court presents a concrete legal dispute ripe for judicial evaluation.

BAAQMD is also incorrect in its contention that the evidence in the administrative record cannot support a fair argument that the Thresholds might discourage urban infill

development, encourage suburban development or change land use patterns, and/or is too speculative to support a fair argument that such an environmental impact could occur. The controlling case for this view is *California Unions for Reliable Energy v. Mojave Desert Air Quality Management District,* (2009), 178 Cal App 4th 1225, see also, *Plastic Pipe Fittings Association v. Californian Building Standards Commission,* (2004) 124 Cal App 4th 1390.

BAAQMD is also incorrect in its assertion that even if the promulgation of the Thresholds is a project, the common sense exemption found in Guidelines § 15061(b)(3) applies to the Thresholds á la *Muzzy Ranch* (*Muzzy Ranch Co. v. Solano County Airport Land Use Commission,* (2007) 41Cal 4th 372). The drawbacks with that assertion are clear. While in *Muzzy Ranch*, the agency made a finding in its resolution that the land use plan was not a CEQA project, which is not dissimilar to the instant case, the agency also filed a "Notice of Exemption" with the County Clerk, a pivotal point which is absent here. The Administrative Record here is devoid of any Notice of Exemption from the requirements of CEQA or any determination that the project is exempt from CEQA (other than that the contention that it is not a "project") or any other assertion that the exemption might be applicable. In contrast, the filing of the Notice with the County Clerk in *Muzzy Ranch* was the assertion that the agency had made its determination that it could be seen with certainty that there is no possibility that its activity in question, the TALUS, may have a significant effect on the environment, thereby qualifying for the common sense exemption.

The absence here of that required (see *Muzzy Ranch* 41 Cal 4th 372,391) Notice

leads the court to conclude that the common sense exemption argument is now raised as a post-hoc justification for the purpose of this litigation. As such it must be rejected even if the record could have supported a common sense exemption.

Independent of the court's determination that the lack of the required Notice is a fatal defect to the assertion of the common sense exemption, the court also finds that the record does not support the exemption because a fair argument was raised before the agency that the Thresholds might result in displaced development or be a barrier to urban infill development.

It directly follows from the above that the promulgation of the Thresholds is a CEQA "project", that it is not exempt from CEQA review, and that the approval of the project without any CEQA environmental evaluation was an abuse of discretion by BAAQMD. For that reason the Thresholds must be invalidated by the court.

THE THIRD CAUSE OF ACTION

CBIA Also attacks the substance of the Thresholds as illegally requiring an analysis of the air quality effect of the existing baseline environment on a proposed project in addition to the effect on the air quality baseline as a consequence of a proposed project.

The Court, however, does not reach this issue as the court has determined that BAAQMD's promulgation of the Thresholds must be set aside for its failure to perform any CEQA analysis on such a project.

CONCLUSION

For the reasons stated above, the Petition for Writ of mandate is GRANTED. The Court's Writ will issue requiring Respondent to set aside its Resolution No. 2010-06 and to take no further action to disseminate the Thresholds as a BAAQMD approved set of air quality thresholds until and unless BAAQMD fully complies with its obligations under CEQA.

Date: March 5, 2012

Frank Roesch

Frank Roesch
Judge of the Superior Court

CLERK'S CERTIFICATE OF SERVICE BY MAIL
CCP 1013a(3)

CASE NAME: California Building Industry Association
Vs
Bay Area Quality Management District

ACTION NO.: RG10-548693

I certify that the following is true and correct: I am the clerk in Dept. 24 of the Superior Court of California, County of Alameda and not a party to this cause. I served the STATEMENT OF DECISICON by placing copies in envelopes addressed as shown below and then by sealing and placing them for collection, stamping or metering with prepaid postage, and mailing on the date stated below, in the United States mail at Alameda County, California, following standard court practices.

Andrew B. Sabey, Esq.
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939 Ellis Street
San Francisco, CA 94109

I declare under penalty of perjury that the following is true and correct

Executed on March 6, 2012 at Oakland, California.

Pat Sweeten
Executive Officer/Clerk

by _____
Deputy

EXHIBIT 2

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Updated CEQA Guidelines

UPDATE: April 13, 2012: On June 2, 2010, the Bay Area Air Quality Management District's Board of Directors unanimously adopted thresholds of significance to assist in the review of projects under the California Environmental Quality Act. These Thresholds are designed to establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on the Air District's website and included in the Air District's updated CEQA Guidelines (updated May 2011).

On March 5, 2012 the Alameda County Superior Court issued a judgment finding that the Air District had failed to comply with CEQA when it adopted the Thresholds. The court did not determine whether the Thresholds were valid on the merits, but found that the adoption of the Thresholds was a project under CEQA. The court issued a writ of mandate ordering the District to set aside the Thresholds and cease dissemination of them until the Air District had complied with CEQA. The Air District has appealed the Alameda County Superior Court's decision. The appeal is currently pending in the Court of Appeal of the State of California, First Appellate District.

In view of the court's order, the Air District is no longer recommending that the Thresholds be used as a generally applicable measure of a project's significant air quality impacts. Lead agencies will need to determine appropriate air quality thresholds of significance based on substantial evidence in the record. Although lead agencies may rely on the Air District's updated CEQA Guidelines (updated May 2011) for assistance in calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, the Air District has been ordered to set aside the Thresholds and is no longer recommending that these Thresholds be used as a general measure of project's significant air quality impacts. Lead agencies may continue to rely on the Air District's 1999 Thresholds of Significance and they may continue to make determinations regarding the significance of an individual project's air quality impacts based on the substantial evidence in the record for that project.

Various tools and resources are available on this website to assist local jurisdictions in applying the Air District's CEQA Guidelines.

Date Posted	CEQA Guidelines	Related Documents	Resources
5/31/2012	BAAQMD CEQA Guidelines Final May 2012(3 Mb PDF, 148 pgs)	N/A	Tools & Methodology

Date Posted	CEQA Guidelines	Related Documents	Resources
5/3/2010	Draft CEQA Guidelines May 2010(4 Mb PDF, 162 pgs)	CEQA Guidelines Update Changes May 27 2010 Final Draft(60 k PDF, 3 pgs) CEQA Comments and Responses from Workshops May 2010(72 k PDF, 4 pgs) Summary Table Proposed CEQA TOS May 2010(36 k PDF, 2 pgs) Proposed TOS Report May 2010(521 k PDF, 64 pgs)	Tools & Methodology
12/7/2009	Draft BAAQMD CEQA Guidelines (12/09)(3 Mb PDF, 160 pgs)	Tracked Revisions to CEQA Guidelines (12/09)(98 k PDF, 3 pgs) Proposed Thresholds of Significance (12/09)(339 k PDF, 61 pgs) Potential Revisions to Risk Thresholds (12/09)(91 k PDF, 2 pgs)	N/A
11/11/2009	Final Draft CEQA Guidelines (11/09)(4 Mb PDF, 162 pgs)	Public Review Comments and Responses (11/09)(17 Mb PDF, 458 pgs) Proposed CEQA Thresholds of Significance (11/09)(463 k PDF, 49 pgs)	N/A
10/7/2009	N/A	CEQA Thresholds Report Notice (10/09)(77 k PDF, 1 pg) Summary Thresholds Table (10/09)(70 k PDF, 2 pgs) Revised Draft CEQA Thresholds Options and Justifications Report (10/09) (1 Mb PDF, 85 pgs) CEQA Thresholds Report Appendices (10/09)(844 k PDF, 88 pgs)	N/A
9/9/2009	September 2009 Draft CEQA Guidelines (9/09)(2 Mb PDF, 141 pgs)	N/A	N/A
4/28/2009	N/A	Draft CEQA Thresholds Options Report (4/09)(1 Mb PDF, 49 pgs)	N/A

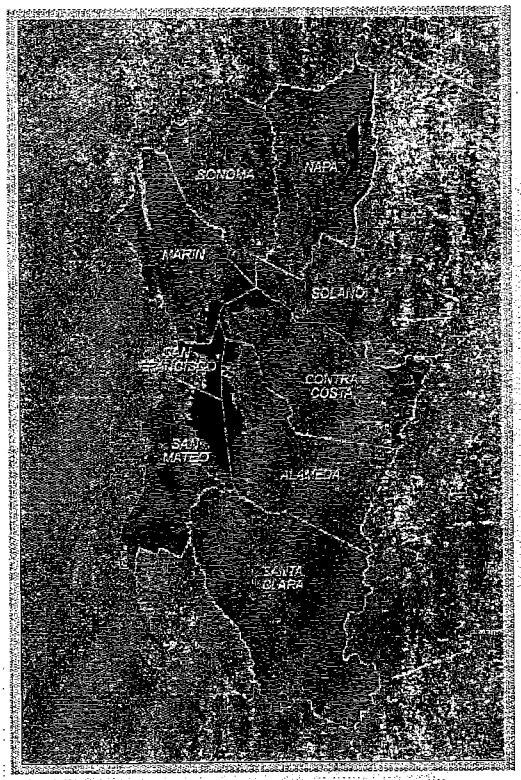
Last Updated: 8/9/2012

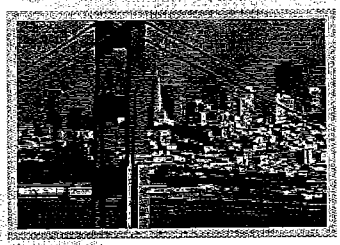
EXHIBIT 3

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

California Environmental Quality Act

Air Quality Guidelines









May 2010



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

California Environmental Quality Act

Air Quality Guidelines

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Project Manager:
Greg Tholen
Principal Environmental Planner
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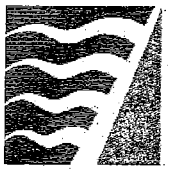
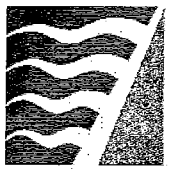


BAY AREA AIR QUALITY MANAGEMENT DISTRICT

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
AB 1807	Tanner Air Toxics Act
AB 2588	Air Toxics Hot Spots Information and Assessment Act of 1987
ABAG	Association of Bay Area Governments
AMS	American Meteorological Society
APS	Alternative Planning Strategy
AQP	Air Quality Plan
ARB	California Air Resources Board
ATCM	air toxics control measures
BAAQMD	Bay Area Quality Management District
BACT	Best Available Control Technology
BMPs	Best Management Practices
CCA	Community Choice Aggregation
CAAQS	California Ambient Air Quality Standards
CALINE4	California Line Source Dispersion Model
CAP	criteria air pollutants
CARE	Community Air Risk Evaluation
CAPCOA	California Air Pollution Control Officers Association
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CalRecycle	The California Department of Resources Recycling and Recovery (formally the California Integrated Waste Management Board)
CFC	Chlorofluorocarbon
CH_4	methane
CHAPIS	Community Health Air Pollution Information System
CO	carbon monoxide
CO Protocol	Carbon Monoxide Protocol
CO_2	Carbon dioxide
CO_2e	carbon dioxide equivalent
CRA	California Resources Agency

DOE	Department of Energy
du	dwelling units
EIR	Environmental Impact Report
EMFAC	On-Road Mobile-Source Emission Factors
EPA	U.S. Environmental Protection Agency
FAR	Floor Area Ratio
FCAA	Federal Clean Air Act
FCAAA	Federal Clean Air Act Amendments of 1990
GHG	greenhouse gas(es)
GRP	General Reporting Protocol
GVW	gross vehicle weight
GWP	global warming potential
H_2S	hydrogen sulfide
HEPA	High Efficiency Particulate Arresting (filter)
HI	Hazard Index
HRA	health risk assessment
HVAC	Heating, Ventilation, and Air Conditioning System
IPCC	Intergovernmental Panel on Climate Change
ISR	Indirect Source Review
ksf	thousand square feet
kwh	Kilowatt hour
lb/acre-day	pound per disturbed acre per day
lb/day	pounds per day
lb/kwh	pounds per kilowatt hour
LCFS	Low-Carbon Fuel Standard
LVW	loaded vehicle weight
MACT	maximum available control technology
mg	million gallons
MMT	million metric tons
mph	miles per hour
MPO	Metropolitan Planning Organizations
MT	metric tons
MTC	Metropolitan Transportation Commission
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards



NESHAP	national emissions standards for hazardous air pollutants
NH_3	mercaptan, ammonia
NOA	Naturally Occurring Asbestos
NOP	Notice of Preparation
NO_X	oxides of nitrogen
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
PM	particulate matter
PM_{10}	respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less
ppm	parts per million
PUC	Public Utilities Commission
RoadMod	Roadway Construction Emissions Model
ROG	reactive organic gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SP	Service Population
SSIM	Sustainable Systems Integration Model
TAC	toxic air contaminant
T-BACT	Toxic Best Available Control Technology
TBPs	Toxic Best Practices
tpy	tons per year
UC	University of California
URBEMIS	Urban Land Use Emissions Model
VMT	vehicle miles traveled
VT	vehicle trips
yd^3	cubic yards
yr	year

1. INTRODUCTION

1.1. PURPOSE OF GUIDELINES

The purpose of the Bay Area Air Quality Management District (BAAQMD or District) California Environmental Quality Act (CEQA) Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin (SFBAAB). The Guidelines provides BAAQMD-recommended procedures for evaluating potential air quality impacts during the environmental review process consistent with CEQA requirements. These revised Guidelines supersede the BAAQMD's previous CEQA guidance titled *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans* (BAAQMD 1999).

Land development plans and projects have the potential to generate harmful air pollutants that degrade air quality and increase local exposure. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, greenhouse gas (GHG), toxic air contaminant, and odor emissions generated from plans or projects.

The Guidelines are intended to help lead agencies navigate through the CEQA process. The Guidelines offer step-by-step procedures for a thorough environmental impact analysis of adverse air emissions due to land development in the Bay Area.

1.1.1. BAAQMD's Role in Air Quality

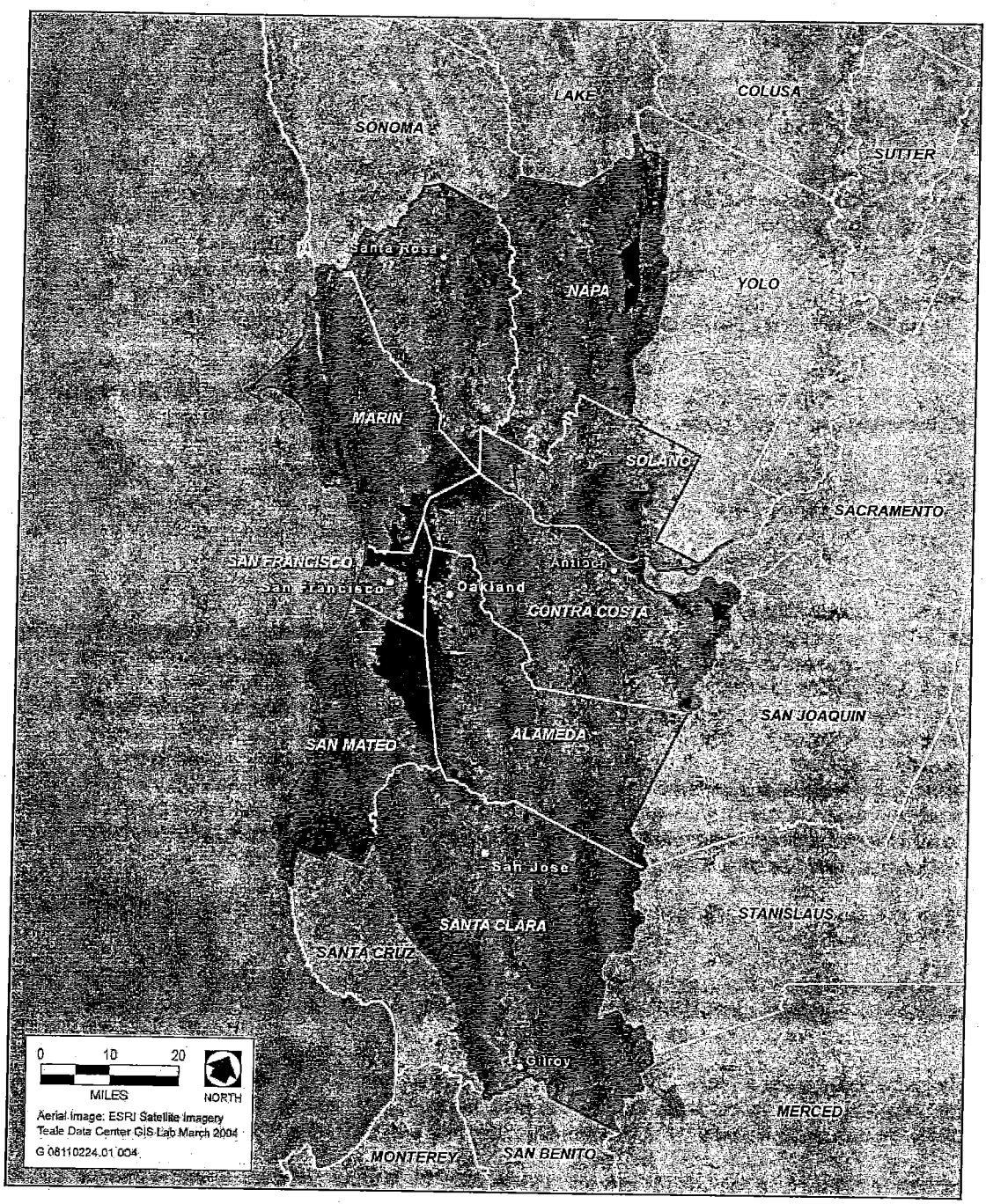
BAAQMD is the primary agency responsible for assuring that the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are attained and maintained in the Bay Area. BAAQMD's jurisdiction includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern portions of Solano and Sonoma counties, as shown in Figure 1-1. The Air District's responsibilities in improving air quality in the region include: preparing plans for attaining and maintaining air quality standards; adopting and enforcing rules and regulations; issuing permits for stationary sources of air pollutants; inspecting stationary sources and responding to citizen complaints; monitoring air quality and meteorological conditions; awarding grants to reduce mobile emissions; implementing public outreach campaigns; and assisting local governments in addressing climate change.

BAAQMD takes on various roles in the CEQA process, depending on the nature of the proposed project, including:

Lead Agency – BAAQMD acts as a Lead Agency when it has the primary authority to implement or approve a project, such as when it adopts air quality plans for the region, issues stationary source permits, or adopts rules and regulations.

Responsible Agency – BAAQMD acts as a Responsible Agency when it has limited discretionary authority over a portion of a project, but does not have the primary discretionary authority of a Lead Agency. As a Responsible Agency, BAAQMD may coordinate the environmental review process with the lead agency regarding BAAQMD's permitting process, provide comments to the Lead Agency regarding potential impacts, and recommend mitigation measures.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT



Source: ESRI Satellite 2009

Bay Area Air Quality Management District Jurisdictional Boundaries **Figure 1-1**

Commenting Agency – BAAQMD may act as a Commenting Agency when it is not a Lead or Responsible Agency (i.e., it does not have discretionary authority over a project), but when it may have concerns about the air quality impacts of a proposed project or plan. As a Commenting Agency, BAAQMD may review environmental documents prepared for development proposals and plans in the region, such as local general plans, and provide comments to the Lead Agency regarding the adequacy of the air quality impact analysis, determination of significance, and mitigation measures proposed.

BAAQMD prepared the CEQA Guidelines to assist lead agencies in air quality analysis, as well as to promote sustainable development in the region. The CEQA Guidelines support lead agencies in analyzing air quality impacts and offers numerous mitigation measures and general plan policies to implement smart growth and transit oriented development, minimize construction emissions, and reduce population exposure to air pollution risks.

1.2. GUIDELINE COMPONENTS

The recommendations in the CEQA Guidelines should be viewed as minimum considerations for analyzing air quality impacts. Lead agencies are encouraged to tailor the air quality impact analysis to meet the needs of the local community and may conduct refined analysis that utilize more sophisticated models, more precise input data, innovative mitigation measures, and/or other features. The Guidelines contain the following sections:

Introduction – Chapter 1 provides a summary of the purpose of the Guide, and an overview of BAAQMD responsibilities.

Thresholds of Significance – Chapter 2 outlines the current thresholds or significance for determining the significance of air quality impacts.

Screening Criteria – Chapter 3 provides easy reference tables to determine if your project may have potentially significant impacts requiring a detailed analysis.

Assessing and Mitigating Impacts – Chapters 4 through 9 describe assessment methods and mitigation measures for operational-related, local community risk and hazards, local carbon monoxide (CO), odors, construction-related, and plan-level impacts.

Appendix A – Provides construction assessment tools.

Appendix B – Provides detailed air quality modeling instructions.

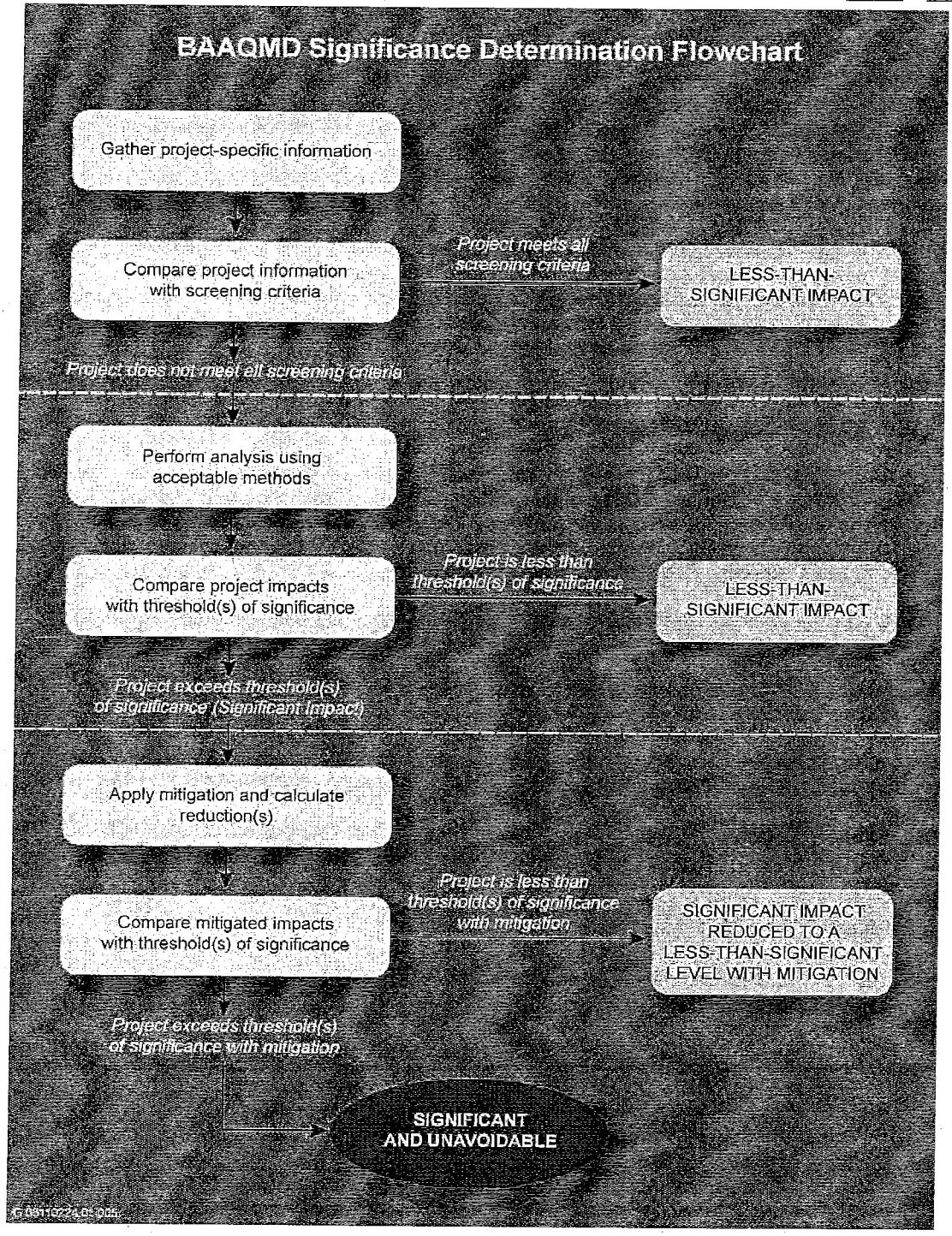
Appendix C – Outlines sample environmental setting information.

Appendix D – Contains justification statements for BAAQMD-adopted thresholds of significance.

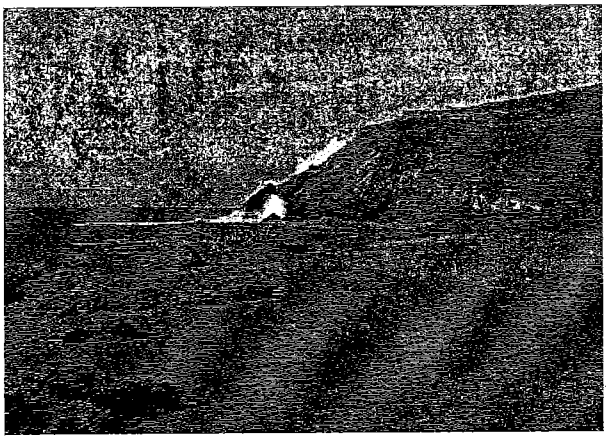
Appendix E – Provides a glossary of terms used throughout this guide.

1.2.1. How To Use The Guidelines

Figure 2-1 illustrates general steps for evaluating a project or plan's air quality impacts. The first step is to determine whether the air quality evaluation is for a project or plan. Once identified, the project should be compared with the appropriate construction and operational screening criteria listed in Chapter 2. There are no screening criteria for plans.



General Steps for Determining Significance of Air Quality Impacts **Figure 1-2**



If the project meets the screening criteria and is consistent with the methodology used to develop the screening criteria, then its air quality impacts may be considered less than significant. Otherwise, lead agencies should evaluate potential air quality impacts of projects (and plans) as explained in Chapters 4 through 9. These Chapters describe how to analyze air quality impacts from criteria air pollutants, GHGs, local community risk and hazards, and odors associated with construction activity and operations of a project or plan.

If, after proper analysis, the project or plan's air quality impacts are found to be below the significance thresholds, then the air quality impacts may be considered less than significant. If not, the Lead Agency should implement appropriate mitigation measures to reduce associated air quality impacts. Lead agencies are responsible for evaluating and implementing all feasible mitigation measures in their CEQA document.

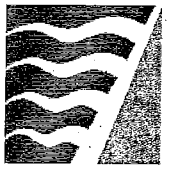
The mitigated project or plan's impacts are then compared again to the significance thresholds. If a project succeeded in mitigating its adverse air quality impacts below the corresponding thresholds, air quality impacts may be considered less than significant. If a project still exceeds the thresholds, the Air District strongly encourages the lead agency to consider project alternatives that could lessen any identified significant impact, including a no project alternative in accordance with CEQA Guidelines section 15126.6(e).

1.2.2. Early Consultation

The District encourages local jurisdictions and project applicants to address air quality issues as early as possible in the project planning stage. Addressing land use and site design issues while a proposed project is still in the conceptual stage increases opportunities to incorporate project design features to minimize land use compatibility issues and air quality impacts. By the time a project enters the CEQA process, it is usually more costly and time-consuming to redesign the project to incorporate mitigation measures. Early consultation may be achieved by including a formal step in the jurisdiction's development review procedures or simply by discussing air quality concerns at the planning counter when a project proponent makes an initial contact regarding a proposed development. Regardless of the specific procedures a local jurisdiction employs, the objective should be to incorporate features into a project that minimize air quality impacts before significant resources (public and private) have been devoted to the project.

The following air quality considerations warrant particular attention during early consultation between Lead Agencies and project proponents:

1. land use and design measures to encourage alternatives to the automobile, conserve energy and reduce project emissions;
2. land use conflicts and exposure of sensitive receptors to odors, toxics and criteria pollutants; and,
3. applicable District rules, regulations and permit requirements.



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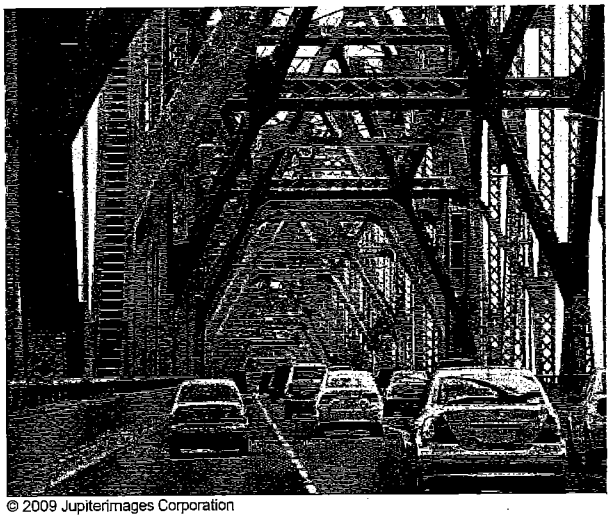
PART I: THRESHOLDS OF SIGNIFICANCE & PROJECT SCREENING

2. THRESHOLDS OF SIGNIFICANCE

The SFBAAB is currently designated as a nonattainment area for state and national ozone standards and national particulate matter ambient air quality standards. SFBAAB's nonattainment status is attributed to the region's development history. Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The analysis to assess project-level air quality impacts should be as comprehensive and rigorous as possible.

Similar to regulated air pollutants, GHG emissions and global climate change also represent cumulative impacts. GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. Climate change impacts may include an increase in extreme heat days, higher concentrations of air pollutants, sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts. No single project could generate enough GHG emissions to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts.



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BAAQMD's approach to developing a *Threshold of Significance* for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move us towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant. Refer to Table 2-1 for a summary of Air Quality CEQA Thresholds and to Appendix D for *Thresholds of Significance* documentation.

Table 2-1 Proposed Air Quality CEQA Thresholds of Significance			
Pollutant	**Construction-Related**	**Operational-Related**	
Project-Level			
Criteria Air Pollutants and Precursors (Regional)	**Average Daily Emissions (lb/day)**	**Average Daily Emissions (lb/day)**	**Maximum Annual Emissions (tpy)**
ROG	54	54	10
NO_X	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
GHGs – Projects other than Stationary Sources	None	Compliance with Qualified GHG Reduction Strategy OR 1,100 MT of CO_2e/yr OR 4.6 MT CO_2e/SP/yr (residents+employees)	
GHGs –Stationary Sources	None	10,000 MT/yr	
Risks and Hazards (Individual Project)	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 µg/m^3 annual average Zone of Influence: 1,000-foot radius from property line of source or receptor	
Risks and Hazards (Cumulative Threshold)	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) $PM_{2.5}$: > 0.8 µg/m^3 annual average (from all local sources) Zone of Influence: 1,000-foot radius from property line of source or receptor	
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous materials locating near receptors or new receptors locating near stored or used acutely hazardous materials considered significant	
Odors	None	5 confirmed complaints per year averaged over three years	
Plan-Level			
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures, and 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase	
GHGs	None	Compliance with Qualified GHG Reduction Strategy OR 6.6 MT CO_2e/SP/yr (residents + employees)	

Table 2-1 Proposed Air Quality CEQA Thresholds of Significance		
Pollutant	**Construction-Related**	**Operational-Related**
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) and 2. Overlay zones of at least 500 feet from all freeways and high volume roadways
Accidental Release of Acutely Hazardous Air Pollutants	None	None
Odors	None	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors
Regional Plans (Transportation and Air Quality Plans)		
GHGs, Criteria Air Pollutants and Precursors, and Toxic Air Contaminants	None	No net increase in emissions
Notes: CEQA = California Environmental Quality Act; CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO_X = oxides of nitrogen; $PM_{2.5}$= fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SO_2 = sulfur dioxide; SP = service population; TACs = toxic air contaminants; TBP = toxic best practices; tons/day = tons per day; tpy = tons per year; yr= year; TBD: to be determined. *Note: The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.		

2.1. CRITERIA AIR POLLUTANTS AND PRECURSORS – PROJECT LEVEL

Table 2-2 presents the *Thresholds of Significance* for operational-related criteria air pollutant and precursor emissions. These represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If daily average or annual emissions of operational-related criteria air pollutants or precursors would exceed any applicable *Threshold of Significance* listed in Table 2-2, the proposed project would result in a cumulatively significant impact.

Table 2-2 Thresholds of Significance for Operational-Related Criteria Air Pollutants and Precursors		
Pollutant/Precursor	**Maximum Annual Emissions (tpy)**	**Average Daily Emissions (lb/day)**
ROG	10	54
NO_X	10	54
PM_{10}	15	82
$PM_{2.5}$	10	54
Notes: tpy = tons per year; lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or lCOess; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year. Refer to Appendix D for support documentation.		

2.2. GREENHOUSE GASES – PROJECT LEVEL

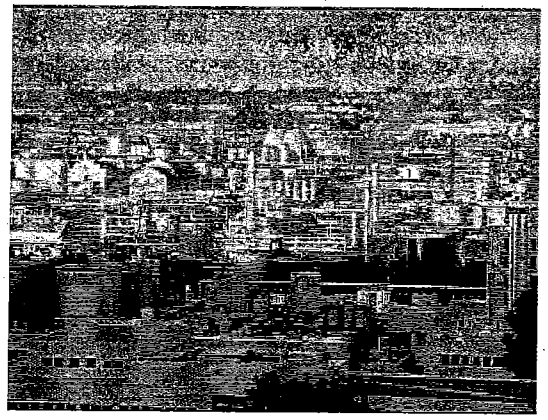
The *Thresholds of Significance* for operational-related GHG emissions are:

- For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy; or annual emissions less than 1,100 metric tons per year (MT/yr) of CO_2e; or 4.6 MT CO_2e/SP/yr (residents + employees). Land use development projects include residential, commercial, industrial, and public land uses and facilities.
- For stationary-source projects, the threshold is 10,000 metric tons per year (MT/yr) of CO_2e. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate.

If annual emissions of operational-related GHGs exceed these levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

2.3. LOCAL COMMUNITY RISK AND HAZARD IMPACTS – PROJECT LEVEL

The *Thresholds of Significance* for local community risk and hazard impacts are identified below, which apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. If emissions of TACs or fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less ($PM_{2.5}$) exceed any of the *Thresholds of Significance* listed below, the proposed project would result in a significant impact.



- Non-compliance with a qualified risk reduction plan; or,
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution;
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ would be a cumulatively considerable contribution.

Cumulative Impacts

A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000 foot radius from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds the following:

- Non-compliance with a qualified risk reduction plan; or,
- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0; or
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.

A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a proposed project is beyond the recommended radius.

2.4. LOCAL CARBON MONOXIDE IMPACTS – PROJECT LEVEL

Table 2-3 presents the *Thresholds of Significance* for local CO emissions, the 1- and 8-hour California Ambient Air Quality Standards (CAAQS) of 20.0 parts per million (ppm) and 9.0 ppm, respectively. By definition, these represent levels that are protective of public health. If a project would cause local emissions of CO to exceed any of the *Thresholds of Significance* listed below, the proposed project would result in a significant impact to air quality.

Table 2-3
Thresholds of Significance for Local Carbon Monoxide Emissions

CAAQS Averaging Time	Concentration (ppm)
1-Hour	20.0
8-Hour	9.0
Refer to Appendix D for support documentation.	

2.5. ODOR IMPACTS – PROJECT LEVEL

The *Thresholds of Significance* for odor impacts are qualitative in nature. A project that would result in the siting of a new source or the exposure of a new receptor to existing or planned odor sources should consider the screening level distances and the complaint history of the odor sources:

- Projects that would site a new odor source or a new receptor farther than the applicable screening distance shown in Table 3-3 from an existing receptor or odor source, respectively, would not likely result in a significant odor impact.

- An odor source with five (5) or more confirmed complaints per year averaged over three years is considered to have a significant impact on receptors within the screening distance shown in Table 3-3.

Facilities that are regulated by the CalRecycle agency (e.g. landfill, composting, etc) are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. The Air District recognizes a Lead Agency's discretion under CEQA to use established odor detection thresholds as thresholds of significance for CEQA review for CalRecycle regulated facilities with an adopted OIMP. Refer to *Chapter 7 Assessing and Mitigating Odor Impacts* for further discussion of odor analysis.

2.6. CONSTRUCTION-RELATED IMPACTS – PROJECT LEVEL

2.6.1. Criteria Air Pollutants and Precursors

Table 2-4 presents the *Thresholds of Significance* for construction-related criteria air pollutant and precursor emissions. If daily average emissions of construction-related criteria air pollutants or precursors would exceed any applicable *Threshold of Significance* listed in Table 2-4, the project would result in a significant cumulative impact.

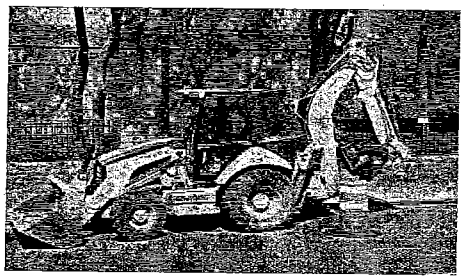


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Table 2-4
Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors

Pollutant/Precursor	Daily Average Emissions (lb/day)
ROG	54
NO_X	54
PM_{10}	82*
$PM_{2.5}$	54*

* Applies to construction exhaust emissions only.

Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; SO_2 = sulfur dioxide. Refer to Appendix D for support documentation.

2.6.2. Greenhouse Gases

The District does not have an adopted *Threshold of Significance* for construction-related GHG emissions. However, the Lead Agency should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals, as required by the Public Resources Code, Section 21082.2. The Lead Agency is encouraged to incorporate best management practices to reduce GHG emissions during construction, as feasible and applicable.

2.6.3. Local Community Risk and Hazards

The *Threshold of Significance* for construction-related local community risk and hazard impacts is the same as that for project operations. Construction-related TAC and PM impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable. The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

2.7. THRESHOLDS OF SIGNIFICANCE FOR PLAN-LEVEL IMPACTS

The *Thresholds of Significance* for plans (e.g., general plans, community plans, specific plans, regional plans, congestion management plans, etc.) within the SFBAAB are summarized in Table 2-5 and discussed separately below.

Table 2-5
Thresholds of Significance for Plans

Criteria Air Pollutants and Precursors	Construction: none Operational: Consistency with Current AQP and projected VMT or vehicle trip increase is less than or equal to projected population increase.
GHGs	Construction: none Operational: 6.6 MT CO_2e/SP/yr (residents & employees) or a Qualified GHG Reduction Strategy. The efficiency threshold should only be applied to general plans. Other plans, e.g. specific plans, congestion management plans, etc., should use the project-level threshold of 4.6 CO_2e/SP/yr.
Local Community Risk and Hazards	Land use diagram identifies special overlay zones around existing and planned sources of TACs and $PM_{2.5}$, including special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways, and plan identifies goals, policies, and objectives to minimize potentially adverse impacts.
Odors	Identify locations of odor sources in plan; identify goals, policies, and objectives to minimize potentially adverse impacts.
Regional Plans (transportation and air quality plans)	No net increase in emissions of GHGs, Criteria Air Pollutants and Precursors, and Toxic Air Contaminants. Threshold only applies to regional transportation and air quality plans.

Notes: AQP = Air Quality Plan; CO_2e = carbon dioxide equivalent; GHGs = greenhouse gases; MT = metric tons; SP = service population; TACs = toxic air contaminants; yr = year; $PM_{2.5}$= fine particulate matter
Refer to Appendix D for support documentation.

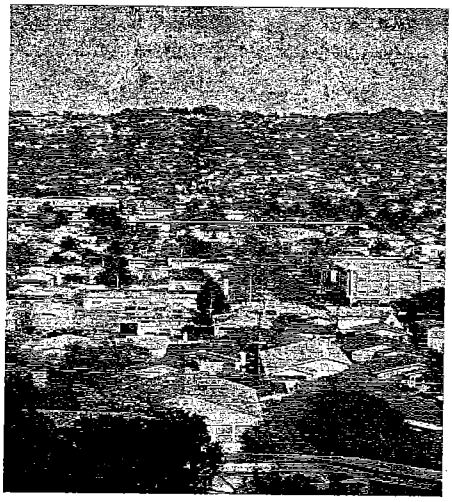
2.7.1. Criteria Air Pollutants and Precursor Emissions

Proposed plans (except regional plans) must show the following over the planning period of the plan to result in a less than significant impact:

- Consistency with current air quality plan control measures.
- A proposed plan's projected VMT or vehicle trips (VT) (either measure may be used) increase is less than or equal to its projected population increase.

2.7.2. Greenhouse Gases

The *Threshold of Significance* for operational-related GHG impacts of plans employs either a GHG efficiency-based metric (per Service Population [SP]), or a GHG Reduction Strategy option, described in Section 4.3.



The *Thresholds of Significance* options for plan level GHG emissions are:

- A GHG efficiency metric of 6.6 MT per SP per year of carbon dioxide equivalent (CO_2e). If annual maximum emissions of operational-related GHGs exceed this level, the proposed plan would result in a significant impact to global climate change.
- Consistency with an adopted GHG Reduction Strategy. If a proposed plan is consistent with an adopted GHG Reduction Strategy that meets the standards described in Section 4.3, the plan would be considered to have a less than significant impact. This approach is consistent with the plan elements described in the State CEQA Guidelines, Section 15183.5.

2.7.3. Local Community Risk and Hazards

The *Thresholds of Significance* for plans with regard to community risk and hazard impacts are:

1. The land use diagram must identify:
    a. Special overlay zones around existing and planned sources of TACs and PM (including adopted risk reduction plan areas); and
    b. Special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways.
2. The plan must also identify goals, policies, and objectives to minimize potential impacts and create overlay zones around sources of TACs, PM, and hazards.

2.7.4. Odors

The *Thresholds of Significance* for plans with regard to odor impacts are to identify locations of odor sources in a plan and the plan must also identify goals, policies, and objectives to minimize potentially adverse impacts.

2.7.5. Regional Plans

The *Thresholds of Significance* for regional plans is to achieve a no net increase in emissions of criteria pollutants and precursors, GHG, and toxic air contaminants. This threshold applies only to regional transportation and air quality plans.

3. SCREENING CRITERIA

The screening criteria identified in this section are **not thresholds of significance**. The Air District developed screening criteria to provide lead agencies and project applicants with a conservative indication of whether the proposed project could result in potentially significant air quality impacts. If all of the screening criteria are met by a proposed project, then the lead agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. These screening levels are generally representative of new development on greenfield sites without any form of mitigation measures taken into consideration. In addition, the screening criteria in this section do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are mixed-use, infill, and/or proximate to transit service and local services, emissions would be less than the greenfield type project that these screening criteria are based on.

If a project includes emissions from stationary source engines (e.g., back-up generators) and industrial sources subject to Air District Rules and Regulations, the screening criteria should not be used. The project's stationary source emissions should be analyzed separately from the land use-related indirect mobile- and area-source emissions. Stationary-source emissions are not included in the screening estimates given below and, for criteria pollutants, must be added to the indirect mobile- and area-source emissions generated by the land use development and compared to the appropriate Thresholds of Significance. Greenhouse gas emissions from permitted stationary sources should not be combined with operational emissions, but compared to a separate stationary source greenhouse gas threshold.

3.1. OPERATIONAL-RELATED IMPACTS

3.1.1. Criteria Air Pollutants and Precursors

The screening criteria developed for criteria pollutants and precursors were derived using the default assumptions used by the Urban Land Use Emissions Model (URBEMIS). If the project has sources of emissions not evaluated in the URBEMIS program the screening criteria should not be used. If the project meets the screening criteria in Table 3-1, the project would not result in the generation of operational-related criteria air pollutants and/or precursors that exceed the *Thresholds of Significance* shown in Table 2-2. Operation of the proposed project would therefore result in a less-than-significant cumulative impact to air quality from criteria air pollutant and precursor emissions.

3.1.2. Greenhouse Gases

The screening criteria developed for greenhouse gases were derived using the default emission assumptions in URBEMIS and using off-model GHG estimates for indirect emissions from electrical generation, solid waste and water conveyance. If the project has other significant sources of GHG emissions not accounted for in the methodology described above, then the screening criteria should not be used. Projects below the applicable screening criteria shown in Table 3-1 would not exceed the 1,100 MT of CO_2e/yr GHG threshold of significance for projects other than permitted stationary sources.

If a project, including stationary sources, is located in a community with an adopted qualified GHG Reduction Strategy, the project may be considered less than significant if it is consistent with the GHG Reduction Strategy. A project must demonstrate its consistency by identifying and implementing all applicable feasible measures and policies from the GHG Reduction Strategy into the project.

Table 3-1
Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size
Single-family	325 du (NOX)	56 du	114 du (ROG)
Apartment, low-rise	451 du (ROG)	78 du	240 du (ROG)
Apartment, mid-rise	494 du (ROG)	87 du	240 du (ROG)
Apartment, high-rise	510 du (ROG)	91 du	249 du (ROG)
Condo/townhouse, general	451 du (ROG)	78 du	240 du (ROG)
Condo/townhouse, high-rise	511 du (ROG)	92 du	252 du (ROG)
Mobile home park	450 du (ROG)	82 du	114 du (ROG)
Retirement community	487 du (ROG)	94 du	114 du (ROG)
Congregate care facility	657 du (ROG)	143 du	240 du (ROG)
Day-care center	53 ksf (NOX)	11 ksf	277 ksf (ROG)
Elementary school	271 ksf (NOX)	44 ksf	277 ksf (ROG)
Elementary school	2747 students (ROG)	-	3904 students (ROG)
Junior high school	285 ksf (NOX)	-	277 ksf (ROG)
Junior high school	2460 students (NOX)	46 ksf	3261 students (ROG)
High school	311 ksf (NOX)	49 ksf	277 ksf (ROG)
High school	2390 students (NOX)	-	3012 students (ROG)
Junior college (2 years)	152 ksf (NOX)	28 ksf	277 ksf (ROG)
Junior college (2 years)	2865 students (ROG)	-	3012 students (ROG)
University/college (4 years)	1760 students (NOX)	320 students	3012 students (ROG)
Library	78 ksf (NOX)	15 ksf	277 ksf (ROG)
Place of worship	439 ksf (NOX)	61 ksf	277 ksf (ROG)
City park	2613 acres (ROG)	600 acres	67 acres (PM10)
Racquet club	291 ksf (NOX)	46 ksf	277 ksf (ROG)
Racquetball/health	128 ksf (NOX)	24 ksf	277 ksf (ROG)
Quality restaurant	47 ksf (NOX)	9 ksf	277 ksf (ROG)
High turnover restaurant	33 ksf (NOX)	7 ksf	277 ksf (ROG)
Fast food rest. w/ drive thru	6 ksf (NOX)	1 ksf	277 ksf (ROG)
Fast food rest. w/o drive thru	8 ksf (NOX)	1 ksf	277 ksf (ROG)
Hotel	489 rooms (NOX)	83 rooms	554 rooms (ROG)
Motel	688 rooms (NOX)	106 rooms	554 rooms (ROG)
Free-standing discount store	76 ksf (NOX)	15 ksf	277 ksf (ROG)
Free-standing discount superstore	87 ksf (NOX)	17 ksf	277 ksf (ROG)
Discount club	102 ksf (NOX)	20 ksf	277 ksf (ROG)
Regional shopping center	99 ksf (NOX)	19 ksf	277 ksf (ROG)
Electronic Superstore	95 ksf (NOX)	18 ksf	277 ksf (ROG)
Home improvement superstore	142 ksf (NOX)	26 ksf	277 ksf (ROG)
Strip mall	99 ksf (NOX)	19 ksf	277 ksf (ROG)
Hardware/paint store	83 ksf (NOX)	16 ksf	277 ksf (ROG)
Supermarket	42 ksf (NOX)	8 ksf	277 ksf (ROG)
Convenience market (24 hour)	5 ksf (NOX)	1 ksf	277 ksf (ROG)
Convenience market with gas pumps	4 ksf (NOX)	1 ksf	277 ksf (ROG)
Bank (with drive-through)	17 ksf (NOX)	3 ksf	277 ksf (ROG)

Table 3-1
Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size
General office building	346 ksf (NOX)	53 ksf	277 ksf (ROG)
Office park	323 ksf (NOX)	50 ksf	277 ksf (ROG)
Government office building	61 ksf (NOX)	12 ksf	277 ksf (ROG)
Government (civic center)	149 ksf (NOX)	27 ksf	277 ksf (ROG)
Pharmacy/drugstore w/ drive through	49 ksf (NOX)	10 ksf	277 ksf (ROG)
Pharmacy/drugstore w/o drive through	48 ksf (NOX)	10 ksf	277 ksf (ROG)
Medical office building	117 ksf (NOX)	22 ksf	277 ksf (ROG)
Hospital	226 ksf (NOX)	39 ksf	277 ksf (ROG)
Hospital	334 beds (NOX)	84 ksf	337 beds (ROG)
Warehouse	864 ksf (NOX)	64 ksf	259 ksf (NOX)
General light industry	541 ksf (NOX)	121 ksf	259 ksf (NOX)
General light industry	72 acres (NOX)	-	11 acres (NOX)
General light industry	1249 employees (NOX)	-	540 employees (NOX)
General heavy industry	1899 ksf (ROG)	-	259 ksf (NOX)
General heavy industry	281 acres (ROG)	-	11 acres (NOX)
Industrial park	553 ksf (NOX)	65 ksf	259 ksf (NOX)
Industrial park	61 acres (NOX)	-	11 acres (NOX)
Industrial park	1154 employees (NOX)	-	577 employees (NOX)
Manufacturing	992 ksf (NOX)	89 ksf	259 ksf (NOX)

Notes: du = dwelling units; ksf = thousand square feet; NO_X = oxides of nitrogen; ROG = reactive organic gases. Screening levels include indirect and area source emissions. Emissions from engines (e.g., back-up generators) and industrial sources subject to Air District Rules and Regulations embedded in the land uses are not included in the screening estimates and must be added to the above land uses.
Refer to Appendix D for support documentation.
Source: Modeled by EDAW 2009.

3.2. COMMUNITY RISK AND HAZARD IMPACTS

Please refer to Chapter 5 for discussion of screening criteria for local community risk and hazard impacts.

3.3. CARBON MONOXIDE IMPACTS

This preliminary screening methodology provides the Lead Agency with a conservative indication of whether the implementation of the proposed project would result in CO emissions that exceed the *Thresholds of Significance* shown in Table 2-3.

The proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria is met:

1. Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

3.4. ODOR IMPACTS

Table 3-3 presents odor screening distances recommended by BAAQMD for a variety of land uses. Projects that would site a new odor source or a new receptor farther than the applicable screening distance shown in Table 3-3 from an existing receptor or odor source, respectively, would not likely result in a significant odor impact. The odor screening distances in Table 3-3 should not be used as absolute screening criteria, rather as information to consider along with the odor parameters and complaint history. Refer to *Chapter 7 Assessing and Mitigating Odor Impacts* for comprehensive guidance on significance determination.

Table 3-3
Odor Screening Distances

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles
Refer to Appendix D for support documentation.	

Facilities that are regulated by CalRecycle (e.g. landfill, composting, etc.) are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. The Air District recognizes a Lead Agency's discretion under CEQA to

use established odor detection thresholds as thresholds of significance for CEQA review for CalRecycle regulated facilities with an adopted OIMP.

3.5. CONSTRUCTION-RELATED IMPACTS

3.5.1. Criteria Air Pollutants and Precursors

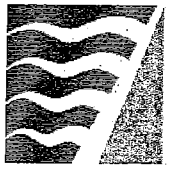
This preliminary screening provides the Lead Agency with a conservative indication of whether the proposed project would result in the generation of construction-related criteria air pollutants and/or precursors that exceed the *Thresholds of Significance* shown in Table 2-4.

If all of the following *Screening Criteria* are met, the construction of the proposed project would result in a less-than-significant impact from criteria air pollutant and precursor emissions.

1. The project is below the applicable screening level size shown in Table 3-1; and
2. All *Basic Construction Mitigation Measures* would be included in the project design and implemented during construction; and
3. Construction-related activities would not include any of the following:
   a. Demolition;
   b. Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously);
   c. Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development);
   d. Extensive site preparation (i.e., greater than default assumptions used by the Urban Land Use Emissions Model [URBEMIS] for grading, cut/fill, or earth movement); or
   e. Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity.

3.5.2. Community Risk and Hazards

Chapter 5, *Assessing and Mitigating Local Community Risk and Hazard Impacts*, contains information on screening criteria for local risk and hazards.



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PART II: ASSESSING & MITIGATING PROJECT LEVEL IMPACTS

4. OPERATIONAL-RELATED IMPACTS

Operational emissions typically represent the majority of a project's air quality impacts. After a project is built, operational emissions, including mobile and area sources, are anticipated to occur continuously throughout the project's lifetime. Operational-related activities, such as driving, use of landscape equipment, and wood burning, could generate emissions of criteria air pollutants and their precursors, GHG, TACs, and PM. Area sources generally include fuel combustion from space and water heating, landscape maintenance equipment, and fireplaces/stoves, evaporative emissions from architectural coatings and consumer products and unpermitted emissions from stationary sources. This chapter provides recommendations for assessing and mitigating operational-related impacts for individual projects. Recommendations for assessing and mitigating operational-related impacts at the plan-level are discussed in Chapter 9. Chapter 9 also contains guidance for assessing a project's consistency with applicable air quality plans.

When calculating project criteria pollutant and GHG emissions to compare to the thresholds of significance, the lead agency should ensure that project design features, attributes, or local development requirements are taken into consideration as part of the project as proposed and not viewed as mitigation measures. For example, projects that are mixed-use, infill, and/or proximate to transit service and local services, or that provide neighborhood serving commercial and retail services would have substantially lower vehicle trip rates and associated criteria pollutant and GHG emissions than what would be reflected in standard, basin-wide average URBEMIS default trip rates and emission estimates. A project specific transportation study should identify the reductions that can be claimed by projects with the above described attributes. However, the Air District, in association with the California Air Pollution Control Officers Association (CAPCOA), is currently developing guidance for estimating reductions in standard vehicle trip rates and vehicle miles traveled (VMT) that can be claimed for these land use types that do not develop project specific transportation studies. This additional guidance will be posted to the District website in June 2010.

To estimate a project's carbon dioxide equivalent emissions from direct and indirect emission sources, BAAQMD recommends using the BAAQMD GHG Model (BGM). The Air District developed this model to calculate GHG emissions not included in URBEMIS such as indirect emissions from electricity use and waste and direct fugitive emissions of refrigerants. The BGM is discussed in more detail in Section 4.2 below.

4.1. CRITERIA AIR POLLUTANT AND PRECURSOR EMISSIONS

4.1.1. Significance Determination

Step 1: Comparison of Project Attributes with Screening Criteria

The first step in determining the significance of operational-related criteria air pollutants and precursors is to compare the attributes of the proposed project with the applicable *Screening Criteria* listed in Chapter 3. This preliminary screening provides a conservative indication of whether operation of the proposed project would result in the generation of criteria air pollutants and/or precursors that exceed the *Thresholds of Significance* listed in Chapter 2. If all of the *Screening Criteria* are met, the operation of the proposed project would result in a less than significant impact to air quality. If the proposed project does not meet all the *Screening Criteria*, then project emissions need to be quantified.

Step 2: Emissions Quantification

If a proposed project involves the removal of existing emission sources, BAAQMD recommends subtracting the existing emissions levels from the emissions levels estimated for the new proposed land use. This net calculation is permissible only if the existing emission sources were operational at the time that the Notice of Preparation (NOP) for the CEQA project was circulated or in the absence of an NOP when environmental analysis begins, and would continue if the proposed redevelopment project is not approved. This net calculation is not permitted for emission sources that ceased to operate, or the land uses were vacated and/or demolished, prior to circulation of the NOP or the commencement of environmental analysis. This approach is consistent with the definition of baseline conditions pursuant to CEQA.



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Land Use Development Projects

For proposed land use development projects, BAAQMD recommends using the most current version of URBEMIS (which to date is version 9.2.4) to quantify operational-related criteria air pollutants and precursors. URBEMIS is a modeling tool initially developed by the California Air Resources Board for calculating air pollutant emissions from land use development projects. URBEMIS uses EMFAC emission factors and ITE trip generation rates to calculate ROG, NO_X, carbon monoxide, particulate matter, carbon dioxide, and total vehicle trips. URBEMIS is not equipped for calculating air quality impacts from stationary sources or plans. For land use projects, URBEMIS quantifies emissions from area sources (e.g., natural gas fuel combustion for space and water heating, wood stoves and fireplace combustion, landscape maintenance equipment, consumer products, and architectural coating) and operational-related emissions (mobile sources).

Appendix B contains more detailed instructions for using URBEMIS to model operational emissions.

Stationary-Source Facilities

A stationary source consists of a single emission source with an identified emission point, such as a stack at a facility. Facilities can have multiple emission point sources located on-site and sometimes the facility as a whole is referred to as a stationary source. Major stationary sources are typically associated with industrial processes, such as refineries or power plants. Minor stationary sources are typically land uses that may require air district permits, such as gasoline dispensing stations, and dry cleaning establishments. Examples of other District-permitted stationary sources include back-up diesel generators, boilers, heaters, flares, cement kilns, and other types of combustion equipment, as well as non-combustion sources such as coating or printing operations. BAAQMD is responsible for issuing permits for the construction and operation of stationary sources in order to reduce air pollution, and to attain and maintain the national and California ambient air quality standards in the SFBAAB. Newly modified or constructed stationary sources subject to Air District permitting may be required to implement Best Available Control Technology (BACT), which may include the installation of emissions control equipment or the implementation of administrative practices that would result in the lowest achievable emission rate. Stationary sources may also be required to offset their emissions of criteria air pollutants and precursors to be permitted. This may entail shutting down or augmenting another stationary source at the same facility. Facilities also may purchase an emissions reduction credit to offset their emissions. Any stationary source emissions remaining after the application of BACT and

offsets should be added to the indirect and area source emissions estimated above to arrive at total project emissions.

URBEMIS is not equipped to estimate emissions generated by stationary sources. Instead emissions from stationary sources should be estimated using manual calculation methods in consultation with BAAQMD. When stationary sources will be subject to BAAQMD regulations, the regulation emission limits should be used as emission factors. If BAAQMD emission limits are not applicable, alternative sources of emission factors include: EPA AP-42 emission factors for particular industrial processes, manufacturer specifications for specific equipment, throughput data (e.g., fuel consumption, rate of material feedstock input) and other specifications provided by the project engineer. To the extent possible, BAAQMD recommends that the methodology used to estimate stationary-source emissions be consistent with calculations that would need to be performed to fulfill requirements of the permitting process and provided in the CEQA document.

Step 3: Comparison of Unmitigated Emissions with Thresholds of Significance
Sum the estimated emissions for area, mobile, and stationary sources (if any) for each pollutant as explained above and compare the total average daily and annual emissions of each criteria pollutant and their precursors with the applicable *Thresholds of Significance* (refer to Table 2-2). If daily average or annual emissions of operational-related criteria air pollutants or precursors do not exceed any of the *Thresholds of Significance*, the project would result in a less than significant impact to air quality. If the quantified emissions of operational-related criteria air pollutants or precursors do exceed any applicable *Threshold of Significance,* the proposed project would result in a significant impact to air quality and CEQA requires implementation of all feasible mitigation measures.

Step 4: Mitigation Measures and Emission Reductions
Where operational-related emissions exceed applicable *Thresholds of Significance*, lead agencies are responsible for implementing all feasible mitigation measures to reduce the project's air quality impacts. Section 4.2 contains numerous examples of mitigation measures and associated emission reductions that may be applied to projects. The project's mitigated emission estimates from mitigation measures included in the proposed project or recommended by the lead agency should be quantified and disclosed in the CEQA document.

Step 5: Comparison of Mitigated Emissions with Thresholds of Significance
Compare the total average daily and annual amounts of mitigated criteria air pollutants and precursors with the applicable *Thresholds of Significance* (refer to Table 4-1). If the implementation of mitigation measures, including off-site mitigation, would reduce all operational-related criteria air pollutants and precursors to levels below the applicable *Thresholds of Significance*, the impact to air quality would be reduced to a less than significant level. Implementation of mitigation measures means that they are made conditions of project approval and included in a Mitigation Monitoring and Reporting Plan (MMRP). If mitigated levels of any criteria air pollutant or precursor would still exceed the applicable *Threshold of Significance*, the impact to air quality would remain significant and unavoidable.

Table 4-1
Example Operational Criteria Air Pollutant and Precursor Emissions Analysis

Step	Emissions Source	Emissions (lb/day or tpy)*			
		ROG	NO_X	PM_{10}	$PM_{2.5}$
2	Area Sources	A	A	A	A
	Mobile Sources	B	B	B	B
	Stationary Sources	C	C	C	C
	Total Unmitigated Emissions	A + B + C = D	A + B + C = D	A + B + C = D	A + B + C = D
	BAAQMD Threshold	54 lb/day or 10 tpy	54 lb/day or 10 tpy	82 lb/day or 15 tpy	54 lb/day or 10 tpy
3	Unmitigated Emissions Exceed BAAQMD Threshold?	Is D > Threshold? (If Yes, significant. Go to step 4. If No, less than significant)			
4	Mitigated Emissions	E	E	E	E
5	Mitigated Emissions Exceed BAAQMD Threshold?	Is E > Threshold? (If Yes, significant and unavoidable. If No, less than significant with mitigation incorporated)			

* Letters "A", "B", and "C" are used to represent numeric values that would be obtained through modeling for area and mobile sources, and by manual calculations for stationary source-emissions. "D" represents the sum of "A", "B", and "C" (i.e., unmitigated emissions). "E" represents mitigated emissions.
Notes: lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year.
Refer to Appendix D for support documentation.

4.2. GREENHOUSE GAS IMPACTS

4.2.1. Significance Determination

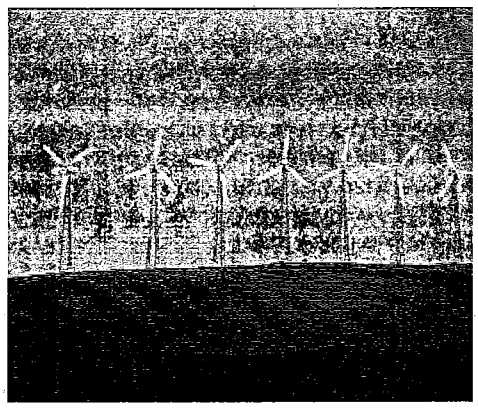
Step 1: Comparison of Project Attributes with Screening Criteria

The first step in determining the significance of operational-related GHG emissions is to compare the attributes of the proposed project with the applicable *Screening Criteria* (Refer to Chapter 3). If all of the *Screening Criteria* are met, the operation of the proposed project would result in a less than significant impact to global climate change. If the proposed project does not meet all the *Screening Criteria*, then project emissions need to be quantified.

If a project is located in a community with an adopted qualified GHG Reduction Strategy (described in section 4.3), the project may be considered less than significant if it is consistent with the GHG Reduction Strategy. A project must demonstrate its consistency by identifying and implementing all applicable feasible measures and policies from the GHG Reduction Strategy into the project.

Step 2: Emissions Quantification

For quantifying a project's GHG emissions, BAAQMD recommends that all GHG emissions from a project be estimated, including a project's direct and indirect GHG emissions from operations. Direct emissions refer to emissions produced from onsite combustion of energy, such as natural gas used in furnaces and boilers, emissions from industrial processes, and fuel combustion from mobile sources. Indirect emissions are emissions produced offsite from energy production and water conveyance due to a project's energy use and water consumption. See Table 4-2 for a list of GHG emission sources and types that should be estimated for projects.



Please note that when estimating a project's emissions, no additional reductions associated with implementation of AB 32 Scoping Plan measures should be taken because development of the threshold assumed reductions from adopted regulations would occur (see Appendix D). In addition, the BAAQMD Greenhouse Gas Model discussed below will make appropriate adjustments to a project's emission totals to reflect reductions from adopted state regulations such as Pavley and the low carbon fuel standard.

Biogenic emissions should not be included in the quantification of GHG emissions for a project. Biogenic CO_2 emissions result from materials that are derived from living cells, as opposed to CO_2 emissions derived from fossil fuels, limestone and other materials that have been transformed by geological processes. Biogenic CO_2 contains carbon that is present in organic materials that include, but are not limited to, wood, paper, vegetable oils, animal fat, and food, animal and yard waste.

The GHG emissions from permitted stationary sources should be calculated separately from a project's operational emissions. Permitted stationary sources are subject to a different threshold than land use developments. For example, if a proposed project anticipates having a permitted stationary source on site, such as a back-up generator, the GHG emissions from the generator should not be added to the project's total emissions. The generator's GHG emissions should be calculated separately and compared to the GHG threshold for stationary sources to determine its impact level.

If a proposed project involves the removal of existing emission sources, BAAQMD recommends subtracting the existing emissions levels from the emissions levels estimated for the new proposed land use. This net calculation is permissible only if the existing emission sources were operational at the time that the Notice of Preparation (NOP) for the CEQA project was circulated (or in the absence of an NOP when environmental analysis begins), and would continue if the proposed redevelopment project is not approved. This net calculation is not permitted for emission sources that ceased to operate, or the land uses were vacated and/or demolished, prior to circulation of the NOP or the commencement of environmental analysis. This approach is consistent with the definition of baseline conditions pursuant to CEQA.

BAAQMD Greenhouse Gas Model

BAAQMD recommends using URBEMIS to estimate direct CO_2 emissions from area and mobile sources. The same detailed guidance described for criteria air pollutants and precursors (Section 4.1 above) could be followed for quantifying GHG emissions as appropriate. URBEMIS estimates

the modeled emissions output in units of short tons; the URBEMIS output may be converted to metric tons by multiplying the amount of short tons by 0.91.

To estimate a project's carbon dioxide equivalent emissions from direct and indirect emission sources, BAAQMD recommends using the BAAQMD GHG Model (BGM). The Air District developed this model to calculate GHG emissions not included in URBEMIS such as indirect emissions from electricity use and waste and direct fugitive emissions of refrigerants. The BGM also adjusts for state regulations not included in URBEMIS, specifically California's low carbon fuel rules and Pavley regulations.

The BGM imports project inputs and emission results from URBEMIS to quantify carbon dioxide equivalent emissions from additional direct and indirect sources not included in URBEMIS, such as water supply, waste disposal, electricity generation and refrigerants. The BGM also contains a range of GHG reduction strategies/mitigation measures that may be applied to projects. The BGM also adjusts emission totals to reflect reductions from adopted state regulations such as Pavley and the low carbon fuel standard. This model is available without cost and may be downloaded at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx. The BGM is run using Microsoft Excel. Refer to the BGM user's manual for detailed instructions on using the model.

Table 4-2 outlines the recommended methodologies for estimating a project's GHG emissions.

Table 4-2
Guidance for Estimating a Project's Operations GHG Emissions

Emission Source	Emission Type	GHG	Methodology
Area Sources (natural gas, hearth, landscape fuel, etc.)	Direct, natural gas and fuel combustion	CO_2, CH_4, N_20	URBEMIS and BGM
Transportation	Direct, fuel combustion	CO_2, CH_4, N_20	URBEMIS and BGM
Electricity consumption	Indirect, electricity	CO_2, CH_4, N_20	BGM
Solid waste	Indirect, landfill; direct, fuel combustion	CO_2, CH_4, N_20	BGM
Water consumption	Indirect, electricity	CO_2, CH_4, N_20	BGM
Wastewater (non-biogenic emissions)	Indirect	CO_2, CH_4, N_20	BGM
Industrial process emissions	Direct	CO_2, CH_4, N_20, and refrigerants	BGM and BAAQMD permits*
Fugitive emissions	Direct	CO_2, CH_4, N_20, and refrigerants	BGM

* Industrial processes permitted by the Air District must use the methodology provided in BAAQMD rules and regulations. Other industrial process emissions, such as commercial refrigerants, should use the BGM.
CO_2 (carbon dioxide), CH_4 (methane), N_20 (nitrous oxides), and refrigerants (HFCs and PFCs).

In cases where users may need to estimate a project's GHG emissions manually, BAAQMD recommends using ARB's most current Local Government Operations Protocol (LGOP) as appropriate for guidance. The most current LGOP may be downloaded from ARB's website.

Step 3: Comparison of Unmitigated Emissions with Thresholds of Significance
Sum the estimated GHG emissions from area and mobile sources and compare the total annual GHG emissions with the applicable *Threshold of Significance*. If annual emissions of operational-related GHGs do not exceed the *Threshold of Significance*, the project would result in a less than significant impact to global climate change. If annual emissions do exceed the *Threshold of*

Significance, the proposed project would result in a significant impact to global climate change and will require mitigation measures for emission reductions.

Step 4: Mitigation Measures and Emission Reductions
Where operational-related emissions exceed applicable *Thresholds of Significance*, lead agencies are responsible for implementing all feasible mitigation measures to reduce the project's GHG emissions. Section 4.2 contains recommended mitigation measures and associated emission reductions. The Air District recommends using the BGM if additional reductions are needed. The air quality analysis should quantify the reduction of emissions associated with any proposed mitigation measures and include this information in the CEQA document.

Step 5: Comparison of Mitigated Emissions with Thresholds of Significance
Compare the total annual amount of mitigated GHGs with the applicable *Threshold of Significance,* as demonstrated in Table 4-3. If the implementation of project proposed or required mitigation measures would reduce operational-related GHGs to a level below either the 1,100 MT CO_2e/yr or 4.6 MT CO_2e/SP/yr *Threshold of Significance*, the impact would be reduced to a less than significant level. If mitigated levels still exceed the applicable *Threshold of Significance*, the impact to global climate change would remain significant and unavoidable.

Table 4-3
Example of Operational Greenhouse Gas Emissions Analysis

Step	Emissions Source	Emissions (MT CO_2e/yr)*
2	Area Sources	A
	Mobile Sources	B
	Indirect Sources	C
	Total Unmitigated Emissions	A + B + C = D
	BAAQMD Threshold	1,100 or 4.6 MT CO_2e/yr/SP
3	Unmitigated Emissions Exceed BAAQMD Threshold?	Is D > 1,100/4.6? (If Yes, significant. Go to step 4. If No, less than significant)
4	Mitigated Emissions	E
5	Mitigated Emissions Exceed BAAQMD Threshold?	Is E > 1,100/4.6? (If Yes, significant and unavoidable. If No, less than significant with mitigation incorporated)

* Letters "A", "B", and "C" are used to represent numeric values that would be obtained through modeling for area and mobile sources, and by manual calculations for indirect source-emissions. "D" represents the sum of "A", "B", and "C" (i.e., unmitigated emissions). "E" represents mitigated emissions.
Notes: CO_2e = carbon dioxide equivalent; MT = metric tons; yr = year.
Refer to Appendix D for support documentation.

4.3. GREENHOUSE GAS REDUCTION STRATEGIES

The Air District encourages local governments to adopt a qualified GHG Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified GHG Reduction Strategy that meets the standards laid out below, it can be presumed that the project will not have significant GHG emission impacts. This approach is consistent with the State CEQA Guidelines, Section 15183.5 (see text in box below).

§15183.5. Tiering and Streamlining the Analysis of Greenhouse Gas Emissions.

(a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of greenhouse gas emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs), 15175-15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).

(b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

(1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:

(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

(B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;

(F) Be adopted in a public process following environmental review

(2) Use with Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

Standard Elements of a GHG Reduction Strategy

The Air District recommends the Plan Elements in the state CEQA Guidelines as the minimum standard to meet the GHG Reduction Strategy Thresholds of Significance option. A GHG Reduction Strategy may be one single plan, such as a general plan or climate action plan, or could be comprised of a collection of climate action policies, ordinances and programs that have been legislatively adopted by a local jurisdiction. The GHG Reduction Strategy should identify goals, policies and implementation measures that would achieve AB 32 goals for the entire community. Plans with horizon years beyond 2020 should consider continuing the downward reduction path set by AB 32 and move toward climate stabilization goals established in Executive Order S-3-05.

To meet this threshold of significance, a GHG Reduction Strategy must include the following elements (corresponding to the State CEQA Guidelines Plan Elements):

(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.

A GHG Reduction Strategy must include an emissions inventory that quantifies an existing baseline level of emissions and projected GHG emissions from a business-as-usual, no-plan, forecast scenario of the horizon year. The baseline year is based on the existing growth pattern defined by an existing general plan. The projected GHG emissions are based on the emissions from the existing growth pattern or general plan through to 2020, and if different, the year used for the forecast. If the forecast year is beyond 2020, BAAQMD recommends doing a forecast for 2020 to establish a trend. The forecast does not include new growth estimates based on a new or draft general plan.

When conducting the baseline emissions inventory and forecast, ARB's business-as-usual 2020 forecasting methodology should be followed to the extent possible, including the following recommended methodology and assumptions:

- The baseline inventory should include one complete calendar year of data for 2008 or earlier. CO_2 must be inventoried across all sectors (residential, commercial, industrial, transportation and waste); accounting of CH_4, N_20, SF6, HFC and PFC emission sources can also be included where reliable estimation methodologies and data are available.

- Business-as-usual emissions are projected in the absence of any policies or actions that would reduce emissions. The forecast should include only adopted and funded projects.

- The business-as-usual forecast should project emissions from the baseline year using growth factors specific to each of the different economic sectors: Recommendations for growth factors are included in the Air District's GHG Quantification Guidance document (explained below and available on the District's website).

The Air District's *GHG Plan Level Reduction Strategy Guidance* contains detailed recommendations for developing GHG emission inventories and projections and for quantifying emission reductions from policies and mitigation measures. This document is available at the Air District's website, http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx.

(B) Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.

A GHG Reduction Strategy must establish a target that is adopted by legislation that meets or exceeds one of the following options, all based on AB 32 goals:

- Reduce emissions to 1990 level by 2020[1]
- Reduce emissions 15 percent below baseline (2008 or earlier) emission level by 2020[2]
- Meet the plan efficiency threshold of 6.6 MT CO_2e/service population/year

If the target year for a GHG reduction goal exceeds 2020, then the GHG emission reduction target should be in line with the goals outlined in Executive Order S-3-05.

(C) Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.

A Strategy should identify and analyze GHG reductions from anticipated actions in order to understand the amount of reductions needed to meet its target. Anticipated actions refer to local and state policies and regulations that may be planned or adopted but not implemented. For example, ARB's Scoping Plan contains a number of measures that are planned but not yet implemented. BAAQMD recommends for the Strategy to include an additional forecast analyzing anticipated actions. Element (C), together with (A), is meant to identify the scope of GHG emissions to be reduced through Element (D).

(D) Specify measures or a group of measures, including performance standards that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.

The GHG Reduction Strategy should include mandatory and enforceable measures that impact new development projects, such as mandatory energy efficiency standards, density requirements, etc. These measures may exist in codes or other policies and may be included in the Strategy by reference.

The GHG Reduction Strategy should include quantification of expected GHG reductions from each identified measure or categories of measures (such as residential energy efficiency measures, bike/pedestrian measures, recycling measures, etc.), including disclosure of calculation methods and assumptions. Quantification should reflect annual GHG reductions and demonstrate how the GHG reduction target will be met. The Strategy should specify which measures apply to new development projects.

(E) Monitor the plan's progress

To ensure that all new development projects are incorporating all applicable measures contained within the GHG Reduction Strategy, the Strategy should include an Implementation Plan containing the following:

- Identification of which measures apply to different types of new development projects, discerning between voluntary and mandatory measures.

[1] Specified target in AB 32 legislation

[2] From "Climate Change Scoping Plan", Executive Summary page 5

- Mechanism for reviewing and determining if all applicable mandatory measures are being adequately applied to new development projects.
- Identification of implementation steps and parties responsible for ensuring implementation of each action.
- Schedule of implementation identifying near-term and longer-term implementation steps.
- Procedures for monitoring and updating the GHG inventory and reduction measures every 3-5 years before 2020 and submitting annual implementation updates to the jurisdiction's governing body.
- Annual review and reporting on the progress of implementation of individual measures, including assessment of how new development projects have been incorporating Strategy measures. Review should also include an assessment of the implementation of Scoping Plan measures in order to determine if adjustments to local Strategy must be made to account for any shortfalls in Scoping Plan implementation.

(F) Adopt the GHG Reduction Strategy in a public process following environmental review

A GHG Reduction Strategy should undergo an environmental review which may include a negative declaration or EIR.

If the GHG Reduction Strategy consists of a number of different elements, such as a general plan, a climate action plan and/or separate codes, ordinances and policies, each element that is applicable to new development projects would have to complete an environmental review in order to allow tiering for new development projects.

Sustainable Communities Strategy (SCS) or Alternative Planning Strategy

If a project is located within an adopted Sustainable Communities Strategy or Alternative Planning Strategy, the GHG emissions from cars and light duty trucks do not need to be analyzed in the environmental analysis. This approach is consistent with the State CEQA Guidelines, Section 15183.5(c). This approach only applies to certain residential and mixed use projects and transit priority projects as defined in Section 21155 of the State CEQA Guidelines.

Section 15183.5(c): Special Situations. As provided in Public Resources Code sections 21155.2 and 21159.28, environmental documents for certain residential and mixed us projects, and transit priority projects, as defined in section 21155, that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an applicable sustainable communities strategy or alternative planning strategy need not analyze global warming impacts resulting from cars and light duty trucks. A lead agency should consider whether such projects may result in GHG emissions resulting from other source, however, consistent with these Guidelines.

Section 21155: A transit priority project shall (1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provide a minimum net density of at least 20 dwelling units per acre; and (3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. A major transit stop is as defined in Section 21064.3, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. For purposes of this section, a high quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. A project shall be considered to be within on-half mile of a major transit stop or high-quality transit corridor if all parcels within the project have not more than 25 percent of their area farther than one-half mile from the stop or corridor and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop or corridor.

4.4. MITIGATING OPERATIONAL-RELATED IMPACTS

The following mitigation measures would reduce operational-related emissions of criteria air pollutants, precursors, and GHGs from mobile, area, and stationary sources. Additional mitigation measures may be used, including off-site measures, provided their mitigation efficiency is justified. Where a range of emission reduction potential is given for a measure, the Lead Agency should provide justification for the mitigation reduction efficiency assumed for the project. If mitigation does not bring a project back within the threshold requirements, the project could be cumulatively significant and could be approved only with a Statement of Overriding Considerations and a showing that all feasible mitigation measures have been implemented.

Reductions from mitigation measures should be scaled proportionally to their sector of project-generated emissions. For example, if a measure would result in a 50 percent reduction in residential natural gas consumption, but only 20 percent of a project's emissions are associated with natural gas consumption, and only 10 percent of a project's emissions are from residential land uses, then the scaled reduction would equal one percent (50% * 20% * 10% = 1%).

Once all emission reductions are scaled by their applicable sector and land use, they should be added together for the total sum of emission reductions. Once all emission reductions are scaled by their applicable sector and land use, they should be added together for the total sum of emission reductions.

The Air District prefers for project emissions to be reduced to their extent possible onsite. For projects that are not able to mitigate onsite to a level below significance, offsite mitigation measures serve as a feasible alternative. Recent State's CEQA Guidelines amendments allow for offsite measures to mitigate a project's emissions, (Section 15126.4(c)(4))

In implementing offsite mitigation measures, the lead agency must ensure that emission reductions from identified projects are real, permanent through the duration of the project,

enforceable, and are equal to the pollutant type and amount of the project impact being offset. BAAQMD recommends that offsite mitigation projects occur within the nine-county Bay Area in order to reduce localized impacts and capture potential co-benefits. Offsite mitigation for PM and toxics emission reductions should occur within a five mile radius to the project site.

Another feasible mitigation measure the Air District is exploring establishing is an offsite mitigation program to assist lead agencies and project applicants in achieving emission reductions. A project applicant would enter into an agreement with the Air District and pay into an Air District fund. The Air District would commit to reducing the type and amount of emission indentified in the agreement. The Air District would identify, implement, and manage offsite mitigation projects.

The following tables list feasible mitigation measures for consideration in projects. The estimated emission reductions are a work in progress and the Air District will continue to improve guidance on quantifying the mitigation measures.

URBEMIS Mitigation Measures for Operational Mobile Source Emissions

Measure	Sector Reductions	Applicable Pollutants	Sector	Notes	Additional comments
Mix of Uses	-3% to 9%	CAPs, GHGs	Mobile sources	-3 when no housing or employment centers within 1/2 mile	Residential: % reduction is taken from base trips (9.57) and subtracted from ITE trip generation; Nonresidential: % reduction from ITE trip generation
Local serving retail within 1/2 mile of project	2%	CAPs, GHGs	Mobile sources	Uses lower end of reported research to avoid double counting with mix of uses measure	
Transit Service	0% to 15%	CAPs, GHGs	Mobile sources		
Bike & Pedestrian	0%–9%	CAPs, GHGs	Mobile sources	Credit is given based on intersection density, sidewalk completeness, and bike network completeness; No reduction if entire area within 1/2 mile is single use	
Affordable Housing	0%–4%	CAPs, GHGs	Mobile sources		
Transportation Demand Management Parking, Transit Passes					
Daily Parking Charge	0%–25%	CAPs, GHGs	Only resident/ employee trips, no visitor/ shopper trips		
Parking Cash-Out	0%–12.5%	CAPs, GHGs		Shoup, Donald. 2005. Parking Cash Out. American Planning Association. Chicago, IL.	
Free Transit Passes	25% of Transit Service Reduction	CAPs, GHGs			

URBEMIS Mitigation Measures for Operational Mobile Source Emissions

Measure	Sector Reductions	Applicable Pollutants	Sector	Notes	Additional comments
Telecommuting					
Employee Telecommuting Program	1%–100%	CAPs, GHGs	Mobile sources, Worker Trips only		
Compressed Work Schedule 3/36	1%–40%	CAPs, GHGs			
Compressed Work Schedule 4/40	1%–20%	CAPs, GHGs			
Compressed Work Schedule 9/80	1%–10%	CAPs, GHGs			
Other Transportation Demand Measures					
Secure Bike Parking (at least 1 space per 20 vehicle spaces)	At least 3 elements: 1% reduction, plus 5% of the reduction for transit and pedestrian/bike friendliness; At least 5 elements: 2% reduction, plus 10% of the reduction for transit and pedestrian/bike friendliness	CAPs, GHGs	Mobile sources, Worker Trips only		
Showers/Changing Facilities Provided					
Guaranteed Ride Home Program Provided					
Car-Sharing Services Provided					
Information Provided on Transportation Alternatives (Bike Schedules, Maps)					
Dedicated Employee Transportation Coordinator					
Carpool Matching Program					
Preferential Carpool/Vanpool Parking					
Parking Supply	0%–50%	CAPs, GHGs	Mobile sources		
On Road Trucks	As input by user in URBEMIS	CAPs, GHGs	Mobile sources		

URBEMIS Mitigation Measures for Operational Area-Source Emissions

Measure	Sector Reductions	Applicable Pollutants	Sector	Notes
Increase Energy Efficiency Beyond Title 24	Same as % improvement over Title 24	CAPs, GHGs	Natural gas sector in URBEMIS for applicable land use only	User should specify baseline year for the Title 24 standards
Electrically powered landscape equipment and outdoor electrical outlets	Same as % of landscape equipment emissions	CAPs, GHGs	Landscape emissions: residential only	
Low VOC architectural coatings	Same as % VOC reduction in applicable coatings (Interior/Exterior)	ROG only	Architectural coating	

NON-URBEMIS Energy Efficiency Mitigation Measures

Measure	Sector Reductions	Applicable Pollutants	Sector	Notes	Additional comments
Plant shade trees within 40 feet of the south side or within 60 feet of the west sides of properties.	30%	GHGs	R,C A/C Electricity	USDA Forest Service, Pacific Northwest Research Station. "California Study Shows Shade Trees Reduce Summertime Electricity Use." Science Daily 7 January 2009. 20 February 2009 <http://www.sciencedaily.com/releases/2009/01/090105150831.htm>.	Electricity-related measures reduce CAPs off-site, but they are not typically quantified as part of a CEQA analysis.
Require cool roof materials (albedo >= 30)	34%	GHGs	C A/C Electricity	U.S. EPA Cool Roof Product Information, Available: <http://www.epa.gov/heatisland/resources/pdf/CoolRoofsCompendium.pdf>	
	69%	GHGs	R A/C Electricity		
Install green roofs	1%	GHGs	R,C A/C Electricity	Reductions are based on the Energy & Atmosphere credits (EA Credit 2) documented in the Leadership in Energy & Environmental Design (LEED), Green Building Rating System for New Constructions and Major Renovations, Version 2.2, October 2005. The reduction assumes that a vegetated roof is installed on a least 50% of the roof	

NON-URBEMIS Energy Efficiency Mitigation Measures

Measure	Sector Reductions	Applicable Pollutants	Sector	Notes	Additional comments
				area or that a combination high albedo and vegetated roof surface is installed that meets the following standard: (Area of SRI Roof/0.75)+(Area of vegetated roof/0.5) >= Total Roof Area.	
Require smart meters and programmable thermostats	10%	CAPs, GHGs	R, C electricity and natural gas space heating	U. S. Environmental Protection Agency. 2009. Programmable Thermostat. http://www.energystar.gov/ia/new_homes/features/ProgThermostats1-17-01.pdf	
Meet GBC standards in all New construction	17%	GHGs	R electricity	California Energy Commission [CEC] 2007. Impact Analysis 2008 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings	
	7%	GHGs	C electricity		
	9%	CAPs, GHGs	R natural gas		
	3%	CAPs, GHGs	C natural gas		
Retrofit existing buildings to meet CA GBC standards	38%	GHGs	R electricity	California Energy Commission [CEC] 2003. Impact Analysis 2005 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings; California Energy Commission [CEC] 2007. Impact Analysis 2008 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings	
	12%	GHGs	C electricity		
	18%	CAPs, GHGs	R natural gas		
	12%	CAPs, GHGs	C natural gas		
Install solar water heaters	70%	CAPs, GHGs	R natural gas water heating	Energy Star. 2009. Solar Water Heater. http://www.energystar.gov/ia/new_homes/features/WaterHtrs_062906.pdf; Department of Energy. California Energy Commission [CEC] 2007. Impact Analysis 2008 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings	Cannot take credit for both solar and tank-less water heater measures
	70%	CAPs, GHGs	C natural gas water heating		

NON-URBEMIS Energy Efficiency Mitigation Measures

Measure	Sector Reductions	Applicable Pollutants	Sector	Notes	Additional comments
Install tank-less water heaters	35%	CAPs, GHGs	R natural gas water heating	Tankless Water Heater. 2008. Available: <http://www.eere.energy.gov/consumer/your_home/water_heating/index.cfm/mytopic=12820>	
	35%	CAPs, GHGs	C natural gas water heating		
Install solar panels on residential and commercial buildings	100%	GHGs	R, C electricity		
100% increase in diversity of land use mix	5%	CAPs, GHGs	Mobile sources	Ewing, Reid, et al. 2001. *Travel and the Built Environment: A Synthesis.* Transportation Research Record 1780. Paper No. 01-3515 as cited in Urban Land Institute. 2008. *Growing Cooler.* ISBN: 978-0-87420-082-2. Washington, DC	
Jobs housing balance	Trip reduction = (1 – (ABS (1.5 * HH – E)/(1.5 * HH + E)) – 0.25) / 0.25 * 0.03; where ABS = absolute value; HH = study area households ; E = study area employment	CAPs, GHGs	Mobile sources	*Nelson/Nygaard Consultants. 2005. Crediting Low-Traffic Developments: Adjusting Site-Level Vehicle Trip Generation Using URBEMIS. Pg 12, (adapted from Criterion and Fehr & Peers, 2001)*	
100% increase in design (i.e., presence of design guidelines for transit oriented development, complete streets standards)	3%	CAPs, GHGs	Mobile sources	Ewing, Reid, et al. 2001. *Travel and the Built Environment: A Synthesis.* Transportation Research Record 1780. Paper No. 01-3515 as cited in Urban Land Institute. 2008. *Growing Cooler.* ISBN: 978-0-87420-082-2. Washington, DC	

NON-URBEMIS Energy Efficiency Mitigation Measures

Measure	Sector Reductions	Applicable Pollutants	Sector	Notes	Additional comments
100% increase in density	5%	CAPs, GHGs	Mobile sources	Ewing, Reid, et al. 2001. *Travel and the Built Environment: A Synthesis.* Transportation Research Record 1780. Paper No. 01-3515 as cited in Urban Land Institute. 2008. *Growing Cooler.* ISBN: 978-0-87420-082-2. Washington, DC	
HVAC duct sealing	30%	GHGs	R,C A/C electricity	Sacramento Metropolitan Utilities District. 2008. Duct Sealing. Available: <http://www.pge.com/myhome/saveenergymoney/rebates/coolheat/duct/index.shtml>.	
Provide necessary infrastructure and treatment to allow use of 50% greywater/ recycled water in residential and commercial uses for outdoor irrigation	SFR: 74%*50% = 37.5% MFR: 58% * 50% = 29% Commercial: 12% * 50% = 6%	GHGs	R electricity (water consumption) C electricity (water consumption)	Department of Water Resources. 2001. Statewide Indoor/Outdoor Split. Accessed December 2, 2008. Available at: <http://www.landwateruse.water.ca.gov/annualdata/urbanwateruse/2001/landuselevels.cfm?use=8>.	
Complete streets (i.e., bike lanes and pedestrian sidewalks on both sides of streets, traffic calming features such as pedestrian bulb-outs, cross-walks, traffic circles, and elimination of physical and psychological barriers (e.g., sound walls and large arterial roadways, respectively).)	1-5%	CAPs, GHGs	Mobile sources	Dierkers, G., E. Silsbe, S. Stott, S. Winkelman, an M. Wubben. 2007. *CCAP Transportation Emissions Guidebook.* Center for Clean Air Policy. Washington, D.C. Available: <http://www.ccap.org/safe/guidebook.php>. as cited in California Air Pollution Control Officers Association (CAPCOA) 2008. *CEQA and Climate Change.*	

NON-URBEMIS Energy Efficiency Mitigation Measures					
Measure	**Sector Reductions**	**Applicable Pollutants**	**Sector**	**Notes**	**Additional comments**
Maximize interior day light		GHGs	R, C, M		
Increase roof/ceiling insulation		CAPs, GHGs	R, C, M		
Create program to encourage efficiency improvements in rental units		CAPs, GHGs	R		
Install rainwater collection systems in residential and Commercial Buildings		GHGs	R,C,M		
Install low-water use appliances and fixtures		GHGs	R,C,M	California Air Pollution Control Officers Association (CAPCOA) 2008. CEQA and Climate Change.	
Restrict the use of water for cleaning outdoor surfaces/Prohibit systems that apply water to non-vegetated surfaces		GHGs	R,C,M	California Attorney General's Office GHG Reduction Measures	
Implement water-sensitive urban design practices in new construction		GHGs	R,C,M		
NON-URBEMIS Waste Reduction Mitigation Measures					
Provide composting facilities at residential uses		GHGs	R		
Create food waste and green waste curb-side pickup service		GHGs	R,C,M		
Require the provision of storage areas for recyclables and green waste in new construction		GHGs	R,C,M		

Notes: CAPs = Criteria Air Pollutants; GHGs = Greenhouse Gases; ROG = Reactive Organic Gases; R = Residential Development; C = Commercial Development; M = Mixed Use Development; A/C = Air Conditioning; and VOC = Volatile Organic Compounds.
Source: Information compiled by EDAW 2009.

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5. LOCAL COMMUNITY RISK AND HAZARD IMPACTS

The purpose of this Chapter is (1) to recommend methods whereby local community risk and hazard impacts from projects for both new sources and new receptors can be determined based on comparison with applicable thresholds of significance and screening criteria and (2) to recommend mitigation measures for these impacts. This chapter contains the following sections:

Section 5.2 – Presents methods for assessing single-source impacts from either an individual new source or impacts on new receptors from existing individual sources.

Section 5.3 – Discusses methods for assessing cumulative impacts from multiple sources.

Section 5.4 – Discusses methods for mitigating local community risk and hazard impacts.

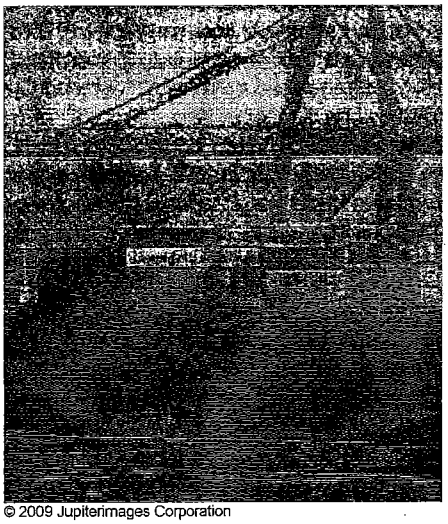
The recommendations provided in this chapter apply to assessing and mitigating impacts for project-level impacts and related cumulative impacts. Refer to Chapter 9 for recommendations for assessing and mitigating local community risk and hazard impacts at the plan-level.

To assist the Lead Agency in evaluating air quality impacts at the neighborhood scale, *Thresholds of Significance* have been established for local community risks and hazards associated with TACs and $PM_{2.5}$ with respect to siting a new source and/or receptor; as well as for assessing both individual source and cumulative multiple source impacts. These *Thresholds of Significance* focus on $PM_{2.5}$ and TACs because these more so than other emission types pose significant health impacts at the local level as discussed separately below.

5.1. TOXIC AIR CONTAMINANTS

TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A wide range of sources, from industrial plants to motor vehicles, emit TACs. Like $PM_{2.5}$, TAC can be emitted directly and can also be formed in the atmosphere through reactions among different pollutants. The methods presented in this Chapter for assessing local community risk and hazard impacts only include direct TAC emissions, not those formed in the atmosphere.

The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches. For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure. Non-carcinogenic substances differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are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determined on a pollutant-by-pollutant basis. Acute and chronic exposure to non-carcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to an acceptable reference exposure levels.

TACs are primarily regulated through State and local risk management programs. These programs are designed to eliminate, avoid, or minimize the risk of adverse health effects from exposures to TACs. A chemical becomes a regulated TAC in California based on designation by the California Office of Environmental Health Hazard Assessment (OEHHA). As part of its jurisdiction under Air Toxics Hot Spots Program (Health and Safety Code Section 44360(b)(2)), OEHHA derives cancer potencies and reference exposure levels (RELs) for individual air contaminants based on the current scientific knowledge that includes consideration of possible differential effects on the health of infants, children and other sensitive subpopulations, in accordance with the mandate of the Children's Environmental Health Protection Act (Senate Bill 25, Escutia, Chapter 731, Statutes of 1999, Health and Safety Code Sections 39669.5 et seq.). The methodology in this Chapter reflects the approach adopted by OEHHA in May 2009, which considers age sensitivity factors to account for early life stage exposures. The specific toxicity values of each particular TAC as identified by OEHHA are listed in BAAQMD's Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.

5.1.1. Fine Particulate Matter

$PM_{2.5}$ is a complex mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust and wood smoke. $PM_{2.5}$ can be emitted directly and can also be formed in the atmosphere through reactions among different pollutants. The methods presented in this Chapter for assessing local community risk and hazard impacts only include direct $PM_{2.5}$ emissions, not those formed in the atmosphere.

Compelling evidence suggests that $PM_{2.5}$ is by far the most harmful air pollutant in the SFBAAB in terms of the associated impact on public health. A large body of scientific evidence indicates that both long-term and short-term exposure to $PM_{2.5}$ can cause a wide range of health effects (e.g., aggravating asthma and bronchitis, causing visits to the hospital for respiratory and cardio-vascular symptoms, and contributing to heart attacks and deaths). BAAQMD recommends characterizing potential health effects from exposure to directly $PM_{2.5}$ emissions through comparison to the applicable *Thresholds of Significance*.

5.1.2. Common Source Types

Common stationary source types of TAC and $PM_{2.5}$ emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to BAAQMD permit requirements. The other, often more significant, common source type is on-road motor vehicles on freeways and roads such as trucks and cars, and off-road sources such as construction equipment, ships and trains. Because these common sources are prevalent in many communities, this Chapter focuses on screening tools for the evaluation of associated cumulative community risk and hazard impacts. However, it is important to note that other influential source types do exist (e.g., ports, railyards, and truck distribution centers), but these are often more complex and require more advanced modeling techniques beyond those discussed herein.

5.1.3. Area of Influence

For assessing community risks and hazards, a 1,000 foot radius is recommended around the project property boundary. BAAQMD recommends that any proposed project that includes the siting of a new source or receptor assess associated impacts within 1,000 feet, taking into account both individual and nearby cumulative sources (i.e., proposed project plus existing and foreseeable future projects). Cumulative sources represent the combined total risk values of each individual source within the 1,000-foot evaluation zone. A lead agency should enlarge the 1,000-

foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a proposed project is beyond the recommended radius.

The recommended methodology for assessing community risks and hazards from $PM_{2.5}$ and TACs follows a phased approach. Within this approach, more advanced techniques, for both new sources and receptors, which require additional site specific information are presented for each progressive phase to assess risks and hazards. Each phase provides concentrations and risks that are directly comparable to the applicable *Thresholds of Significance*, although it is important to note that the use of more site specific modeling input data produces more accurate results. Also, progression from one phase to the next in a sequential fashion is not necessary and a refined modeling analysis can be conducted at any time.

5.1.4. Impacted Communities

In the Bay Area, there are a number of urban or industrialized communities where the exposure to TACs is relatively high in comparison to others. These same communities are often faced with other environmental and socio-economic hardships that further stress their residents and result in poor health outcomes. To address community risk from air toxics, the Air District initiated the Community Air Risk Evaluation (CARE) program in 2004 to identify locations with high levels of risk from TACs co-located with sensitive populations and use the information to help focus mitigation measures. Through the CARE program, the Air District developed an inventory of TAC emissions for 2005 and compiled demographic and heath indicator data. According to the findings of the CARE Program, diesel PM, mostly from on and off-road mobile sources, accounts for over 80 percent of the inhalation cancer risk from TACs in the Bay Area. Figure 5-1 shows the impacted communities as of November 2009, including: the urban core areas of Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose. For more information on, and possible revisions to, impacted communities, go to the CARE Program website.

In many cases, air quality conditions in impacted communities result in part from land use and transportation decisions made over many years. BAAQMD believes comprehensive, community-wide strategies will achieve the greatest reductions in emissions of and exposure to TAC and $PM_{2.5}$. BAAQMD strongly recommends that within these impacted areas local jurisdictions develop and adopt Community Risk Reduction Plans, described in Section 5.4. The goal of the Community Risk Reduction Plan is to encourage local jurisdictions to take a proactive approach to reduce the overall exposure to TAC and $PM_{2.5}$ emissions and concentrations from new and existing sources. Local plans may also be developed in other areas to address air quality impacts related to land use decisions and ensure sufficient health protection in the community.

5.2. SINGLE SOURCE IMPACTS

5.2.1. Significance Determination

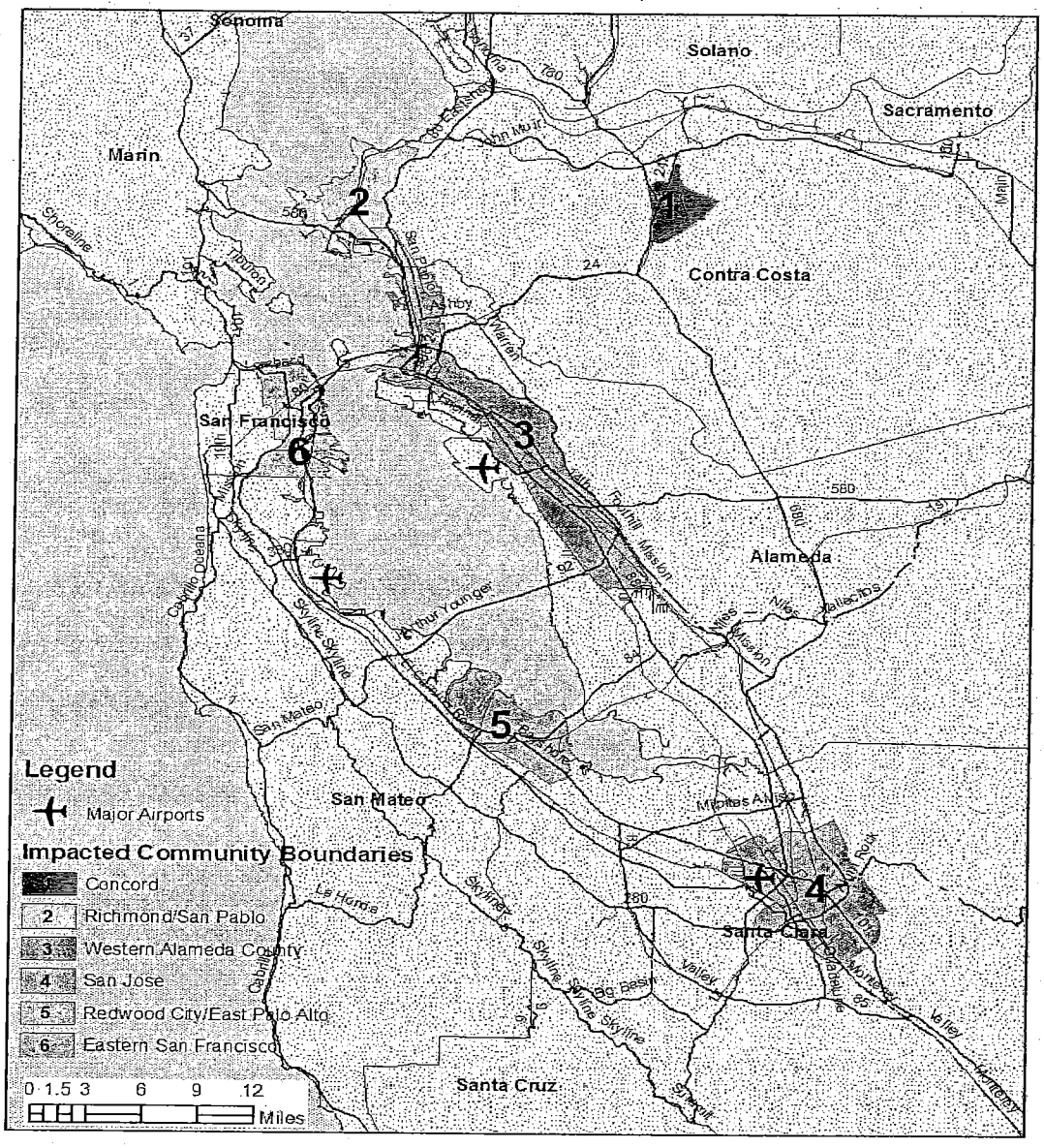
The Lead Agency shall determine whether operational-related TAC and $PM_{2.5}$ emissions generated as part of a proposed project siting a new source or receptor would expose existing or new receptors to levels that exceed BAAQMD's applicable *Thresholds of Significance* stated below:

- Compliance with a qualified Community Risk Reduction Plan;
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) risk greater than 1.0 HI from a single source would be a significant cumulatively considerable contribution;

- An incremental increase of greater than 0.3 $\mu g/m^3$ annual average $PM_{2.5}$ from a single source would be a significant cumulatively considerable contribution.

In all areas, but especially within impacted communities identified under BAAQMD's CARE program, the Lead Agency is encouraged to develop and adopt a Community Risk Reduction Plan. To determine whether an impacted community is located in a jurisdiction, the Lead Agency should refer to Figure 5-1 and the BAAQMD CARE web page at http://www.baaqmd.gov/CARE/. Please consult with BAAQMD if a more precise map is needed.

Impacted Communities **Figure 5-1**



Source: BAAQMD 2009

Exposure of receptors to substantial concentrations of TACs and $PM_{2.5}$ could occur from the following situations:

1. Siting a new TAC and/or $PM_{2.5}$ source (e.g., diesel generator, truck distribution center, freeway) near existing or planned receptors; and
2. Siting a new receptor near an existing source of TAC and/or $PM_{2.5}$ emissions.

BAAQMD recommendations for evaluating and making a significance determination for each of these situations are discussed separately below.

5.2.2. Siting a New Source

When evaluating whether a new source of TAC and/or $PM_{2.5}$ emissions would adversely affect existing or future proposed receptors, a Lead Agency shall examine:

- the extent to which the new source would increase risk levels, hazard index, and/or $PM_{2.5}$ concentrations at nearby receptors,
- whether the source would be permitted or non-permitted by the BAAQMD, and
- whether the project would implement Best Available Control Technology for Toxics (T-BACT), as determined by BAAQMD.

The incremental increase in cancer and non-cancer (chronic and acute) risk from TACs and $PM_{2.5}$ concentrations at the affected receptors shall be assessed. As described above, the recommended methodology for assessing community risks and hazards from $PM_{2.5}$ and TACs follows a phased approach, within which progressively more advanced techniques are presented for each phase (Figure 5-2). Each phase provides concentrations and risks that are directly comparable to the applicable *Thresholds of Significance*, although it is important to note that the use of more site specific modeling input data produces more accurate results. Also, progression from one phase to the next in a sequential fashion is not necessary and a refined modeling analysis can be conducted at any time.

For siting a new source, the first step is to determine the associated emission levels.

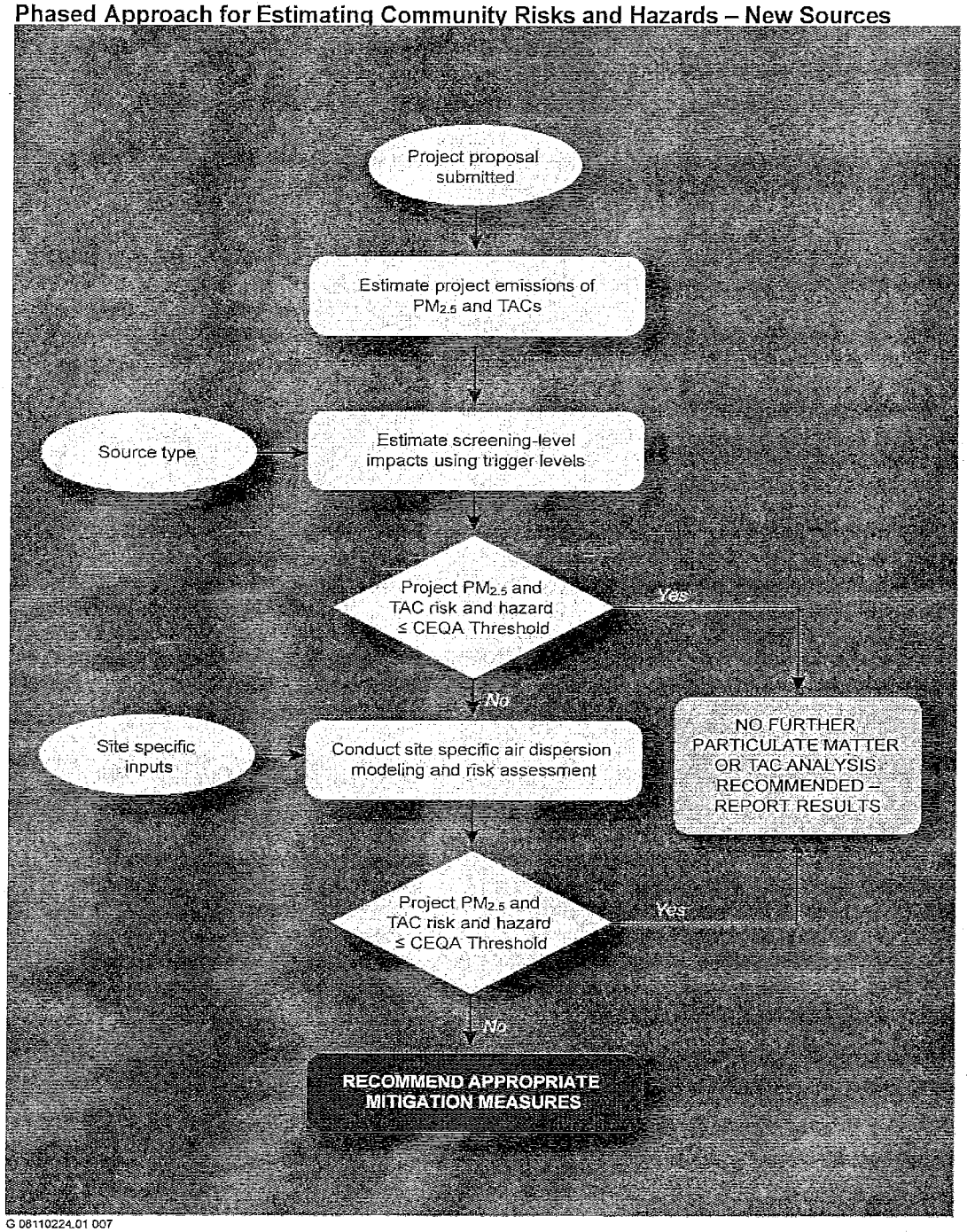
5.2.3. Sources Permitted by BAAQMD

For sources that would be permitted by BAAQMD (e.g., gas stations and back-up diesel generators) the project's type, size, or planned level of use can be used to help estimate $PM_{2.5}$ and TAC emissions. Screening or modeling conducted as part of the permit application can be used to determine cancer and non-cancer risk and $PM_{2.5}$ concentrations for comparing to the applicable *Thresholds of Significance*. BAAQMD can assist in determining the level of emissions associated with the new source. A Lead Agency should identify the maximally exposed existing or reasonably foreseeable future receptor.

Requirements of Toxics New Source Review (Regulation 2, Rule 5) will determine whether the project would implement T-BACT.

Figure 5-2

Phased Approach for Estimating Community Risks and Hazards – New Sources



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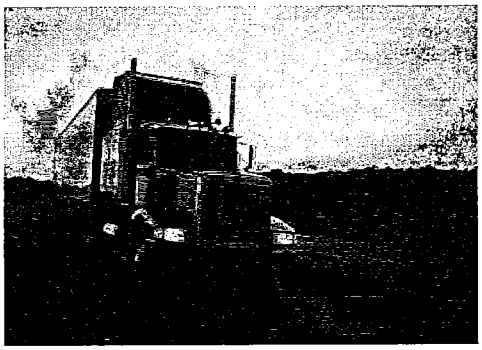
Concentration estimates of $PM_{2.5}$ from screening or modeling should be compared with the *Threshold of Significance* for $PM_{2.5}$. If screening estimates determine $PM_{2.5}$ concentrations from the project would not exceed the *Threshold of Significance*, no further analysis is recommended (See Figure 5-2). If emissions would exceed the *Threshold of Significance*, more refined modeling or mitigation measures to offset emission can be considered.

5.2.4. Sources Not Requiring a BAAQMD Permit

Some proposed projects would include the operation of non-permitted sources of TAC and/or $PM_{2.5}$ emissions. For instance, projects that would attract high numbers of diesel-powered on-road trucks or use off-road diesel equipment on site, such as a distribution center, a quarry, or a manufacturing facility, would potentially expose existing or future planned receptors to substantial risk levels and/or health hazards.

For sources that would not require permits from BAAQMD (e.g., distribution centers and large retail centers) where emissions are primarily from mobile sources—the number and activity of vehicles and fleet information would be required. The latest version of the State of California's EMFAC model is recommended for estimating emissions from on-road vehicles; the OFFROAD model is recommended for estimating emissions from off-road vehicles. For these types of new sources (not permitted by BAAQMD) screening methods are not currently available and a more refined analysis is necessary.



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If modeling estimates for community risks and hazards determine that local levels associated with the proposed project meet the applicable *Thresholds of Significance*, no further analysis is recommended. More details on project screening and recommended protocols for modeling stationary and mobile sources are presented in *Recommended Methods for Screening and Modeling Local Risks and Hazards*. This online companion document provides screening tables for emissions from on-road cars and trucks on major roadways and many existing permitted sources in the SFBAAB. It describes how to use screening tables to determine whether a site specific modeling analysis and risk assessment is required. The document also addresses sources that BAAQMD has determined to have negligible impact on health outcomes. It describes the recommended methodology for performing dispersion modeling and estimating emission factors if the project exceeds the thresholds based on the screening analysis; it describes how to calculate the potential cancer risk using age-sensitivity toxicity factors from the concentrations produced from the air modeling analysis; and it provides a sample calculation and the methodology for estimating short term, acute exposures and long term, chronic health impacts. The recommended protocols are consistent with the most current risk assessment methodology used for the BAAQMD's *New Source Review for Toxic Air Contaminants Regulation 2, Rule 5: Toxics New Source Review* and, with few exceptions, follows the California Air Pollution Control Officers Association's (CAPCOA) *Health Risk Assessments for Proposed Land Use Projects* (July 2009).

BAAQMD recommends that all receptors located within a 1,000 foot radius of the project's fence line be assessed for potentially significant impacts from the incremental increase in risks or hazards from the proposed new source. A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a proposed project is beyond the recommended radius.

For new land uses that would host a high number of non-permitted TAC sources, such as a distribution center, the incremental increase in cancer risk shall be determined by an HRA using an acceptable air dispersion model in accordance with BAAQMD's *Recommended Methods for Screening and Modeling Local Risks and Hazards* and/or. A Lead Agency may consult HRAs that have previously been conducted for similar land uses to determine whether it assesses the incremental increase in cancer risk qualitatively or by performing an HRA. This analysis shall account for all TAC and PM emissions generated on the project site, as well as any TAC emissions that would occur near the site as a result of the implementation of the project (e.g., diesel trucks queuing outside an entrance, a high volume of trucks using a road to access a quarry or landfill).

Some proposed projects would include both permitted and non-permitted TAC sources. For instance, a manufacturing facility may include some permitted stationary sources and also attract a high volume of diesel trucks and/or include a rail yard. All sources should be accounted for in the analysis.

5.2.5. Siting a New Receptor

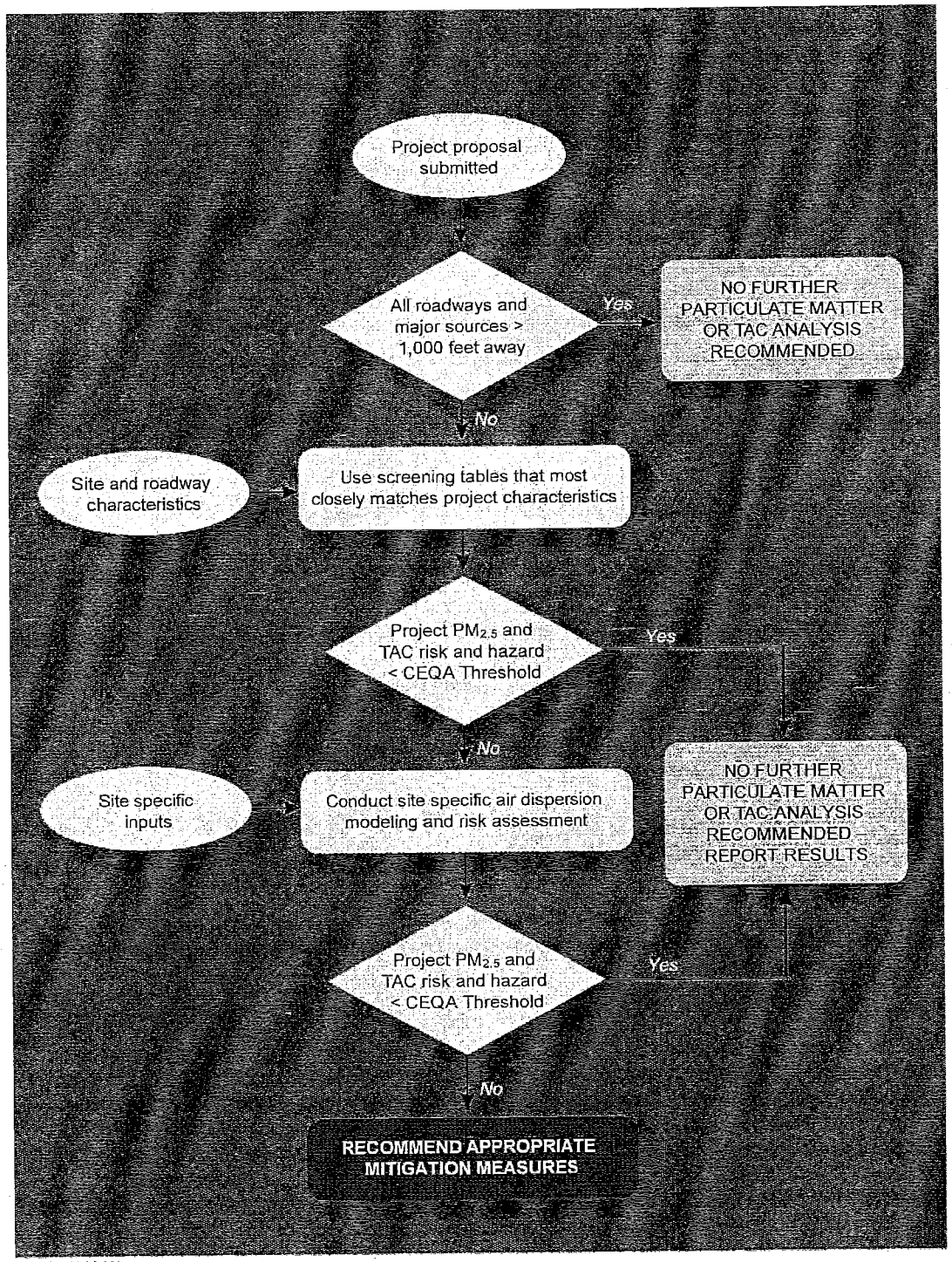
If a project is likely to be a place where people live, play, or convalesce, it should be considered a receptor. It should also be considered a receptor if sensitive individuals are likely to spend a significant amount of time there. Sensitive individuals refer to those segments of the population most susceptible to poor air quality: children, the elderly, and those with pre-existing serious health problems affected by air quality (ARB 2005). Examples of receptors include residences, schools and school yards, parks and play grounds, daycare centers, nursing homes, and medical facilities. Residences can include houses, apartments, and senior living complexes. Medical facilities can include hospitals, convalescent homes, and health clinics. Playgrounds could be play areas associated with parks or community centers.

When siting a new receptor, a Lead Agency shall examine existing or future proposed sources of TAC and/or $PM_{2.5}$ emissions that would adversely affect individuals within the planned project. A Lead Agency shall examine:

- the extent to which existing sources would increase risk levels, hazard index, and/or $PM_{2.5}$ concentrations near the planned receptor,
- whether the existing sources are permitted or non-permitted by the BAAQMD, and
- whether there are freeways or major roadways near the planned receptor.

BAAQMD recommends that a Lead Agency identify all TAC and $PM_{2.5}$ sources located within a 1,000 foot radius of the proposed project site. A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a proposed project is beyond the recommended radius. Permitted sources of TAC and $PM_{2.5}$ should be identified and located as should freeways and major roadways, and other potential sources. To conduct a thorough search, a Lead Agency shall gather all facility data within 1,000 feet of the project site (and beyond where appropriate).

The phased approach for evaluating impacts to new receptors is shown in Figure 5-3.



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Phased Approach for Estimating Community Risks and Hazards – Receptors
Figure 5-3

5.2.6. Screening Table for Stationary Sources

BAAQMD will make available data for certain existing permitted, stationary sources of TAC and $PM_{2.5}$ with site locations, coordinates, source type, and screening-level estimates of excess cancer risk, chronic, and acute HI, and $PM_{2.5}$ concentrations. An example of the entries to be provided in this table is shown in Table 5-1.

Table 5-1
Screening Table for Existing Permitted Stationary Sources*
(within 1,000 feet of the Proposed Project)

EXAMPLE
Proposed Project Location Details:
Address-19th Avenue and Judah Street, San Francisco, CA
Centroid UTMs-E 546090, N 4179460

Site #	Facility Name	Street Address	City	UTM E	UTM N	Cancer Risk in a million	Chronic Hazard Index	Acute Hazard Index	$PM_{2.5}$ ug/m^3
462	20th Avenue Cleaner	1845 Irving Street	San Francisco	546113	4179490	7.5	0.02	0.00	
4672	Sundown Cleaners	1952 Irving Street	San Francisco	546016	4179510	7.5	0.02	0.00	
13519	Pacific Bell	1515 19th Avenue	San Francisco	546086	4179240	58.4	0.10	0.04	0.10
2155	Chevron Station #91000	1288 19th Avenue	San Francisco	546052	4179720	5.8	0.03	0.00	
8756	ConocoPhillips #251075	1400 19th Avenue	San Francisco	546064	4179490	2.7	0.01	0.00	
9266	ConocoPhillips #2611185	1401 19th Avenue	San Francisco	546058	4179500	2.2	0.01	0.00	
					Cumulative:	84	0.19	0.04	0.10

Source: BAAQMD 2009

*This example provides conservative screening level estimates and does not represent actual risk levels, HI or PM concentrations for the facilities listed.

Table 5-1 selects a hypothetical location at 19th Avenue and Judah Street in San Francisco, as shown at the top of the table along with the Universal Transverse Mercator (UTM) coordinates of the location. Below this location are listed permitted facilities within 1,000 feet of the example location. Each row contains entries for a specific existing permitted source and conservative estimates of maximum risk, hazard index, and $PM_{2.5}$ concentration within the 1,000 foot radius. Within a row, each risk, HI, or $PM_{2.5}$ concentration for a source can be compared to the significance threshold: cancer risk is compared to 10 in a million; chronic and acute hazard index are compared to 1.0; and $PM_{2.5}$ concentration is compared to 0.3 $\mu g/m^3$. In Table 5-1 all entries are below the target threshold except for the source at 1515 19th Avenue, which has a cancer risk, conservatively estimated at about 58 in a million.

It is important to note that the listing of existing sources provided by the BAAQMD provides conservative screening-level estimates and does not represent the actual risk levels, HI, or PM concentrations for that facility. These estimates are assumed to be uniform within the 1,000 foot radius and independent of the distance between source and receptor.

To use the screening tables, a Lead Agency would identify sources in the tables within 1,000 feet (or beyond where appropriate) of the project site. Risks, hazards, and $PM_{2.5}$ concentrations for individual sources correspond to the table entries. These values are assumed to remain constant for all locations within the 1,000 foot radius. Table entries within a column can be summed to estimate the cumulative risks from all sources. The screening table for Air District permitted sources is also available as a compressed keyhole language (kmz) file for each of the nine Bay Area counties. The kmz file can be plotted using the Google Earth™ mapping tool, which is freely available as described in *Recommended Methodology for Screening and Modeling Local Risks and Hazards*.

5.2.7. Screening Tables for On-road Mobile Sources

For all State highways within the SFBAAB, BAAQMD will make available a set of maps and tables that provide screening-level risks and $PM_{2.5}$ concentrations. Screening tables are provided for each of the nine counties within BAAQMD's jurisdiction. To develop these tables, BAAQMD selected conservative assumptions and inputs following this general methodology:

- Hourly vehicle miles traveled (VMT) and emissions for 2012 were developed for each county using EMFAC based on default vehicle mix and full range of vehicle speeds.
- Highest vehicle traffic volumes for each roadway based on Caltrans's *2007 Traffic Volumes on California State Highways* were scaled based on VMT to develop hourly vehicle volumes.
- Hourly vehicle volume and emissions were input into a roadway model, CAL3QHCR, to estimate annual average concentrations using the most conservative meteorological data collected from monitoring locations within each county.

For the $PM_{2.5}$ screening tables, the peak one hour of traffic was used to develop hourly vehicle volumes that totaled to the annual average daily traffic while risk and hazard tables are based on annual average daily vehicle volumes.

The purpose of the screening tables is to provide an easy-to-use initial analysis to determine if nearby roadway impacts to a new receptor are below the thresholds of significance. The outcome of the screening may be used to make a determination of no further action or it may indicate that a more refined analysis is warranted. The recommended project screening approach is as follows:

1. Determine if the new receptor is at least 1,000 feet from the nearest significant traffic volume roadway defined as a freeway or arterial roadway with greater than 10,000 vehicles per day. For new residential developments, the receptor should be placed at the edge of the property boundary. If the receptor does not have any significant roadway sources within 1,000 foot radius, then the proposed project meets the distance requirements and no further single-source roadway-related air quality evaluation is recommended.
2. If the receptor is within the 1,000 feet radius of a nearby roadway that has greater than 20,000 vehicles per day, then use the county- and road-specific screening tables to determine the $PM_{2.5}$ concentrations, cancer risks, and hazards for the project. For non-California highways, default local roadway screening tables are provided in the online report *Recommended Methodology for Screening and Modeling Local Risks and*

Hazards. If any of the thresholds for $PM_{2.5}$ concentration, risks, and hazards are exceeded based on the comparisons, then more refined modeling analysis is recommended or the project sponsor may choose to implement mitigation measures.

3. For developments that exceed the screening analysis, site specific modeling analysis is recommended following BAAQMD's *Recommended Methodology for Screening and Modeling Local Risks and Hazards*.

For completion of Step 2 as described above, the methodology requires the use of appropriate screening tables to determine if the distance from the development to the nearby significant roadway will expose new receptors to concentrations exceeding the thresholds. The first step is to ensure that the latest screening tables have been downloaded from BAAQMD's website. An example (Table 5-2) is included in this section for San Francisco County for demonstration purposes only and should not be relied upon for use in a CEQA analysis. The Lead Agency or project sponsor must first gather project information including the county for which the development is proposed and the distance of the project to the nearest state highway or local roadway to determine which screening tables are appropriate. For each county, two tables are provided for $PM_{2.5}$ concentrations, cancer risks, chronic non-cancer hazards, and acute non-cancer hazards based on whether the project is located north or south of the roadway or east or west of the roadway. The direction tables correspond to whether the projects are located generally upwind or downwind of the roadway with respect to the prevailing wind direction. Appropriate values are then posted in each table based on the project being located 100 feet, 200 feet, 500 feet, 700 feet, and 1,000 feet from the edge of the nearest travel lane to the project.

For proposed projects, the appropriate cell should be determined by referencing the corresponding county, roadway, and project distance in the tables that most closely matches the project conditions. If the project is predominantly north or south of the roadway, choose the north or south tables. Likewise, if the project is predominantly east or west, choose the east or west tables. If the project is evenly located for example, northeast or southwest of the roadway, select the higher value between either screening tables based on the project distance to the roadway. For distances not listed in the tables, BAAQMD recommends that the values between the two closest distances be linearly interpolated to estimate the value that best reflects the actual project distance.

The results of the screening analysis indicate whether new receptors will be exposed to roadway TAC emissions at concentrations exceeding the threshold of significance and therefore, a more refined modeling analysis and quantitative HRA may be required. If the concentration is less than the thresholds, then no further analysis is required for the single source comparison for roadways. The results of the analysis should be reported in the environmental documentation or staff report that includes a reference to the screening tables used. If the concentrations exceed the thresholds, then the project sponsor has the option to conduct a more refined modeling analysis or implement appropriate mitigation measures.

An example of how to use the screening tables is provided as follows. A new residential development is hypothetically proposed at the intersection of 23rd Street and Minnesota Street in San Francisco. It is located approximately 440 feet to the east of midpoint of northbound Highway 280. Based on Table 5-2, the $PM_{2.5}$ concentrations from Highway 280 is 0.60 $\mu g/m^3$ at 200 feet away and 0.28 $\mu g/m^3$ 500 feet away from the project.

Table 5-2 East or West of San Francisco County Highway					
Highway	Distance East or West of Freeway – $PM_{2.5}$ Concentrations (ug/m^3)				
	100 Feet	200 Feet	500 Feet	700 Feet	1,000 Feet
1	0.50	0.28	0.12	0.096	0.060
35	0.14	0.11	0.032	0.020	0.016
80	1.0	0.64	0.30	0.20	0.15
101	1.1	0.72	0.34	0.26	0.17
280	0.80	**0.60**	**0.28**	0.19	0.13
Source: BAAQMD 2009; table above for demonstration purposes and should not be used in CEQA analysis.					

To linearly interpolate the $PM_{2.5}$ concentration for the project distance of 440 feet, the following equation was used:

(200 ft – 500 ft) x (0.60 ug/m^3 – $PM_{2.5\ 440\ feet}$) = (200 ft – 440 ft) x (0.6 ug/m^3 – 0.28 ug/m^3)

Solving for $PM_{2.5}$ at 440 feet, the $PM_{2.5}$ concentration is estimated as 0.34 ug/m^3.

A similar example methodology was applied to the cancer risk, chronic non-cancer hazard and acute hazard. The resulting values based on a distance of 440 feet are shown in Table 5-3.

Table 5-3 Cancer and Non-Cancer (Chronic and Acute) Hazard Indices at 440 feet			
Description	Screening Value	Thresholds	Exceeds Threshold?
$PM_{2.5}$ Concentration	0.34 ug/m^3	0.3 ug/m^3	Yes
Cancer Risk	1.1 in a million	10 in a million	No
Chronic Non-cancer Hazard Index	0.028	1	No
Acute Non-cancer Hazard Index	0.028	1	No
Source: BAAQMD 2009; table above for demonstration purposes and should not be used in CEQA analysis.			

In this example, the proposed project would exceed the $PM_{2.5}$ threshold, but not the risk or hazard-based thresholds. At this point, the project sponsor can ratio the PM concentration further based on the actual AADT at the closest milepost to the project. If the concentrations continue to be exceed the threshold, the project sponsor can determine whether additional modeling is warranted or implementation of mitigation measures is appropriate. Possible options include moving the residential portion of the development to a distance at which the roadway impacts would be negligible or installing high efficiency filtration in the development.

If the project sponsors choose to conduct a more refined modeling analysis, BAAQMD recommends the following general procedures. More detailed methodology is provided on the online resources located at BAAQMD's CEQA webpage. To evaluate $PM_{2.5}$ concentrations, BAAQMD recommends using CAL3QHC, which was designed to model roadside CO and PM concentrations. The CAL3QHCR model can estimate $PM_{2.5}$ concentrations at defined receptor locations by processing hourly meteorological data over a year, hourly emissions, and traffic volume. The latest version of the model is available at: http://www.epa.gov/scram001/dispersion_prefrec.htm.

To run CAL3QHCR, meteorological, traffic, and vehicle emissions data at specified intervals over time are required. BAAQMD recommends the use of the meteorological data that most closely representatives conditions at the site. BAAQMD offers readily compatible meteorological data for each county within the SFBAAB that can be run by CAL3QHCR at http://hank.baaqmd.gov/tec/data/. For the screening analysis, BAAQMD relied on the most conservative meteorological data collected from any stations within the county; however, in this site-specific analysis, the user should select the data that is nearest the project and reflects actual meteorological conditions.

Emissions data must also be input into the CAL3QHCR model. Year 2012 average hourly emissions (e.g., grams/vehicle mile) were used in developing the screening tables. The emissions data can be produced using the EMFAC2007 model, but should be reflective of the base year in which residents will be residing in the new development. The model should also be run assuming the full range of vehicle fleet and if available, the average vehicle speeds along the specific stretch of road. However, if average speeds are not available, the user should select the full range of variable speeds to ensure that the analysis is health protective.

Table 5-4
San Francisco County State Highway Traffic Volumes

Highway Number	Average Daily 2-way Traffic Volumes (Vehicles/day)	Start Location	End Location
1	122,000	Alemany Boulevard	Presidio, South Highway 2, onto Golden Gate Bridge
35	31,000	John Muir Drive	Highway 1, Sloat Boulevard at 19th Avenue
80	254,000	Highway 101 at Division Street	Bay Bridge at Treasure Island, Yerba Buena Island
101	245,000	Third Street	Van Ness Avenue to Highway 1 at Golden Gate Bridge
280	195,000	Alemany Boulevard, San Jose Avenue	Mariposa Street to 4th Street and Brannan Street

Source: BAAQMD 2009

How to use the screening tables:

- Distance is from the center of the highway to the facility or development
- When two or more highways are within the influence area, sum the contribution from each freeway

The CAL3QHCR model also relies on hourly traffic volumes (e.g., vehicles per hour) as determined by the relative VMT. BAAQMD recommends developing a weighed VMT by using the ratio of VMT per hour to the peak VMT over the 24 hour day (as produced by the EMFAC model). This weighed VMT represents the percentage of traffic volume on an hourly basis over a 24 hour period. The hourly traffic volumes for the CAL3QHCR model are then the product of the weighed VMT by the peak traffic volumes for that roadway. The peak one-hour vehicle traffic for the applicable milepost of any California highway can be determined through the Caltrans web site at http://traffic-counts.dot.ca.gov/. Develop hourly emissions rates for input into the air model. The model provides annual average $PM_{2.5}$ concentrations that can be compared directly against the thresholds.

A more detailed analysis is required for estimating the risk and hazard evaluation. TAC emissions were evaluated for only those toxic compounds found in diesel or gasoline fuel including diesel PM, benzene, ethylbenzene, acrolein, etc. The District recommends using the CAL3QHCR model. The model must be run separately to estimate emissions from diesel PM and emission of other TAC. In each analysis, the District recommends developing diesel specific emission factors from EMFAC. Because risk and hazard are expressed as lifetime exposure, the emissions were averaged from 2012 to 2040 that accounts for more efficient vehicle emissions and increased VMT. Beyond 2040, the EMFAC model does not have emissions and consequently, the 2040 emissions were applied from 2040 to 2082, to complete a 70-year lifetime exposure.

Annual average traffic volumes were used in the model. As specified in Regulation 2, Rule 5, BAAQMD recommends that age sensitivity factors be applied to the emissions per year to account for early life-stage exposures. The cancer risk and hazard levels are calculated using the predicted annual average concentrations multiplied by the cancer slope factor for cancer risk or divided by the relative exposure levels for hazard.

The risk and hazard levels are then compared against the applicable thresholds. Further assessment may be warranted if the thresholds are exceeded, but the project sponsor may consider design changes and other mitigation measures as a means of reducing potential risks (see Section 5.4). For detailed discussion on this methodology, the project sponsor should download the online report *Recommended Methodology for Screening and Modeling Local Risks and Hazards*.

5.3. CUMULATIVE IMPACTS

5.3.1. Significance Determination

A Lead Agency shall examine TAC and/or $PM_{2.5}$ sources that are located within 1,000 feet of a proposed project site. Sources of TACs include, but are not limited to, land uses such as freeways and high volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. Land uses that contain permitted sources, such as a landfill or manufacturing plant, may also contain non-permitted TAC and/or $PM_{2.5}$ sources, particularly if they host a high volume of diesel truck activity. A Lead Agency should determine what the combined risk levels are from all nearby TAC sources in the vicinity of sensitive receptors. Lead agencies should use their judgment to decide if there are significant sources outside 1,000 feet that should be included.

A Lead Agency's analysis shall determine whether TAC and/or $PM_{2.5}$ emissions generated as part of a proposed project would expose off-site receptors to risk levels that exceed BAAQMD's applicable *Thresholds of Significance* for determining cumulative impacts.

A project would have a cumulative significant impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000 foot radius (or beyond where appropriate) from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds the following:

- An excess cancer risk levels of more than 100 in one million or a chronic hazard index greater than 10 for TACs; or
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.

Within impacted communities identified under BAAQMD's CARE program, the Lead Agency is encouraged to develop and adopt a Community Risk Reduction Plan. To determine whether a new source is located in an impacted community, the Lead Agency should refer to Figure 5-1 and the CARE webpage. Please consult with BAAQMD if a more precise map is needed.

BAAQMD recommends that cumulative impacts of new sources and new receptors be evaluated as described in Section 5.2, and include the impacts of all individual sources (stationary and roadways) within the 1,000 foot radius.

Community risk and hazards analyses should follow guidance developed by BAAQMD for risk screening described in *Recommended Methodology for Screening and Modeling Local Risks and Hazards*, which generally follows CAPCOA's guidance document titled *Health Risk Assessments for Proposed Land Use Projects*. $PM_{2.5}$ concentrations and risk levels estimated for the locations where receptors may be located should be compared to BAAQMD's applicable *Threshold of Significance* for siting a new receptor near existing sources of TAC emissions.

A Lead Agency shall compare the analysis results from TAC and $PM_{2.5}$ emissions with the applicable *Threshold of Significance*. *Thresholds of Significance* apply for projects that would site new permitted or non-permitted sources in close proximity to receptors and for projects that would site new sensitive receptors in close proximity to permitted or non-permitted sources of TAC emissions. If a proposed project would not exceed BAAQMD's applicable *Threshold of Significance* for TACs or $PM_{2.5}$, then the project would result in a less-than-significant air quality impact. If a project would exceed the applicable *Threshold of Significance,* the proposed project would result in a significant air quality impact and the Lead Agency should implement all feasible mitigation to reduce the impact (Refer to Section 5.4).

If implementation of BAAQMD-recommended mitigation measures for reducing TAC and $PM_{2.5}$ emissions and resultant exposure to health risks would reduce all TAC impacts to levels below the applicable *Threshold of Significance*, TAC impacts would be reduced to a less-than-significant level. If resultant health risk exposure would still exceed the applicable *Threshold of Significance*, the impacts would remain significant and unavoidable.

5.4. COMMUNITY RISK REDUCTION PLANS

The goal of a Community Risk Reduction Plan would be to bring TAC and $PM_{2.5}$ concentrations for the entire community covered by the Plan down to acceptable levels as identified by the local jurisdiction and approved by the Air District. This approach provides local agencies a proactive alternative to addressing communities with high levels of risk on a project-by-project approach. The Air District has developed detailed guidelines for preparing Community Risk Reduction Plans which can be found on the Air District web site at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx.

Qualified Community Risk Reduction Plans

A qualified Community Risk Reduction Plan adopted by a local jurisdiction should include, at a minimum, the following elements:(A) Define a planning area;

(B) Include base year and future year emissions inventories of TACs and PM2.5;

(C) Include Air District–approved risk modeling of current and future risks;

(D) Establish risk and exposure reduction goals and targets for the community in consultation with Air District staff;

(E) Identify feasible, quantifiable, and verifiable measures to reduce emissions and exposures;

(F) Include procedures for monitoring and updating the inventory, modeling and reduction measures in coordination with Air District staff;

(G) Be adopted in a public process following environmental review.

5.5. MITIGATING LOCAL COMMUNITY RISK AND HAZARD IMPACTS

- For stationary sources, please refer to BAAQMD's permit handbook and BACT/T-BACT workbook. BAAQMD-recommended mitigation measures for reducing the exposure of sensitive receptors to TACs and hazards include the following:

1. Increase project distance from freeways and/or major roadways.
2. Redesign the site layout to locate sensitive receptors as far as possible from any freeways, major roadways, or other non-permitted TAC sources (e.g., loading docks, parking lots).
3. In some cases, BAAQMD may recommend site redesign. BAAQMD will work closely with the local jurisdiction and project consultant in developing a design that is more appropriate for the site.
4. Large projects may consider phased development where commercial/retail portions of the project are developed first. This would allow time for CARB's diesel regulations to effectively reduce diesel emissions along major highways and arterial roadways. Ultimately lower concentrations would be predicted along the roads in the near future such that residential development would be impacted by less risk in later phases of development.
5. Projects that propose sensitive receptors adjacent to sources of diesel PM (e.g., freeways, major roadways, rail lines, and rail yards) shall consider tiered plantings of trees such as redwood, deodar cedar, live oak and oleander to reduce TAC and PM exposure. This recommendation is based on a laboratory study that measured the removal rates of PM passing through leaves and needles of vegetation. Particles were generated in a wind tunnel and a static chamber and passed through vegetative layers at low wind velocities. Redwood, deodar cedar, live oak, and oleander were tested. The results indicate that all forms of vegetation were able to remove 65–85 percent of very fine particles at wind velocities below 1.5 meters per second (approximately 3 miles per hour [mph]) with redwood and deodar cedar being the most effective. Even greater

removal rates were predicted for ultra-fine PM (i.e., aerodynamic resistance diameter of 0.1 micrometer or less).

6. Install and maintain air filtration systems of fresh air supply either on an individual unit-by-unit basis, with individual air intake and exhaust ducts ventilating each unit separately, or through a centralized building ventilation system. The ventilation system should be certified to achieve a certain effectiveness, for example, to remove at least 80% of ambient $PM_{2.5}$ concentrations from indoor areas. The air intake for these units should be located away from areas producing the air pollution (i.e., away from major roadways and highways).

7. Where appropriate, install passive (drop-in) electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph).

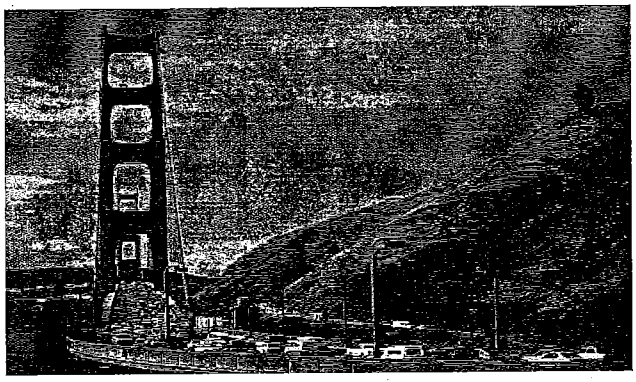
8. Locate air intakes and design windows to reduce PM exposure (e.g., windows nearest to the freeway do not open).

9. Install indoor air quality monitoring units in buildings.

10. Require rerouting of nearby heavy-duty truck routes.

11. Enforce illegal parking and/or idling of heavy-duty trucks in vicinity

6. LOCAL CARBON MONOXIDE IMPACTS



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Emissions and ambient concentrations of CO have decreased dramatically in the SFBAAB with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991. SFBAAB is currently designated as an attainment area for the CAAQS and NAAQS for CO; however, elevated localized concentrations of CO still warrant consideration in the environmental review process. Occurrences of localized CO concentrations, known as hotspots, are often associated with heavy traffic congestion, which most frequently occur at signalized intersections of high-volume roadways.

6.1. SIGNIFICANCE DETERMINATION

Step 1: Comparison of Project Attributes with Screening Criteria

The first step in determining the significance of CO emissions is to compare the attributes of the proposed project to the applicable *Screening Criteria* (refer to Chapter 3).

This preliminary screening procedure provides a conservative indication of whether the proposed project would result in the generation of CO concentrations that would substantially contribute to an exceedance of the *Thresholds of Significance*. If all of the *Screening Criteria* are met, the proposed project would result in a less-than-significant impact to air quality with respect to concentrations of local CO. If the proposed project does not meet all the screening criteria, then CO emissions should be quantified.

Step 2: Emissions Quantification

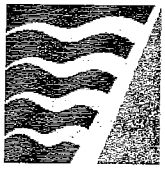
This section describes recommended methodologies for quantifying concentrations of local CO for proposed projects that do not meet all of the *Screening Criteria*. The recommended methodology is to use both the On-Road Mobile-Source Emission Factors (EMFAC) and the California Line Source Dispersion Model (CALINE4) models in accordance with recommendations in the University of California, Davis, Transportation Project-Level Carbon Monoxide Protocol (*CO Protocol*) (Garza, et al. 1997).

Air Quality Models

BAAQMD recommends using the most current version of the EMFAC model to obtain mobile-source emission factors for CO associated with operating conditions that would be representative of the roadway or facility subject to analysis.

Users should input the emission factors and other input parameters into the CALINE4 model to quantify CO concentrations near roadways or facilities.

The *CO Protocol* contains detailed methodology for modeling CO impacts.



Input Parameters

The CALINE4 model contains five screens for input data. CALINE4 input parameters are summarized below. For more detailed descriptions see the CALINE4 Users Guide.

Job Parameters

File Name – Name the file (e.g., data file extension) to create the CALINE4 Input file.

Job Title – Provide a name for the modeling scenario (e.g., existing no project, existing plus project).

Run Type – Select the worst-case wind angle.

Aerodynamic Roughness Coefficient – Choose the characteristic (i.e., rural, suburban, central business district, other) that is most representative of the project site.

Model Information – Indicate the unit of measurement (i.e., meters or feet) and inputs the vertical dimension of the project (i.e., altitude above sea level).

Run – Once data input is completed, return to this screen to run the model. Upon running the model, the output will appear as a text file called C4$.out. Save the output file under an appropriate filename for future reference.

Link Geometry

On this screen, input the dimensions (i.e., coordinates) for the roadway intersection that is the subject of the analysis.

Link Name – Input names for each roadway segment

Link Type – Indicate the character of the roadway segment (i.e., at-grade, depressed, fill, bridge, parking lot).

Endpoint Coordinates (X_1, X_2, Y_1, Y_2) – Input the dimensions (i.e., coordinates) of the roadway segments as though the intersection were oriented at point of origin X = 0, Y = 0 on a Cartesian coordinate system. Roadway segments approaching the intersection from the west side of the screen (if north is treated as "up", or the top of the screen) would have negative X coordinate endpoints. Similarly, roadway segments approaching the intersection from the south would have negative Y coordinate endpoints.

Link Height – Indicate the vertical dimension of the roadway segment. If the roadway segment is at-grade, should set this parameter to zero. If the roadway segment is depressed, enter a negative value for this parameter.

Mixing Zone Width – The Mixing Zone is defined as the width of the roadway, plus three meters on either side. The minimum allowable value is 10 meters, or 32.81 feet.

Canyon/Bluff (Mix Left/Right) – Set these features to zero.

Link Activity

Traffic Volume – Input hourly traffic volumes applicable to each roadway segment.

Emission Factor – Input the CO emission factor (in units of grams/mile) obtained from EMFAC for the applicable vehicle speed class reflecting operating conditions for the affected intersection.

Run Conditions

Wind Speed – Input 0.5 meters per second to represent worst-case conditions.

Wind Direction – Set parameter to zero. Select "Worst-Case Wind Angle" as the "Run Type" on the "Job Parameters" screen, so this field will be overridden by the model.

Wind Direction Standard Deviation – Use a wind direction standard deviation of 5 degrees to represent worst-case conditions.

Atmospheric Stability Class – Use Stability Class 4 (i.e., class D) to represent average conditions in the SFBAAB.

Mixing Height – Indicate the vertical dimension over which vertical mixing may occur. In most situations, input 300 meters, approximately the height of the atmospheric boundary layer. If the roadway subject to analysis is a bridge underpass, tunnel, or other situation where vertical mixing would be limited, indicates the height of the structure that would hamper vertical mixing (in units of meters).

Ambient Temperature – Indicate the average temperature of the project site during the time of day at which maximum daily traffic volume would occur (in degrees Celsius). A temperature of 7.2 degrees Celsius is recommended.

Ambient Pollutant Concentration – Enter 0 in this field to determine the contribution of CO from the roadway subject to analysis. Add the roadway-related CO concentration to ambient CO levels outside of the CALINE4 model, as discussed later in this section.

Receptor Positions
Receptor Name – Input names for each receptor.

Receptor Coordinates (X, Y, Z) – Input receptor coordinates in a manner similar to the "Link Coordinates" on the "Link Geometry" screen. Locate receptors at three and seven meters from the intersection in all directions from the intersection, in accordance with the recommendations of the *CO Protocol*. The Receptor Coordinates are oriented in the same Cartesian coordinate system as the roadway segment "Link Coordinates". Receptors located to the southwest of the intersection would have negative X and Y coordinates. The Z dimension should be assigned the coordinate of 1.8 meters (5.9 feet); the approximate breathing height of a receptor located adjacent to the roadway.

This screen also contains a window that shows a map of the link and receptor coordinates in the X, Y plane.

Model Output
CALINE4 output includes estimated 1-hour CO concentrations in units of ppm at the receptor locations input into the model. Note the highest concentrations at each of the three meter and seven meter receptor distances from the roadway.

Background Concentrations
Ambient 1-hour CO concentrations can be obtained from ARB air quality monitoring station data and 8-hour concentrations from EPA. Users should obtain the CO monitoring data recorded at the monitoring station nearest the project site. According to the *CO Protocol*, select the second highest concentration recorded during the last two years to represent the ambient CO concentration in the project area.

Estimated Localized CO Concentrations
Users should sum the highest modeled 1-hour CO concentration in units of ppm obtained from CALINE4 to ambient (background) 1-hour CO concentrations in ppm obtained from ARB. This represents the modeled worst-case 1-hour CO concentration near the affected roadway.

Persistence Factor – multiply the highest 1-hour CO concentration estimated by CALINE4 by a persistence factor of 0.7, as recommended in the CO Protocol, to obtain the estimated 8-hour CO concentration.

Add the estimated 8-hour CO concentration (ppm) obtained in the previous step to the ambient 8-hour CO concentration obtained from EPA (ppm). This represents the modeled worst-case 8-hour CO concentration near the affected roadway.

Step 3: Comparison of Unmitigated Emissions with Thresholds of Significance
Following quantification of local CO emissions in accordance with the recommended methods, compare the total modeled worst-case 1-hour and 8-hour CO concentrations with the applicable *Threshold of Significance*. If the modeled concentrations do not exceed any of the *Thresholds of Significance*, the project would result in a less-than-significant impact to air quality. If modeled concentrations do exceed any applicable *Threshold of Significance,* the proposed project would result in a significant impact to air quality with respect to local CO impacts.

Step 4: Mitigation Measures and Emission Reductions
Where local CO emissions exceed applicable *Thresholds of Significance*, refer to Section 6.2 for recommended mitigation measures and associated emission reductions. Only reduction measures included in the proposed project or recommended as mitigation in a CEQA-compliant document can be included when quantifying mitigated emission levels.

Step 5: Comparison of Mitigated Emissions with Thresholds of Significance
Following quantification of local CO emissions in accordance with the recommended methods, compare the total modeled worst-case 1-hour and 8-hour CO concentrations with the applicable *Thresholds of Significance*. If the implementation of recommended mitigation measures reduces all local CO emissions to levels below the applicable *Thresholds of Significance*, the impact to air quality would be reduced to a less-than-significant level. If mitigated levels of local CO emissions still exceed the applicable *Threshold of Significance*, the impact to air quality would remain significant and unavoidable.

6.2. MITIGATING LOCAL CARBON MONOXIDE IMPACTS

The following section describes recommended mitigation measures for reducing local CO impacts to air quality. Consider implementation of the following measures, as feasible, for reducing project-generated traffic volumes and associated CO emissions at affected intersections. Actual emission reductions should be quantified through project-specific transportation modeling.

1. Synchronize traffic signals to improve traffic flow and minimize traffic congestion.
2. Consider additional traffic signals, such as light metering, to relocate congested areas further away from receptors.
3. Improve public transit service to reduce vehicle traffic and increase public transit mode share during peak traffic congestion periods.
4. Improve bicycle and pedestrian infrastructure to reduce vehicle traffic and increase bicycle and pedestrian mode share during peak traffic congestion periods. Improvements may include installing class I or II bike lanes, sidewalks, and traffic calming features.
5. Adjust pedestrian crosswalk signal timing to minimize waiting time for vehicles turning right or otherwise sharing green time with pedestrians. Give pedestrians a head start before traffic signal changes to green.

6. Where pedestrian traffic is high, implement pedestrian crosswalks with multi-directional crossings allowing pedestrians to cross intersections diagonally.
7. Limit heavy-duty truck traffic during peak hours. Designate truck routes that divert truck traffic away from congested intersections.
8. Limit left turns or other maneuvers during peak hours that add to congestion.
9. Limit on-street parking during peak hours to allow for added vehicle capacity.
10. Implement traffic congestion-alleviating mitigation measures as identified by a traffic engineer.



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7. ODOR IMPACTS

Odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source. Examples of land uses that have the potential to generate considerable odors include, but are not limited to:

1. Wastewater treatment plants;
2. Landfills;
3. Confined animal facilities;
4. Composting stations;
5. Food manufacturing plants;
6. Refineries; and
7. Chemical plants.

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the concentration in the air. When an odor sample is progressively diluted, the odor concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odor reaches a level that is no longer detectable.

The presence of an odor impact is dependent on a number of variables including:

1. Nature of the odor source (e.g., wastewater treatment plant, food processing plant);
2. Frequency of odor generation (e.g., daily, seasonal, activity-specific);
3. Intensity of odor (e.g., concentration);
4. Distance of odor source to sensitive receptors (e.g., miles);
5. Wind direction (e.g., upwind or downwind); and
6. Sensitivity of the receptor.

The recommendations provided in this chapter only apply to assessing and mitigating odor impacts for individual projects. Please refer to Chapter 9 for recommendations for assessing and mitigating odor impacts at the plan-level.

7.1. SIGNIFICANCE DETERMINATION

Odor impacts could occur from two different situations:

1. Siting a new odor source (e.g., the project includes a proposed odor source near existing sensitive receptors), or
2. Siting a new receptor (e.g., the project includes proposed sensitive receptors near an existing odor source).

Regardless of the situation, BAAQMD recommends completing the following steps to comprehensively analyze the potential for an odor impact.

Step 1: Disclosure of Odor Parameters

The first step in assessing potential odor impacts is to gather and disclose applicable information regarding the characteristics of the buffer zone between the sensitive receptor(s) and the odor source(s), local meteorological conditions, and the nature of the odor source. Consideration of such parameters assists in evaluating the potential for odor impacts as a result of the proposed project. Projects should clearly state the following information in odor analyses, which provide the minimum amount of information required to address potential odor impacts:

1. Type of odor source(s) the project is exposed to or the type of odor source(s) produced by the project (e.g., wastewater treatment plant, landfill, food manufacturing plant);
2. Frequency of odor events generated by odor source(s) (e.g., operating hours, seasonal);
3. Distance and landscape between the odor source(s) and the sensitive receptor(s) (e.g., topography, land features); and
4. Predominant wind direction and speed and whether the sensitive receptor(s) in question are upwind or downwind from the odor source(s).

Step 2: Odor Screening Distances

BAAQMD has developed a list of recommended odor screening distances for specific odor-generating facilities shown in Table 3-3. Projects that would locate sensitive receptor(s) to odor source(s) closer than the screening distances would be considered to result in a potential significant impact. If the proposed project would include the operation of an odor source, the screening distances should also be used to evaluate the potential impact to existing sensitive receptors. Projects that would locate sensitive receptor(s) near odor source(s) farther than the screening distances, or vice versa, would be considered to have a sufficient buffer to avoid significant impacts. The odor screening distances in Table 3-3 should not be used as absolute thresholds, rather an indicator to how much further analysis is required. The Lead Agency should also consider the other parameters listed above in Step 1 and information from Step 3 below to comprehensively evaluate potential odor impacts.

Step 3: Odor Complaint History

The impact of an existing odor source on surrounding sensitive receptors should also be evaluated by identifying the number of confirmed complaints received for that specific odor source.

Facilities that are regulated by CalRecycle (e.g. landfill, composting, etc.) are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. The Air District recognizes a Lead Agency's discretion under CEQA to use established odor detection thresholds as thresholds of significance for CEQA review for CalRecycle regulated facilities with an adopted OIMP.

If the proposed project would be located near an existing odor source, lead agencies should contact BAAQMD to obtain the odor complaints over the past 3 years for the source in question. Then calculate the annual average confirmed odor complaints filed for the source. BAAQMD considers a source to have a substantial number of odor complaints if the complaint history includes five or more confirmed complaints per year averaged over a 3-year period. Also, disclose the distance at which receptors were affected by the existing odor source. As discussed in Step 1, describe the topography and landscape between the receptors and the odor source. These distances and landscaping should then be compared with the distance and landscape that would separate the proposed project and the odor source.

If the proposed project would locate an odor source, first identify the location of potential sensitive receptors (i.e., distance, upwind/downwind) with respect to the project site. If the proposed odor source does not have any existing or planned sensitive receptors within the screening distances shown in Table 3-3, it may be considered less than significant for odor impacts. To evaluate how implementation of the proposed source project would affect identified sensitive receptors contact BAAQMD to obtain odor complaints in the region for facilities similar in size and type of odor produced in the past 3 years. These surrogate odor complaints should be evaluated for their distance from source to receptor, and then compared with the distance from the proposed project to receptors. Odor complaints from the surrogate odor source are considered substantial if the complaint history includes more than five confirmed complaints per year averaged over a 3-year period.

BAAQMD considers a substantial number of odor complaints, specifically, more than five confirmed complaints per year averaged over the past three years as the indication of an odor impact. As discussed above, the Lead Agency should compare the odor parameters (i.e., distance and wind direction) associated with the odor complaints that have been filed with those of the proposed project. Similar to the odor screening distances, odor complaints should not be used as an absolute threshold, but evidence to support a significance determination.

Step 4: Significance Determination

An odor source with five or more confirmed complaints per year averaged over three years is considered to have a significant impact. BAAQMD recognizes that there is not one piece of information that can solely be used to determine the significance of an odor impact. The factors (i.e., Step 1 through 3) discussed above could enhance the potential for a significant odor impact or help prevent the potential for a significant odor impact. For example, a project that would be located near an existing odor source may not discover any odor complaints for the existing odor source. It is possible that factors such as a small number of existing nearby receptors, predominate wind direction blowing away from the existing receptors, and/or seasonality of the odor source has prevented any odor complaints from being filed about the existing odor source. The results of each of the steps above should be clearly disclosed in the CEQA document. Projects should use the collective information from Steps 1 through 3 to qualitatively evaluate the potential for a significant odor impact. The Lead Agency should clearly state the reasoning for the significance determination using information from Steps 1 through 3 to support the determination.

7.2. MITIGATING ODOR IMPACTS

BAAQMD considers appropriate land use planning the primary method to mitigate odor impacts. Providing a sufficient buffer zone between sensitive receptors and odor sources should be considered prior to analyzing implementation of odor mitigation technology. Projects that would include potential sensitive receptors should consider the odor parameters, discussed in Step 1 above, during the planning process to avoid siting receptors near odor sources. Similarly, projects

that would include an odor source should consider the location of nearby existing sensitive receptors that could be affected by the project.

The source types for which mitigation has been provided below have been selected based on the nature of the odors produced as a result of their operational activities. These land use types are those most likely to result in odor impacts if sensitive receptors are located in close proximity. This should not be considered an exhaustive list and due to the subjective nature of odor impacts, there is no formulaic method to assess if odor mitigation is sufficient. In determining whether the implementation of mitigation would reduce the potential odor impact to a less-than-significant level, rely on the information obtained through the steps above.

7.2.1. Wastewater Treatment Plant

Main odor sources for wastewater treatment plants typically are the headworks area where the wastewater enters the facility and large solids and grit are removed, the primary clarifiers where suspended solids are removed, and the aeration basins when poor mixing characteristics lead to inadequate dissolved oxygen levels. Lead agencies should consider applying the following odor mitigation measures to wastewater treatment plants.

1. Activated Carbon Filter/Carbon adsorption
2. Biofiltration/Bio Trickling Filters
3. Fine Bubble Aerator
4. Hooded Enclosures
5. Wet and Dry Scrubbers
6. Caustic and Hypochlorite Chemical Scrubbers
7. Ammonia Scrubber
8. Energy Efficient Blower System
9. Thermal Oxidizer
10. Capping/Covering Storage Basins and Anaerobic Ponds
11. Mixed Flow Exhaust
12. Wastewater circulation technology
13. Exhaust stack and vent location with respect to receptors

7.2.2. Landfill/Recycling/Composting Facilities

Odors generated from landfills and composting facilities are typically associated with methane production from the anaerobic decomposition of waste. Lead agencies should consider applying the mitigation measures below to reduce and treat methane in facilities. Landfill projects should also implement best management practices to avoid and minimize the creation of anaerobic conditions.

1. Passive Gas Collection
2. Active Gas Collection
3. Flaring or energy production/utilization
4. Vegetation Growth on Landfill Cover
5. Cover/Cap Landfill
6. Odor Neutralizing Spray
7. Negative aeration for compost facilities
8. Turning and mixing of compost piles

Facilities that are regulated by CalRecycle (e.g. landfill, composting, etc.) are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. The Air District recognizes a Lead Agency's discretion under CEQA to use established odor detection thresholds as thresholds of significance for CEQA review for CalRecycle regulated facilities with an adopted OIMP.

7.2.3. Petroleum Refinery

Odors generated from materials and processes associated with petroleum refineries include, but are not limited to, H_2S, SO_2, mercaptan, ammonia (NH_3), and petroleum coke. Installing the following current and feasible odor mitigation measures for petroleum refineries should be considered.

1. Water Injections to Hydrocracking Process
2. Vapor recovery system
3. Injection of masking odorants into process streams
4. Flare meters and controls
5. Wastewater circulation technology for Aerated Ponds
6. Exhaust stack and vent location with respect to receptors
7. Thermal oxidizers
8. Carbon absorption
9. Biofiltration/Bio Trickling Filters

7.2.4. Chemical Plant

Chemical plants can generate a variety of different odors (e.g., acrylates, phenols, and styrene) as a result of process emissions. The range of odor mitigation measures required for chemical plants may vary substantially depending on the type of odors produced. The odor mitigation measures could be applied to chemical plants.

1. Wet scrubbers (50–90 percent efficiency)
2. Catalytic oxidation (99 percent efficiency)
3. Thermal oxidation (90–99 percent efficiency)
4. Carbon adsorption (95 percent efficiency)
5. Exhaust stack and vent location with respect to receptors



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7.2.5. Food Services

Restaurants, especially fast food restaurants, can generate substantial sources of odors as a result of cooking processes and waste disposal. Char broilers, deep-fryers, and ovens tend to produce food odors that can be considered offensive to some people. The food waste produced by restaurants can putrefy if not properly managed, which can also produce objectionable odors. The follow mitigation measures are management practices and odor technology that can be used to reduce the amount odors generated by food services.

1. Integral grease filtration system or grease removal system
2. Baffle filters
3. Electrostatic precipitator
4. Water cooling/cleaning unit
5. Disposable pleated or bag filters

6. Activated carbon filters
7. Oxidizing pellet beds
8. Incineration
9. Catalytic conversion
10. Proper packaging and frequency of food waste disposal
11. Exhaust stack and vent location with respect to receptors

In conclusion, odor impacts can also be minimized, contained, or prevented by implementing technologies and design measures at the source, or through planning-based measures. Where odor sources and receptors cannot be physically separated to a degree where impacts would be minimized to less-than-significant level, disclosures of odor sources to prospective tenants of sensitive land uses should be used. Mitigation for odors that is both effective and feasible shall be selected on a case-by-case basis.

8. CONSTRUCTION-RELATED IMPACTS

Construction-related activities are those associated with the building of a project or plan components. Construction activities are typically short-term or temporary in duration; however, project-generated emissions could represent a significant impact with respect to air quality and/or global climate change. Construction-related activities will result in the generation of criteria air pollutants including carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter (PM_{10}, and $PM_{2.5}$); precursor emissions such as, reactive organic gases (ROG) and oxides of nitrogen (NO_X), and GHGs from exhaust, fugitive dust, and off-gas emissions. Sources of exhaust emissions could include on-road haul trucks, delivery trucks, worker commute motor vehicles, and off-road heavy-duty equipment. Sources of fugitive emissions (e.g., PM dust) could include construction-related activities such as soil disturbance, grading, and material hauling. Sources of off-gas emissions could include asphalt paving and the application of architectural coatings.

The recommendations provided in this chapter only apply to assessing and mitigating construction-related impacts for individual projects. Construction-related assumptions and project-specific information assumed in CEQA analyses should accompany the quantitative analysis described below. Refer to Chapter 9 for recommendations for assessing and mitigating construction-related impacts at the plan level.

8.1. CRITERIA AIR POLLUTANTS AND PRECURSORS

8.1.1. Significance Determination

Step 1: Comparison of Project Attributes with Screening Criteria

The first step in determining the significance of construction-related criteria air pollutants and precursors is to compare the attributes of the proposed project with the applicable *Screening Criteria* listed in Chapter 3. If all of the *Screening Criteria* are met, construction of the proposed project would result in a less-than-significant impact to air quality. If not, than construction emissions need to be quantified.



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Step 2: Emissions Quantification

BAAQMD recommends using URBEMIS to quantify construction emissions for proposed land use development projects and the Roadway Construction Emissions Model (RoadMod) for proposed linear projects such as, new roadway, roadway widening, or pipeline installation). The most current URBEMIS (currently version 9.2.4) should be used for emission quantification. Table 8-5 outlines summary guidelines for using URBEMIS. Refer to Appendix B for detailed instructions for modeling construction-generated emissions using URBEMIS and RoadMod.

Step 3: Comparison of Unmitigated Emissions with Thresholds of Significance

Following quantification of project-generated construction-related emissions, the total average daily emissions of each criteria pollutant and precursor should be compared with the applicable *Threshold of Significance*. For instance, with respect PM_{10} and $PM_{2.5}$, compare the total amount of emissions from both exhaust and fugitive sources with the applicable *Threshold of Significance*. If construction-related emissions have been quantified using multiple models or

model runs, sum the criteria air pollutants and precursor levels from each where said activities would overlap. In cases where the exact timing of construction activities is not known, sum any phases that could overlap to be conservative.

If daily average emissions of construction-related criteria air pollutants or precursors would not exceed any of the *Thresholds of Significance*, the project would result in a less-than-significant impact to air quality. If daily average emissions of construction-related criteria air pollutants or precursors would exceed any applicable *Threshold of Significance,* the proposed project would result in a significant impact to air quality and would require mitigation measures for emission reductions.

Step 4: Mitigation and Emission Reductions

For all proposed projects, BAAQMD recommends the implementation of all *Basic Construction Mitigation Measures* (Table 8.2) whether or not construction-related emissions exceed applicable *Thresholds of Significance*. In addition, all projects must implement any applicable air toxics control measures (ATCM). For example, projects that have the potential to disturb asbestos (from soil or building material) must comply with all the requirements of ARB's ATCM for Construction, Grading, Quarrying, and Surface Mining Operations. Only reduction measures included in the proposed project's description or recommended as mitigation in a CEQA-compliant environmental document can be included when quantifying mitigated emission levels. Refer to Appendix B for detailed instructions on how to use URBEMIS to quantify the effects of construction emissions mitigation measures.

Step 5: Comparison of Mitigated (Basic Mitigation) Emissions with Thresholds of Significance

Following quantification of project-generated construction-related emissions, compare the total average daily amount of mitigated (with implementation of *Basic Construction Mitigation Measures)* criteria air pollutants and precursors with the applicable *Thresholds of Significance*. If the implementation of BAAQMD-recommended *Basic Construction Mitigation Measures* would reduce all construction-related criteria air pollutants and precursors to levels below the applicable *Thresholds of Significance*, the impact to air quality would be less than significant. If emissions of any criteria air pollutant or precursor would exceed the applicable *Threshold of Significance*, the impact to air quality would be significant. Table 8-1 provides an example of significance determination methodology.

Step 6: Implement Additional Construction Mitigation Measures

BAAQMD recommends that all proposed projects, where construction-related emissions would exceed the applicable *Thresholds of Significance*, implement the *Additional Construction Mitigation Measures* (Table 8-3). The methodology for quantifying reductions of fugitive PM dust, exhaust, and off gas emissions associated with the implementation of these mitigation measures are discussed separately below (Table 8-3). Keep all of the changes recommended above with regards to the *Basic Construction Mitigation Measures*, as the emission reductions associated with these *Additional Construction Mitigation Measures* are considered additive. Please note that in RoadMod all of these associated reductions should be taken outside of the model, described in further detail in Appendix B.

Step 7: Comparison of Mitigated Emissions with Thresholds of Significance

Following quantification of project-generated construction-related emissions in accordance with the above BAAQMD-recommended methods, compare the total average daily amount of mitigated (with *Additional Construction Mitigation Measures* implemented) criteria air pollutants and precursors with the applicable *Thresholds of Significance*. If the implementation of additional mitigation measures would reduce all construction-related criteria air pollutants and precursors to levels below the applicable *Thresholds of Significance*, the impact to air quality would be reduced

to a less-than-significant level. If mitigated levels of any criteria air pollutant or precursor still exceed the applicable *Threshold of Significance*, the impact to air quality would remain significant and unavoidable.

Table 8-1
Example Construction Criteria Air Pollutant and Precursor Significance Determination

Step	Emissions Source	Emissions (lb/day or tpy)			
		ROG	NO_X	PM_{10}	$PM_{2.5}$
2	Fugitive Dust Emissions	-	-	A	A
	Mobile Sources	B	B	B	B
	Off-gassing	C	-	-	-
3	Total Unmitigated Emissions	B + C = D	B = D	A + B = D	A + B = D
4	Total Basic Mitigated Emissions	E	E	E	E
	BAAQMD Threshold	54 lb/day	54 lb/day	82 lb/day*	54 lb/day*
5	Basic Mitigated Emissions Exceed BAAQMD Threshold?	Is E > 54 lb/day? (If Yes, significant. Go to step 6. If No, less than significant)	Is E > 54 lb/day? (If Yes, significant. Go to step 6. If No, less than significant)	Is B* > 82 lb/day? (If Yes, significant. Go to step 6. If No, less than significant)	Is B* > 54 lb/day? (If Yes, significant. Go to step 6. If No, less than significant)
6	Total Additional Mitigated Emissions	F	F	F	F
7	Additional Mitigated Emissions Exceed BAAQMD Threshold?	Is F > 54 lb/day? (If Yes, significant and unavoidable. If No, less than significant with mitigation incorporated)	Is F > 54 lb/day? (If Yes, significant and unavoidable. If No, less than significant with mitigation incorporated)	Is F* > 82 lb/day? (If Yes, significant and unavoidable. If No, less than significant with mitigation incorporated)	Is F* > 54 lb/day? (If Yes, significant and unavoidable. If No, less than significant with mitigation incorporated)

* Applies to construction equipment exhaust only.

Notes: tpy = tons per year.; lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases;
Refer to Appendix D for support documentation.

8.1.2. Mitigating Criteria Air Pollutants and Precursors

Basic Construction Mitigation Measures

For all proposed projects, BAAQMD recommends the implementation of all *Basic Construction Mitigation Measures*, listed in Table 8-2, whether or not construction-related emissions exceed applicable *Thresholds of Significance*. Appendix B provides guidance on quantifying mitigated emission reductions using URBEMIS and RoadMod.

Table 8-2
Basic Construction Mitigation Measures Recommended for ALL Proposed Projects

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Additional Construction Mitigation Measures

BAAQMD recommends that all proposed projects, where construction-related emissions would exceed the applicable *Thresholds of Significance*, implement the *Additional Construction Mitigation Measures*. Table 8-3 lists the *Additional Construction Mitigation Measures*. Appendix B contains more detailed guidance on emission reductions by source type (i.e., fugitive dust and exhaust) for quantification in URBEMIS and RoadMod.

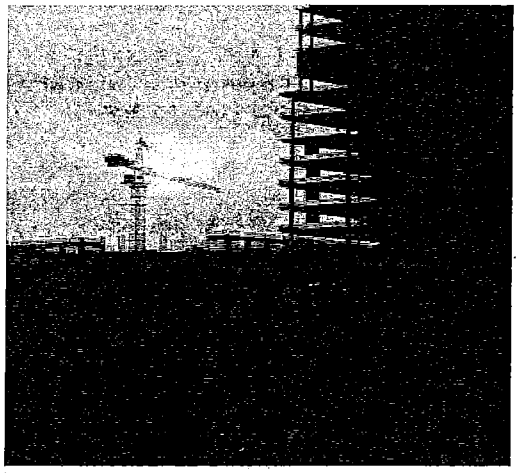

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Table 8-3
Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel powered construction equipment to two minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_X reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

Assessing Mitigation Measures

Table 8-4 provides a summary of BAAQMD recommendations for assessing construction-related impacts and mitigation measures using URBEMIS. Detailed guidance is provided in Appendix B.

Table 8-4
URBEMIS Guidance for Assessing Construction-Related Impacts

URBEMIS Construction Input Parameter	Guidance Principle
Land Use Type and Size	• Select most applicable land use type. • Use the appropriate land use units.
Construction Schedule	• Use the earliest possible commencement date(s) if project-specific information is unknown. • Overlap phases that will or have the potential to occur simultaneously. • Check the selected number of work days per week to ensure an accurate number of construction work days for each phase.
Demolition Phase	• Use a separate demolition URBEMIS run if the land use size to be developed differs from the land use size to be demolished. • Demolition fugitive dust is based on maximum daily volume of building to be demolished. • Demolition construction equipment is based on acres of land use to be demolished (in *Enter Land Use Data* module).
Site Grading Phase	• Site grading construction equipment is based on maximum daily acres disturbed. • Enter project-specific maximum daily acres disturbed if known, otherwise URBEMIS assumes the maximum daily amount of acres disturbed is 25 percent of total acres disturbed.
Site Grading Fugitive Dust	• Select the appropriate fugitive dust quantification methodology based on the amount and type of project-specific information available. • The more specific grading information available will result in more accurate quantification of PM emissions.
Asphalt Paving Phase	• Acres to be asphalt paved are based on land use type and size (in *Enter Land Use Data* module). • Asphalt paving construction equipment is based on total acres to be paved. • Assumes asphalt paving occurs at equal rate throughout phase. • Account for excess asphalt paving requirements of project beyond default assumptions by adjusting the acres to be paved.
Architectural Coatings	• Assumes architectural coating operations occur at equal rate throughout phase.
Basic Construction Mitigation Measures	• All projects must implement Basic Construction Mitigation Measures, including those below the construction screening levels. • Use surrogate URBEMIS mitigation to account for Basic Construction Mitigation Measures' emission reductions.
Additional Construction Mitigation Measures	• Projects with construction emissions that exceed the thresholds are required to implement Additional Construction Mitigation Measures. • Use surrogate URBEMIS mitigation to account for Additional Construction Mitigation Measures' emission reductions.
Other	• For all construction phases, the more specific information available will result in more accurate emissions quantification. • When a specific construction schedule is unknown, all phases that could potentially overlap should be added to calculate maximum daily emissions.

8.2. GREENHOUSE GASES

The District does not have an adopted *Threshold of Significance* for construction-related GHG emissions. However, the Lead Agency should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals. BAAQMD recommends using URBEMIS for proposed land use development projects and RoadMod for proposed projects that are linear in nature. Sources of construction-related GHGs only include exhaust, for which the same detailed guidance as described for criteria air pollutants and precursors should be followed.

The Lead Agency is encouraged to incorporate best management practices to reduce GHG emissions during construction, as applicable. Best management practices may include, but are not limited to: using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials.

8.3. TOXIC AIR CONTAMINANTS

BAAQMD recommends that the same community risk and hazard *Threshold of Significance* for project operations be applied to construction. However, BAAQMD suggests associated impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable. The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

BAAQMD has developed guidance for estimating risk and hazards impacts entitled *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2010) which also includes recommendations for mitigation of significant risk and hazards impacts. The Air District has also developed a Construction Risk Calculator model that provides distances from a construction site, based on user-provided project date, where the risk impacts are estimated to be less than significant; sensitive receptors located within these distances would be considered to have potentially significant risk and hazards impacts from construction. The Construction Risk Calculator can be downloaded from the Air District web site at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx.

8.3.1. Diesel Particulate Matter

Construction-related activities could result in the generation of TACs, specifically diesel PM, from on-road haul trucks and off-road equipment exhaust emissions. Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk. Additionally, the implementation of the *Basic Construction Mitigation Measures* (table 8-2), which is recommended for all proposed projects, would also reduce diesel PM exhaust emissions.

However, these variability issues associated with construction do not necessarily minimize the significance of possible impacts.

The analysis shall disclose the following about construction-related activities:

1. Types of off-site receptors and their proximity to construction activity within approximately 1,000 feet;
2. Duration of construction period;
3. Quantity and types of diesel-powered equipment;
4. Number of hours equipment would be operated each day;
5. Location(s) of equipment use, distance to nearest off-site sensitive receptors, and orientation with respect to the predominant wind direction;
6. Location of equipment staging area; and
7. Amount of on-site diesel-generated $PM_{2.5}$ exhaust (assuming that all on-site diesel $PM_{2.5}$ exhaust is diesel PM) if mass emission levels from construction activity are estimated.

In cases where construction-generated emissions of diesel PM are anticipated to occur in close proximity to sensitive receptors for extended periods of time, lead agencies are encouraged to consult with BAAQMD.

8.3.2. Demolition and Renovation of Asbestos-Containing Materials

Demolition of existing buildings and structures would be subject to BAAQMD Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing). BAAQMD Regulation 11, Rule 2 is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the national emissions standards for asbestos along with some additional requirements. The rule requires the Lead Agency and its contractors to notify BAAQMD of any regulated renovation or demolition activity. This notification includes a description of structures and methods utilized to determine whether asbestos-containing materials are potentially present. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with BAAQMD Regulation 11, Rule 2, including specific requirements for surveying, notification, removal, and disposal of material containing asbestos. Therefore, projects that comply with Regulation 11, Rule 2 would ensure that asbestos-containing materials would be disposed of appropriately and safely. By complying with BAAQMD Regulation 11, Rule 2, thereby minimizing the release of airborne asbestos emissions, demolition activity would not result in a significant impact to air quality.

Because BAAQMD Regulation 11, Rule 2 is in place, no further analysis about the demolition of asbestos-containing materials is needed in a CEQA document. BAAQMD does recommend that CEQA documents acknowledge and discuss BAAQMD Regulation 11, Rule 2 to support the public's understanding of this issue.

8.3.3. Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by ARB. NOA is located in many parts of California and is commonly associated with ultramafic rocks, according to the California Department of Geology's special publication titled Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California. Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Ultramafic rocks form in high-temperature environments well below the surface of the earth. By the time they are exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of metamorphic rock called serpentinite.

Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil.

For individuals living in areas of NOA, there are many potential pathways for airborne exposure. Exposures to soil dust containing asbestos can occur under a variety of scenarios, including children playing in the dirt; dust raised from unpaved roads and driveways covered with crushed serpentine; grading and earth disturbance associated with construction activity; quarrying; gardening; and other human activities. For homes built on asbestos outcroppings, asbestos can be tracked into the home and can also enter as fibers suspended in the air. Once such fibers are indoors, they can be entrained into the air by normal household activities, such as vacuuming (as many respirable fibers will simply pass through vacuum cleaner bags).

People exposed to low levels of asbestos may be at elevated risk (e.g., above background rates) of lung cancer and mesothelioma. The risk is proportional to the cumulative inhaled dose (quantity of fibers), and also increases with the time since first exposure. Although there are a number of factors that influence the disease-causing potency of any given asbestos (such as fiber length and width, fiber type, and fiber chemistry), all forms are carcinogens.

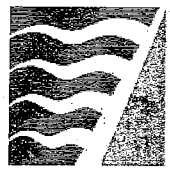
8.3.4. Mitigating Naturally Occurring Asbestos

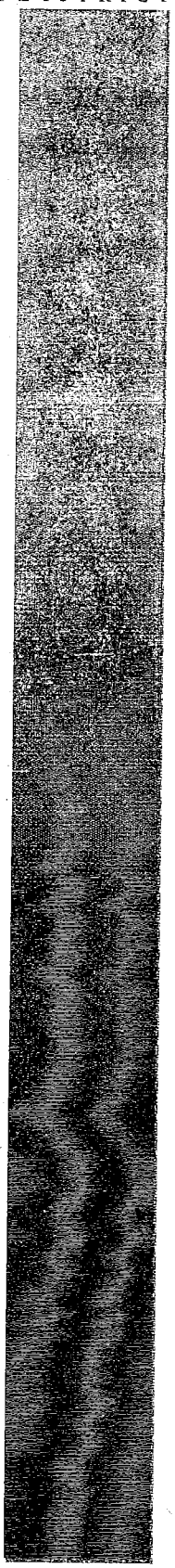
BAAQMD enforces CARB's ATCM which regulates NOA emissions from grading, quarrying, and surface mining operations at sites which contain ultramafic rock. The provisions that cover these operations are found specifically in the California Code of Regulations, Section 93105. The ATCM for Construction, Grading, Quarrying and Surface Mining Operations was signed into State law on July 22, 2002, and became effective in the SFBAAB on November 19, 2002. The purpose of this regulation is to reduce public exposure to NOA from construction and mining activities that emit or re-suspend dust which may contain NOA.

The ATCM requires regulated operations engaged in road construction and maintenance activities, construction and grading operations, and quarrying and surface mining operations in areas where NOA is likely to be found, to employ the best available dust mitigation measures to reduce and control dust emissions. Tables 8-2 and 8-3 list a number of dust mitigation measures for construction.

BAAQMD's NOA program requires that the applicable notification forms from the Air District's website be submitted by qualifying operations in accordance with the procedures detailed in the ATCM Inspection Guidelines Policies and Procedures. The Lead Agency shall reference BAAQMD's ATCM Policies and Procedures to determine which NOA Notification Form is applicable to the proposed project (NOA Notification Forms).

Using the geologic map of the SFBAAB (Geologic Map), the Lead Agency shall discuss whether a proposed project would be located in "areas moderately likely to contain NOA." If a project would not involve earth-disturbing construction activity in one of these areas or would not locate receptors in one of these areas then it can be assumed that the project would not have the potential to expose people to airborne asbestos particles.





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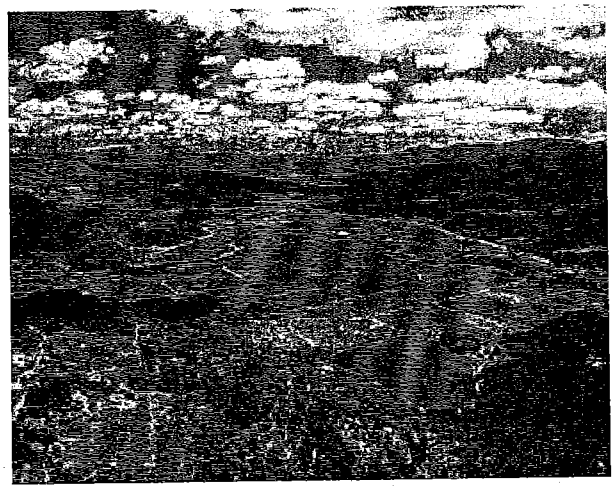
PART III: ASSESSING & MITIGATING PLAN LEVEL IMPACTS

9. PLAN-LEVEL IMPACTS



Long range plans (e.g., general plan, redevelopment plans, specific plans, area plans, community plans, regional plans, congestion management plans, etc.) present unique challenges for assessing impacts. These plans often contain development strategies for 20-year, or longer, time horizons. They can also provide for a wide range of potential land uses and densities that accommodate all types of development. General plan updates and large specific plans nearly always require the Lead Agency to prepare an Environmental Impact Report (EIR). Due to the SFBAAB's nonattainment status for ozone and PM, and the cumulative impacts of growth on air quality, these plans almost always have significant, unavoidable adverse air quality impacts. CEQA requires the Lead Agency to evaluate individual as well as cumulative impacts of general plans, and all feasible mitigation measures must be incorporated within the proposed plan to reduce significant air quality impacts.

This chapter provides guidance on methods to evaluate air quality and climate change impacts of long-range plans prepared within the SFBAAB pursuant to CEQA. The term *general and area plan* refers broadly to discretionary planning activities which may include, but are not limited to the following: general plans, redevelopment plans, specific plans, area plans, community plans, congestion management plans, and annexations of lands and service areas. General and area plans are often subject to program-level analysis under CEQA, as opposed to project-level analysis. As a general principle, the guidance offered within this chapter should be applied to discretionary, program-level planning activities; whereas the project-level guidance offered in other chapters should be applied to individual project-specific approvals, such as a proposed development project.

Air quality impacts from future development pursuant to general or area plans can be divided into construction-related impacts and operational-related impacts. Construction-related impacts are associated with construction activities likely to occur in conjunction with future development allocated by the plan. Operational-related impacts are associated with continued and future operation of developed land uses, including increased vehicle trips and energy use.

Please note that the plan-level approach described here differs for greenhouse gas (GHG) impact assessments. The Air District recommends that when assessing GHG impacts for plans other than regional plans (transportation and air quality plans) and general plans, such as specific plans and area plans, the appropriate thresholds and methodology is the same as project-level GHG impact assessments described in Chapter 4.

Regional plan (transportation and air quality plans) impacts also are assessed differently because of their unique characteristics (regional plans do not establish land use designations) and are subject to a threshold of "no net increase in emissions."

9.1. CRITERIA AIR POLLUTANTS AND PRECURSOR EMISSIONS

To meet the *Threshold of Significance* for operational-related criteria air pollutant and precursor impacts for plans (other than regional plans), a proposed plan must satisfy the following criteria:

- Consistency with current air quality plan (AQP) control measures. (This requirement applies to project-level as well as plan-level analyses.)
- A proposed plan's projected VMT or vehicle trips (VT) (either measure may be used) increase is less than or equal to its projected population increase.

Air Quality Plan Control Measures

For this threshold, an air quality plan refers to clean air plans, state implementation plans (SIPS), ozone plans, and other potential air quality plans developed by BAAQMD. To date, the Air District's most current plan is the 2010 Clean Air Plan.

The following approach for incorporating current AQP control measures into a plan is also applicable for determining a project's consistency with an air quality plan. CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. In addition, the State CEQA Guidelines sample Environmental Checklist Form (Appendix G), poses the question: "Would the project conflict with or obstruct implementation of the applicable air quality plan?"

BAAQMD recommends that the agency approving a project where an air quality plan consistency determination is required analyze the project with respect to the following questions. If all the questions are concluded in the affirmative, and those conclusions are supported by substantial evidence, the Air District considers the project consistent with air quality plans prepared for the Bay Area.

1. Does the project support the primary goals of the AQP?

The primary goals of the 2010 Bay Area Clean Air Plan (CAP), the current AQP to date, are to:

- Attain air quality standards;
- Reduce population exposure and protecting public health in the Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

Any project (i.e. project or plan) that would not support these goals would not be considered consistent with the 2010 CAP. The recommended measure for determining project support of these goals is consistency with District-approved CEQA thresholds of significance. Therefore, if approval of a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation, the project would be considered consistent with the 2010 CAP.

2. Does the project include applicable control measures from the AQP?

Agencies approving projects should require that they include all air quality plan control measures that can feasibly be incorporated into the project design or applied as mitigation, or justify the reasons, supported by substantial evidence, why a measure or measures are not incorporated into the project. Projects that incorporate all feasible air quality plan control measures are considered consistent with the 2010 CAP.

The 2010 CAP contains 55 control measures aimed at reducing air pollution in the Bay Area. Along with the traditional stationary, area, mobile source and transportation control measures, the 2010 CAP contains a number of new control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources. BAAQMD encourages project developers and lead agencies to incorporate these Land Use and Local Impact (LUM) measures and Energy and Climate measures (ECM) into proposed project designs and plan elements.

Refer to Volume II of the 2010 CAP Control Measure for a list of all the control measures and implementation guidance.

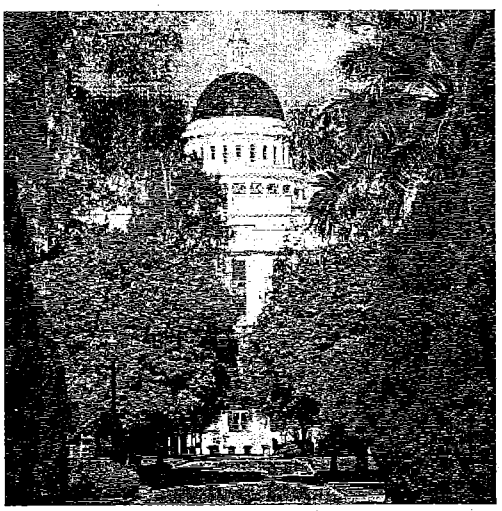
3. Does the project disrupt or hinder implementation of any AQP control measures?

If approval of a project would not cause the disruption, delay or otherwise hinder the implementation of any air quality plan control measure, it would be considered consistent with the 2010 CAP. Examples of how a project may cause the disruption or delay of control measures include a project that precludes an extension of a transit line or bike path, or proposes excessive parking beyond parking requirements.

Projected VMT and Population Growth
A proposed plan must demonstrate that its projected VMT or vehicle trips (VT) (either measure may be used) is less than or equal to its projected population increase to be considered to have a less than significant impact on criteria air pollutants and precursor emissions.

9.2. GREENHOUSE GASES

California's legislative mandate (AB 32) is to reduce total projected 2020 GHG emissions to 1990 levels, a reduction of approximately 30 percent. To achieve this target, future development must be planned and implemented in the most GHG-efficient manner possible. GHG-efficient development reduces vehicle miles traveled by supporting compact, dense, mixed-use, pedestrian- and bicycle-friendly, transit oriented development. State, regional and local agencies are strongly encouraged to address GHG emissions when updating and/or adopting long-range plans. For local jurisdictions, the general plan is perhaps the best venue for addressing GHG emissions in making meaningful progress toward attaining AB 32 goals while addressing CEQA requirements.



If a long-range plan includes goals, policies, performance standards, and implementation measures achieving GHG emission reductions that can be shown to meet and/or exceed AB 32 mandates, as outlined in Section 4.3, subsequent projects consistent with the plan could be relieved of performing GHG analysis as part of their CEQA compliance.

The *Threshold of Significance* for operational-related GHG impacts of plans employs either a GHG efficiency-based metric of 6.6 MT per SP per year of carbon dioxide equivalent (CO_2e), or a GHG Reduction Strategy option. Unlike the other plan-level thresholds that apply to the different

plans mentioned in Section 9 above, the GHG efficiency threshold may only be applied to general plans. A Lead Agency may also determine that this threshold is appropriate for a GHG Reduction Strategy's 2020 milestone target. GHG Reduction Strategies using this threshold with horizon years beyond 2020 should consider horizon-year goals consistent with climate stabilization predictions identified in the Governor's Executive Order S-03-05.

Step 1. GHG Reduction Strategy Approach

A long-range plan would be assumed to have a less than significant impact related to GHG emissions if the Lead Agency has a qualified GHG Reduction Strategy that is referenced and or integrated within the long-range plan. See Chapter 4 for qualifying criteria for a qualified GHG Reduction Strategy.

If the Lead Agency does not have a qualified GHG Reduction Strategy meeting established criteria, refer to Step 2.

Step 2. GHG Efficiency Approach – Emissions Quantification



BAAQMD recommends quantifying community-wide GHG emissions from a general or area plan through development of a GHG emissions inventory and projections report. The emissions inventory should be conducted for a base year at or before the current year of the plan; and should follow published ARB protocols for municipal and community-wide inventories (when available). The base year inventory should be expressed in terms of metric tons CO_2e emissions and account for municipal and community-wide emission sectors applicable in the jurisdiction such as, transportation, commercial, residential, water use and treatment, solid waste, and agriculture.

Section 4.3 contains additional guidance on preparing a GHG emissions inventory and projections report for a qualified GHG Reduction Strategy that should be applied to general plans as well. A range of tools and resources are available to assist lead agencies in completing inventories, including the Air District's *GHG Plan Level Reduction Strategy Guidance*, Intergovernmental Panel on Climate Change (IPCC) Emissions Inventory Guidelines, CCAR GRP, and ICLEI's Clean Air and Climate Protection (CACP) model. In all instances where regional, statewide or national data sources are available, the Air District recommends that local data be used if available and more accurate.

Step 3. Prepare Greenhouse Gas Emissions Projections

BAAQMD recommends preparing a community-wide GHG emission projection to identify the expected levels of GHG emissions for: 1) 2020 (i.e., the AB 32 benchmark year), and 2) the projected year of the plan build out. Two projections should be prepared for each year:

- A projection reflecting existing conditions (e.g., business-as-usual), and
- A projection that accounts for proposed policies, programs, and plans included within the general or area plan that would reduce GHG emissions from build-out of the plan.

The first projection should be used as the basis for evaluation of the no project alternative in the plan's EIR. The second projection should be used as the basis for evaluation of the proposed

project. Additional projections corresponding to plan alternatives considered within the EIR should also be prepared and included within the EIR's alternatives analysis. Examples of policies, performance standards and implementation measures are included in Section 9.5.

Where possible, emission projections should account for inherent improvements in energy and fuel efficiency, population and employment growth rates published by ABAG, VMT growth rates available from MTC, energy consumption growth rates available from California Energy Commission (CEC) planned expansions of municipal infrastructure or services, and anticipated statewide legislative requirements or mandates (e.g., Renewable Energy Portfolio, Green Building Code Standards, on-road vehicle emission regulations).

A range of GIS-based planning models are available that can assist lead agencies in completing projections, including Index, PLACE3S, UPlan, and the Sustainable Systems Integration Model (SSIM). The projection should be expressed in metric tons CO_2e emissions, and include the expected municipal and community-wide emissions across all sectors evaluated in the base year inventory.

BAAQMD encourages lead agencies to prepare similar projections for 2050 (the Executive Order S-03-05 benchmark year). As we approach the 2020 timeframe, BAAQMD will reevaluate this significance threshold to better represent progress toward 2050 goals. The Lead Agency should use the projected build-out emissions profile of the general or area plan as a benchmark to ensure that adoption of the plan would not preclude attainment of 2050 goals.

Step 4. Determine Planned Population and Employment Levels and Service Population

State law requires that general and area plans identify the planned density and intensity of land uses for all lands within the planning area established by the Lead Agency. These measures of density (typically dwelling units/acre) and intensity (typically floor-area ratios) are often translated into expected population and employment levels for estimating traffic impacts associated with the proposed plan. Most demand-based transportation models use population and employment to determine trip generation. Measures of population and employment are typically available for general and area plans. In evaluating GHG impacts, estimates of the number of residents and jobs anticipated in the general or area plan are required for 2020, the build-out year of the proposed plan, the no project alternative, and additional alternatives the Lead Agency is evaluating in the environmental review.

Service population (SP) is an efficiency-based measure used by BAAQMD to estimate the development potential of a general or area plan. SP is determined by adding the number of residents to the number of jobs estimated for a given point in time. For purposes of evaluating GHG impacts, SP estimates are required for 2020 and for the build-out year of the proposed plan.

Step 5. Compare Service Population to 2020 GHG Projections and Thresholds of Significance

The Lead Agency should divide the 2020 GHG emissions inventory by 2020 SP estimates to determine the per-SP emissions associated with the proposed general or area plan, the no project alternative, and additional alternatives the Lead Agency is evaluating. The Lead Agency should then compare these per-SP emissions to the significance thresholds identified in Chapter 2 (refer to Table 9-1).

Table 9-1 Example Plan-level Greenhouse Gas Emissions Analysis			
Step	**Emissions Source**	**Year**	**Emissions (MT CO2e/yr)***
2	GHG Emissions Inventory (Community-wide and municipal)	Base year (e.g., 2007)	A
3	GHG Emissions Projections	2020	B
		GP Buildout (e.g., 2030)	C
4	Projected Service Population (population + employment)	SP	
	GHG/SP (2020)	B/SP (MT CO_2e/SP/yr)	
5	BAAQMD GHG/SP Threshold	6.6 (MT CO_2e/SP/yr)	
	Is B/SP > 6.6? (If Yes, Significant. Proceed to Step 6. If No, less than significant).		
*Letters "A", "B", and "C" are used to represent numeric values that would be obtained through conducting a community-wide emissions inventory and projections. Notes: CO_2e = carbon dioxide equivalent; MT = metric tons; yr = year, P = population, SP = service population. Refer to Appendix D for support documentation.			

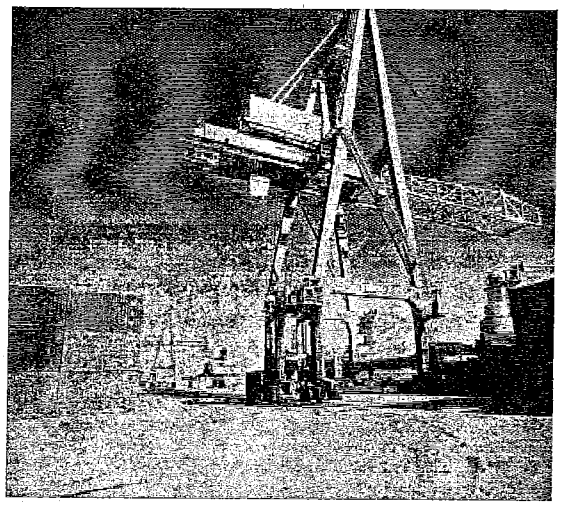
If the estimated per-SP emissions exceed identified thresholds, the general or area plan would be considered to have a significant impact with respect to GHG emissions, and mitigation would be required.

Step 6. Mitigation Measures

General or area plans found to have a significant impact should implement all feasible mitigation measures to reduce impacts. Refer to Section 9.5 for examples of appropriate mitigation measures for operational impacts relative to GHG emissions. Mitigation measures identified through the environmental review process must be made into binding and enforceable policies and implementation programs within the long range plan.

9.3. LOCAL COMMUNITY RISK AND HAZARD IMPACTS

For general and area plans to have a less-than-significant impact with respect to potential toxic air contaminants (TACs), special overlay zones need to be established around existing and proposed land uses that emit TACs. Special overlay zones should be included in proposed plan policies, land use maps, and implementing ordinances.



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The *Thresholds of Significance* for plans with regard to community risk and hazard impacts are:

1. The land use diagram must identify:

   a. Special overlay zones around existing and planned sources of TACs;

b. Special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways.

2. The plan must also identify goals, policies, and objectives to minimize potential impacts and create overlay zones for sources of TACs and receptors.

ARB's Land Use Handbook offers advisory recommendations for locating sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, chrome platers, dry cleaners, gasoline stations, and other industrial facilities, to reduce exposure of sensitive populations. The Lead Agency should refer to this handbook when evaluating whether the proposed general or area plan includes adequate buffer distances between TAC sources and sensitive receptors.

9.3.1. Community Risk Reduction Plans

The goal of a Community Risk Reduction Plan (CRRP) would be to bring TAC and $PM_{2.5}$ concentrations for the entire community covered by the Plan down to acceptable levels as identified by the local jurisdiction and approved by the Air District. This approach provides local agencies a proactive alternative to addressing communities with high levels of risk on a project-by-project approach.

A qualified Community Risk Reduction Plan adopted by a local jurisdiction should include, at a minimum, the following elements:(A) Define a planning area;

(B) Include base year and future year emissions inventories of TACs and PM2.5;

(C) Include Air District–approved risk modeling of current and future risks;

(D) Establish risk and exposure reduction goals and targets for the community in consultation with Air District staff;

(E) Identify feasible, quantifiable, and verifiable measures to reduce emissions and exposures;

(F) Include procedures for monitoring and updating the inventory, modeling and reduction measures in coordination with Air District staff;

(G) Be adopted in a public process following environmental review.

Refer to Chapter 5 for additional guidance on preparing a CRRP. The Air District has also developed the *Community Risk Reduction Plan Methodology* guidance document, which can found at http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx.

9.4. ODOR IMPACTS

- For plans to have a less-than-significant impact, a plan must identify the location of existing and planned odor sources in the plan area. The plan must also include policies to reduce potential odor impacts in the plan area.

9.5. REGIONAL PLANS

Regional plans must demonstrate a no net increase in emissions to satisfy the *Threshold of Significance* for operational-related criteria air pollutant and precursor impacts, GHGs, and toxic air contaminants.

Regional plans include the Regional Transportation Plan prepared by the Metropolitan Transportation Commission (MTC) and air quality plans prepared by the Air District. In order to meet this threshold, these agencies must compare the regional plan's baseline emissions with its projected future emissions. This approach requires two comparative analyses:

a. Compare existing (base year) emissions with projected future year plus project emissions (base year/project comparison);

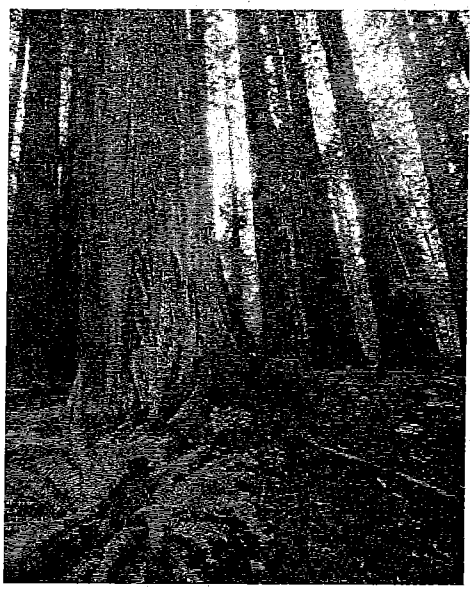
b. Compare projected future year emissions without the project with projected future year emissions plus the project (no project/project comparison).

A regional plan is considered less than significant if each scenario demonstrates that no net increase in emissions of criteria air pollutants and precursors, GHGs, and toxic air contaminants will occur.

9.6. MITIGATING PLAN-LEVEL IMPACTS

Plans often have significant, unavoidable adverse air quality impacts due to the SFBAAB's nonattainment status and the cumulative impacts of growth on air quality. In addition, plans generally have long-term planning horizons of twenty years or more. For these reasons, it is essential for plans to incorporate all feasible strategies and measures to reduce air quality impacts. Mitigation measures for plans are often broad in scope due to the long timeframe and comprehensive nature of general and area plan policies and programs.

This section contains mitigation measures recommended for plans prepared within the SFBAAB. Measures are identified by state-required general plan element, planning issue, development phase, and type of air quality impact. Proposed plans should incorporate mitigation measures applicable to their elements and planning issues.



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Plans are the appropriate place to establish community-wide air quality policies that reinforce regional air quality plans. Plans present opportunities to establish requirements for new construction, future development, and redevelopment projects within a community that will ensure new or revised plans do not inhibit attainment of state and national air quality standards and actually assist in improving local and regional air quality. Binding, enforceable mitigation measures identified through the environmental review process should be incorporated as policies and implementation programs within the plan to the

greatest extent feasible. Ideally, air quality related goals, policies, performance measures and standards should be incorporated within the context of the proposed project itself, rather than introduced as corrective actions within the proposed project's EIR. The list below is not intended to serve as an exhaustive list. The Air District also recommends that Lead Agencies refer to CAPCOA's *Model Policies for Greenhouse Gases in General Plans* (June 2009) for additional guidance (http://www.capcoa.org/modelpolicies/CAPCOA-ModelPolicies-6-12-09-915am.pdf).

9.6.1. Qualified Greenhouse Gas Reduction Strategy

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Develop and adopt a comprehensive Qualified GHG Reduction Strategy that includes: baseline inventory of greenhouse gas emissions from all sources, greenhouse gas emissions reduction targets that are consistent with the goals of AB 32, and enforceable GHG emission reduction strategies and performance measures.		X				X		
Qualified GHG Reduction Strategy to include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, report progress to the public and responsible agencies, and revise the plan as appropriate.		X				X		

9.6.2. Land Use Element

Urban Form

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Create and enhance landscaped greenway, trail, and sidewalk connections between neighborhoods, commercial areas, activity centers, and parks.					X	X		
Adopt policies supporting infill development					X	X		
Ensure that proposed land uses are supported by a multi-modal transportation system and that the land uses themselves support the development of the transportation system.					X	X		
Designate a central city core for high-density and mixed-use development.					X	X		
Discourage high intensity office and commercial uses from locating outside of designated centers or downtowns, or far from residential areas and transit stations.					X	X		
Provide financial incentives and density bonuses to entice development within the designated central city.					X	X		
Provide public education about benefits of well-designed, higher-density housing and relationships between land use and transportation.					X	X		

Compact Development

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Achieve a jobs/housing balance or improve the jobs/housing ratio within the plan area.					X	X		
Create incentives to attract mixed-use projects to older commercial and industrial areas.					X	X		
Adopt incentives for the concurrent development of retail, office, and residential land uses within mixed-use projects or areas. Require mixed-use development to include ground-floor retail.					X	X		
Provide adaptive re-use alternatives to demolition of historic buildings. Provide incentives to prevent demolition of historic buildings.	X	X			X	X		
Facilitate lot consolidation that promotes integrated development with improved pedestrian and vehicular access.					X	X		
Reinvest in existing neighborhoods and promote infill development as a preference over new, greenfield development.					X	X		
Ensure that new development finances the full cost of expanding public infrastructure and services to provide an economic incentive for incremental expansion.					X	X		
Require new developments to extend sewer and water lines from existing systems or to be in conformance with a master sewer and water plan.	X	X			X	X		

Transit-oriented Design

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Require all development projects proposed within 2,000 feet of an existing or planned light rail transit, commuter rail, express bus, or transit corridor stop, to incorporate site design measures that enhance the efficiency of the transit system.					X	X		
Develop transit/pedestrian-oriented design guidelines. Identify and designate appropriate sites during general plan updates and amendments.					X	X		
Plan areas within ¼-mile of locations identified as transit hubs and commercial centers for higher density development.					X	X		

Sustainable Development

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Ensure new construction complies with California Green Building Code Standards and local green building ordinances.					X	X		
Promote re-use of previously developed property, construction materials, and/or vacant sites within a built-up area.					X	X		
Avoid development of isolated residential areas near hillsides or other areas where such development would require significant infrastructure investment or adversely impact biological resources.						X		
Require orientation of buildings to maximize passive solar heating during cool seasons, avoid solar heat gain during hot periods, enhance natural ventilation, and promote effective use of daylight. Orientation should optimize opportunities for on-site solar generation.					X	X		
Provide land area zoned for commercial and industrial uses to support a mix of retail, office, professional, service, and manufacturing businesses.					X	X		
Provide permitting incentives for energy efficient and solar building projects.					X	X		
Develop a joint powers agreement or other legal instrument that provides incentive for counties to discourage urban commercial development in unincorporated areas and promote urban infill and redevelopment projects.					X	X		

Activity Centers

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Provide pedestrian amenities, traffic-calming features, plazas and public areas, attractive streetscapes, shade trees, lighting, and retail stores at activity centers.					X	X		
Provide for a mix of complementary retail uses to be located together to create activity centers and commercial districts serving adjacent neighborhoods.					X	X		
Permit upper-story residential and office uses in neighborhood shopping areas.					X	X		
Provide pedestrian links between commercial districts and neighborhoods.					X	X		
Provide benches, streetlights, public art, and other amenities in activity centers to attract pedestrians.					X	X		

Green Economy and Businesses

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Work with businesses to encourage employee transit subsidies and shuttles from transit stations.					X	X		
Encourage businesses to participate in local green business programs.					X	X		
Offer incentives to attract businesses to city core and infill areas.					X	X		
Work to attract green businesses and promote local green job training programs.					X	X		
Support regional collaboration to strengthen the green economy.					X	X		
Provide outreach and education to local businesses on energy, waste, and water conservation benefits and cost savings.					X	X		
Support innovative energy technology companies.					X	X		

9.6.3. Circulation Element

Local Circulation

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Create or reinforce a grid street pattern with small block sizes and maintain high connectivity within the roadway network.					X	X		
Implement circulation improvements that reduce vehicle idling, such as signal timing systems and controlled intersections.					X	X	X	
Consider alternatives such as increasing public transit or improving bicycle or pedestrian travel routes before funding transportation improvements that increase VMT.					X	X		
Require payment of transportation impact fees and/or roadway and transit improvements as a condition upon new development.					X	X		
Minimize use of cul-de-sacs and incomplete roadway segments.					X	X		
Actively promote walking as a safe mode of local travel, particularly for children attending local schools.					X	X		
Consult with school districts, private schools, and other operators to coordinate local busing, to expand ride-sharing programs, and to replace older diesel buses with low or zero emission vehicles.					X	X	X	
Evaluate all busing options as a preferential strategy to roadway improvements in the vicinity of schools to ease congestion.					X	X		
Establish public/private partnerships to develop satellite and neighborhood work centers for telecommuting.					X	X		
Employ traffic calming methods such as median landscaping and provision of bike or transit lanes to slow traffic, improve roadway capacity, and address safety issues.					X	X		
Support the use of electric vehicles where appropriate. Provide electric recharge facilities.					X	X		

Regional Transportation

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Ensure that submittals of transportation improvement projects to be included in regional transportation plans (RTP, RTIP, CMP, etc.) are consistent with the air quality goals and policies of the general plan.					X	X		
Consult with adjacent jurisdictions to address the impacts of regional development patterns on the circulation system.					X	X		
Adopt a (or implement the existing) Transportation Demand Management Ordinance.					X	X		
Create financing programs for the purchase or lease of vehicles used in employer ride sharing programs.					X	X		
Consult with adjacent jurisdictions to maintain adequate service levels at shared intersections and to provide adequate capacity on regional routes for through traffic.					X	X		
Work to provide a strong paratransit system that promotes the mobility of all residents and educate residents about local mobility choices.					X	X		
Designate sites for park-and-ride lots. Consider funding of the park and ride lots as mitigation during CEQA review of residential development projects.					X	X		
Consult with appropriate transportation agencies and major employers to establish express buses and vanpools to increase the patronage of park and ride lots.					X	X		
Allow developers to reach agreements with auto-oriented shopping center owners to use commercial parking lots as park-and-ride lots and multimodal transfer sites.					X	X		

Parking

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Reduce parking for private vehicles while increasing options for alternative transportation.					X	X		
Eliminate minimum parking requirements for new development.					X	X		
Establish commercial district parking fees.					X	X		
Require that parking is paid for separately and is not included in rent for residential or commercial space.					X	X		
Encourage parking sharing between different land uses.					X	X		
Encourage businesses to offer parking cash-outs to employees.					X	X		
Encourage parking assessment districts.					X	X		
Encourage car-share and bike-share programs and dedicated parking spaces in new development.					X	X		
Support preferential parking for low emission and carpool vehicles					X	X		

Bicycles and Pedestrians

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Provide safe and convenient pedestrian and bicycle connections to and from activity centers, commercial districts, offices, neighborhoods, schools, other major activity centers.					X	X		
Ensure that non-motorized transportation systems are connected and not interrupted by impassable barriers, such as freeways.					X	X		
Provide pedestrian pathways that are well-shaded and pleasantly landscaped to encourage use.					X	X		
Consult with transit providers to increase the number of bicycles that can be accommodated on buses.					X	X		
Provide crosswalks and sidewalks along streets that are accessible for people with disabilities and people who are physically challenged.					X	X		
Prohibit on-street parking to reduce bicycle/automobile conflicts in appropriate target areas.					X	X		
Prohibit projects that impede bicycle and walking access.					X	X		
Retrofit abandoned rail corridors as segments of a bikeway and pedestrian trail system.					X	X		
Require commercial developments and business centers to include bicycle amenities in building such as bicycle racks, showers, and lockers.					X	X		

Regional Rail Transit

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Support regional rail service and consult with rail operators to expand services.					X	X		
Create activity centers and transit-oriented development projects near transit stations.					X	X		

Local and Regional Bus Transit

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Give funding preference to investment in public transit over investment in infrastructure for private automobile traffic.					X	X		
Establish a local shuttle service to connect neighborhoods, commercial centers, and public facilities to rail transit.					X	X		
Empower seniors and those with physical disabilities who desire maximum personal freedom and independence of lifestyle with unimpeded access to public transportation.					X	X		
Provide transit shelters that are comfortable, attractive, and accommodate transit riders. Ensure that shelters provide shade, route information, benches and lighting.					X	X		
Design all arterial and collector streets planned as transit routes to allow for the efficient operation of public transit.					X	X		
Require transit providers to coordinate intermodal time schedules.					X	X		

9.6.4. Conservation Element

Municipal Operations

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Replace existing City vehicles with ultra-low or zero emission vehicles and purchase new low emission vehicles.					X	X		
Require that all new government buildings, and all major renovations and additions, meet identified green building standards.					X	X		
Install cost-effective renewable energy systems on all city buildings and purchase remaining electricity from renewable sources.					X	X		
Support the use of teleconferencing in lieu of city/county employee travel to conferences and meetings when feasible.					X	X		
Require city/county departments to set up telecommuting programs as part of their trip reduction strategies.					X	X		
Require environmentally responsible government purchasing. Require or give preference to products that reduce or eliminate indirect GHG emissions.						X		
Investigate the feasibility of using solar (photovoltaic) street lights instead of conventional street lights to conserve energy.					X	X		
Support investment in cost-effective land use and transportation modeling and geographic information system technology.					X	X	X	X
Install LED lighting for all traffic light systems.						X		
Implement a timed traffic light system to reduce idling.					X	X		

Air Quality – Sensitive Receptors

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Develop and adopt a comprehensive Community Risk Reduction Plan that includes: baseline inventory of TAC and $PM_{2.5}$ emissions from all sources, emissions reduction targets, and enforceable emission reduction strategies and performance measures. Community Risk Reduction Plan to include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, report progress to the public and responsible agencies, and revise the plan as appropriate.			X				X	
Require residential development projects and projects categorized as sensitive receptors to be located an adequate distance from existing and potential sources of TACs and odors.				X			X	X
Require new air pollution point sources such as, but not limited to, industrial, manufacturing, and processing facilities to be located an adequate distance from residential areas and other sensitive receptors.	X		X	X	X		X	X
Consult with BAAQMD to identify TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.			X	X			X	X
Consult with project proponents during the pre-application review process to avoid inappropriate uses at affected sites and during the environmental review process for general plan amendments and general plan updates.					X		X	X
Require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review when the proposed project has associated air-toxic emissions.			X				X	
Designate adequate industrial land in areas downwind and well-separated from sensitive uses.							X	X
Designate non-sensitive land uses for areas surrounding industrial sites.					X		X	X
Protect vacant industrial sites from encroachment by residential or other sensitive uses through appropriate zoning.					X		X	X
Require indoor air quality equipment, such as enhanced air filters, to be installed at schools, residences, and other sensitive receptor uses located near pollution sources.							X	X
Quantify the existing and added health risks to new sensitive receptors or for new sources.							X	
Utilize pollution absorbing trees and vegetation in buffer areas.					X	X	X	

Air Quality – PM_{10} and Dust Control

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.	X				X			
Minimize vegetation removal required for fire prevention.	X				X			
Require alternatives to discing, such as mowing, to the extent feasible. Where vegetation removal is required for aesthetic or property maintenance purposes, encourage or require alternatives to discing.	X	X			X	X		
Require subdivision designs and site planning to minimize grading and use landform grading in hillside areas.	X							
Condition grading permits to require that graded areas be stabilized from the completion of grading to commencement of construction.	X							
Require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.	X							
Develop a street cleaning program aimed at removing heavy silt loadings from roadways that result from sources such as storm water runoff and construction sites.	X				X			
Pave shoulders and pave or landscape medians. Curb and gutter installation may provide additional benefits where paving is contiguous to the curb.	X	X			X	X		

Water Conservation

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Require residential remodels and renovations to improve plumbing fixture and fixture-fitting water efficiency by an established amount above the California Building Standards Code water efficiency standards.		X						
Provide water use audits to identify conservation opportunities and financial incentives for adopting identified efficiency measures.		X						
Require use of native and drought-tolerant plants, proper soil preparation, and efficient irrigation systems for landscaping.		X				X		
Maximize use of native, low-water plants for landscaping of areas adjacent to sidewalks or other impermeable surfaces.		X				X		
Increase use of recycled and reclaimed water for landscaping projects.		X				X		
Adopt a water-efficient landscaping ordinance and implement the Bay-Friendly Landscaping Guidelines established by StopWaste.org.						X		
Provide public water conservation education.						X		
Reduce pollutant runoff from new development through use of Best Management Practices.	X	X	X		X	X	X	
Minimize impervious surfaces and associated urban runoff pollutants in new development and reuse projects.	X	X	X		X	X	X	
Utilize permeable surfaces and green roof technologies where appropriate.					X	X	X	

Energy Conservation

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Conduct energy efficiency audits of existing buildings by checking, repairing, and readjusting heating, ventilation, air conditioning, and lighting, water heating equipment, insulation and weatherization. Offer financial incentives for adoption of identified efficiency measures.		X				X		
Require implementation of energy-efficient design features in new development, including appropriate site orientation, exceedance of Title 24, use of light color roofing and building materials, and use of evergreen and wind-break trees to reduce heating and cooling fuel consumption.		X				X		
Adopt residential and commercial energy efficiency retrofit ordinances that require upgrades as a condition of issuing permits for renovations or additions, and on the sale of residences and buildings.		X				X		
Facilitate cooperation between neighboring development projects to use on-site renewable energy supplies or combined heat and power co-generation facilities.		X				X		
Develop a comprehensive renewable energy financing and informational program for residential and commercial uses.		X				X		
Partner with community services agencies to fund energy efficiency projects for low income residents.		X				X		
Encourage the installation of energy efficient fireplaces in lieu of normal open-hearth fireplaces. Prohibit installation of wood burning devices.	X	X			X	X		
Provide natural gas lines or electrical outlets to backyards to encourage the use of natural gas or electric barbecues, and electric gardening equipment.	X				X			
Implement Community Choice Aggregation (CCA) for renewable electricity generation.		X				X		

Solid Waste

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Achieve established local and regional waste-reduction and diversion goals. Adopt more stringent waste reduction goals.		X				X		
Establish programs that enable residents to donate or recycle surplus furniture, old electronics, clothing, and other household items.		X				X		
Establish methane recovery in local landfills and wastewater treatment plants to generate electricity.		X				X		
Participate or initiate a composting program for restaurants and residences.						X		
Implement recycling programs for businesses and construction waste.	X	X			X	X		
Prohibit styrofoam containers and plastic bag use by businesses.					X	X		

9.6.5. Open Space Element

Community Forestry

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Require inclusion of low VOC-emitting street trees and landscaping for all development projects.		X				X		
Require that trees larger than a specified diameter that are removed to accommodate development must be replaced at a set ratio.		X				X		
Provide adequate funding to manage and maintain the existing community forest, including sufficient funds for tree planting, pest control, scheduled pruning, and removal and replacement of dead trees.		X				X		
Provide public education regarding the benefits of street trees and the community forest.		X				X		

Sustainable Agriculture

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Require agricultural practices be conducted in a manner that minimizes harmful effects on soils, air and water quality, and marsh and wildlife habitat. Sustainable agricultural practices should be addressed in the Qualified GHG Reduction Strategy to address climate change effects if relevant.	X	X			X	X		
Preserve forested areas, agricultural lands, wildlife habitat and corridors, wetlands, watersheds, groundwater recharge areas and other open spaces that provide carbon sequestration benefits.	X	X			X	X		
Establish a mitigation program for establishing conservation areas. Impose mitigation fees on development of such lands and use funds generated to protect existing, or create replacement, conservation areas.	X	X			X	X		
Require no-till farming, crop rotation, cover cropping, and residue farming.	X	X			X	X		
Require the use of appropriate vegetation within urban-agricultural buffer areas.		X				X		
Protect grasslands from conversion to non-agricultural uses.	X	X			X	X		
Support energy production activities that are compatible with agriculture, including biogas, wind and solar.		X				X		
Allow alternative energy projects in areas zoned for agriculture or open space where consistent with primary uses.		X				X		
Provide spaces within the community suitable for farmers markets.						X		
Promote local produce and garden programs at schools.						X		

Parks and Recreation

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Expand and improve community recreation amenities including parks, pedestrian trails and connections to regional trail facilities.						X		
Require payment of park fees and/or dedication and provision of parkland, recreation facilities and/or multi-use trails as a condition upon new development.		X				X		
Encourage development of pocket parks in neighborhoods. Improve equal accessibility to park space across communities.		X				X		
Encourage joint use of parks with schools and community centers and facilities.		X				X		

9.6.6. Housing Element

Affordable Housing

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Ensure a portion of future residential development is affordable to low and very low income households.		X				X		
Target local funds, including redevelopment and Community Development or Energy Efficiency Block Grant resources, to assist affordable housing developers in incorporating energy efficient designs and features.						X		
Adopt minimum residential densities in areas designated for transit-oriented, mixed use development to ensure higher density in these areas.					X	X		
Consult with the Housing Authority, transit providers, and developers to facilitate construction of low-income housing developments that employ transit-oriented and pedestrian-oriented design principles.					X	X		
Offer density-bonus incentives for projects that provide for infill, mixed use, and higher density residential development.					X	X		

9.6.7. Safety Element

Traffic Safety

Mitigation Measure or General/Area Plan Policy	Construction				Operational			
	CAPs	GHGs	TACs	Odors	CAPs	GHGs	TACs	Odors
Facilitate traffic safety for motorists and pedestrians through proper street design and traffic monitoring.					X	X		
Require traffic control devices, crosswalks, and pedestrian-oriented lighting within design of streets, sidewalks, trails, and school routes.					X	X		

A. CONSTRUCTION ASSESSMENT TOOLS

High Level Haulage Input Worksheet
High Level of Detail Fugitive Dust Quantification Method

Instructions: When using the *High Level of Detail* quantificaiton method to calculate fugitive dust emissions from cut/fill activities, BAAQMD recommends using this worksheet to calculate the on- and off-site haulage inputs for URBEMIS. If a project would involve both on-site and off-site cut/fill operations, the user should create two separate High Level Haulage Input Worksheets (i.e., one worksheet calculation for on-site and one for off-site).

Project Name:

Grading Activity/Phase:

Input to use in URBEMIS
Calculation (do not change)

Cut/Fill Operations

Description	Amount	Units	Notes
Total Cut/Fill Volume	[illegible]	cubic yards	Enter information
Months of Activity	[illegible]	months	Enter information
Days of Activity	44	days	
Daily Cut/Fill Volume	40.91	cubic yards/day	

Soil Density by Soil Type and Condition

Soil Type	Bulk Density (grams/cubic centimeter)	Density (pounds/cubic yard)	Density (tons/cubic yard)
Sandy	1.69	2,849	1.42
Loamy Coarse-Loamy	1.63	2,747	1.37
Loamy Fine-Loamy	1.60	2,697	1.35
Loamy Coarse-Silty	1.60	2,697	1.35
Loamy Fine-Silty	1.54	2,596	1.30
Clayey 25-25% clay	1.49	2,511	1.26
Clayey >45% clay	1.39	2,343	1.17

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, 2007. National Soil Survey Handbook, title 430-VI. [Online] Available at <http://soils.usda.gov/technical/handbook/>.

URBEMIS 2007 Ton-Mile Calculation

Description	Amount	Units	Notes
Soil Type	Loamy Coarse-Loamy		Use drop-down menu to select soil type. Assume Sandy unless project-specific soil type is known.
Soil Density	[illegible]	tons/cubic yard	Enter project specific soil density if known
Haul Distance (Round Trip On-Site)	[illegible]	miles	Enter distance
Ton-Mile per Day	2.25	ton-miles/day	

Notes:
On-site ton-mile assumes cut/fill volume is moved by scrapers.
Off-site ton-mile assumes cut/fill volume is moved by haul trucks.

URBEMIS Construction Modeling Data Needs/Requests

1) Construction Schedule

Land use type and size to be developed
Commencement and buildout date
Duration and start date for each construction phase (e.g., demolition, grading, building construction)
Identify any potential or planned overlap in phases

Note: If project will be built out in multiple phases, provide information above for each phase.

2) Demolition

Commencement date and duration of activities
Total volume to be demolished
Maximum daily volume to be demolished
Haul truck capacity and distance to disposal site (URBEMIS defaults provided)
Demolition equipment required (URBEMIS defaults provided)

Note: URBEMIS estimates demolition construction equipment based on the land use being developed.

3) Grading (Mass and Fine)

Commencement date and duration of activities
Maximum daily acres disturbed (URBEMIS defaults provided)
Volume of material to be cut and/or filled (cubic yards)
Volume of material to be exported and/or exported (cubic yards)
Construction equipment required

Note: URBEMIS estimates grading construction equipment based on maximum daily acres disturbed.

4) Fugitive Dust

A) Method 1 (Default)
Maximum daily acres disturbed (URBEMIS defaults provided)

B) Method 2 (Low Level of Detail)
Duration of cut/fill operations
Volume of material to be cut and/or filled (cubic yards)
Origin of soil material (i.e., on-site or off-site)

C) Method 3 (Medium Level of Detail)
Duration of cut/fill operations
Number of scrapers or haul trucks operating per day
Hours of operation for each scraper or haul truck (scraper hours and haul truck hours)

D) Method 4 (High Level of Detail)
Duration of cut/fill operations
Volume of material to be cut and/or filled (cubic yards)
Bulk density of material (i.e., tons per cubic yard)
Round trip distance required to move materials on-site (on-site miles only)

5) Asphalt Paving

Commencement date and duration of activities
Total acres to be paved
Construction equipment required

Note: URBEMIS estimates asphalt paving construction equipment based on total acres to be paved.

6) Architectural Coatings

Commencement date and duration of activities

B. AIR QUALITY MODELING INSTRUCTIONS (URBEMIS)

This section provides detailed instructions for and examples of air quality modeling of operational and construction-related emissions pursuant to the methodological recommendations in this guide.

OPERATIONAL-RELATED EMISSIONS

URBEMIS Input Parameters

URBEMIS provides default values for Bay Area specific modeling parameters. Users may use the default values or provide project specific information when possible for more accurate emission quantification. BAAQMD-recommended input parameters and data requirements along with general URBEMIS user information for each operational-related activity are described below. Refer to the URBEMIS User's Guide and the BAAQMD Greenhouse Gas Model User's Manual (referred to collectively as the "User's Guide" below) for more detailed information.

Table B-1
URBEMIS Input Parameters for Operation Emissions

Operational Input Parameters	Guidance Principle
Air District	Bay Area Air District
Analysis Year	Earliest possible year when project would be operational
Land Use Type and Units	Based on project description
Trip Rate	From project traffic study, local trip rates, or ITE Trip Generation Manual
Project Location	Urban
Road Dust	Category should not be turned off but can be modified if project information is known
Pass-by Trips	See User's Guide for further instructions
Double Counting Correction	See User's Guide for further instructions
Percentage of Land Uses using Natural Gas	100 percent for both residential and nonresidential development
Persons per Residential Unit (Consumer Products)	Based on estimated number of residents
All Other URBEMIS Inputs	Use default values, unless project-specific data is available. See User's Guide for further instructions[1]

[1] The rationale for changing default values should be disclosed in the CEQA document

Land Use Type and Size

Choose each individual land use type (e.g., single family housing, apartment high rise, regional shopping center, or office park) that is most applicable to the proposed development project in the *Enter Land Use Data* module and enter the size of the project (e.g., acres, thousand square feet [ksf], students, dwelling units [du], rooms, pumps, rooms, or employees). Ensure that the unit type for the project-specific data is consistent with the unit type selected in URBEMIS. By default, URBEMIS estimates the trip generation rates for each land use type based on equations included in the ITE Trip Generation Manual. The trip rate represents the number of daily trips generated by a particular land use type by size. Override the default trip rate if project-specific data is available from the transportation analysis.

URBEMIS estimates the trip rate differently for residential land use types than for non-residential land use types. For residential land use types, URBEMIS adjusts the default trip rate based on residential density (i.e., dwelling units/residential acre). Overriding the default value for the number of acres for a residential land use type would automatically result in a change in the trip rate value. If both the number of acres and the trip rates for a residential development are known, enter the unit amount for the land use first, then adjust the acreage second, and then adjust the trip rate last. Select the *Submit* button after completing the *Enter Land Use Data* module.

For nonresidential land use types, URBEMIS uses a default trip rate value that is directly based on the unit amount entered into the *Enter Land Use Data* module. URBEMIS also assumes a Floor Area Ratio (FAR) of 0.5 for all nonresidential uses. The FAR is the ratio of the total floor area of a building to the size of the parcel on which it is located. Override the value in the acres data field based on the FAR for the proposed nonresidential land uses. URBEMIS does not adjust the default trip rate if the acre value is adjusted.

The *Enter Land Use Data* module includes a default worker commute trip percentage for all nonresidential land use types, which is used to estimate percentages of other commercial trip types in the *Enter Operational Data* module. The *Enter Land Use Data* module also contains default percentages of primary, diverted, and pass-by trips for all land use types, residential and non-residential. Primary trips are trips made for the specific purpose of visiting the generator and URBEMIS assumes that primary trips travel a full trip length; pass-by trips are trips made as intermediate stops on the way from an origin to another trip destination; and diverted-linked trips are trips attracted from the traffic volume on roadways in the vicinity of the generator but which require a diversion from that roadway to another roadway to gain access to the site. Pass-by and diverted-linked trips are assigned a shorter trip distance than primary trips. URBEMIS assumes that pass-by trips result in virtually no extra travel, with an assumed trip length of 0.1 mile. Diverted-linked trip lengths are assumed to equal 25 percent of the primary trip length. URBEMIS allows users to edit these data fields. URBEMIS incorporates this information for estimation of mobile-source emissions only if the check box for the Pass-by Trips category in the *Enter Operational Data* module is selected. When not selected, URBEMIS assumes all trips are primary trips. BAAQMD recommends reviewing the User's Guide for more information about when to use this feature. Additional discussion about pass-by trips is provided under the *Enter Operational Data* module guidance below.

When estimating emissions for a type of land use that is not listed in URBEMIS, select a similar land use type or add a new land use type on the Blank tab of the *Enter Land Use Data* module. When selecting a similar nonresidential land use type as a proxy, consider the worker commute trip percentage and the primary, diverted, and pass-by trip values. The name of the land use type is unimportant and can be overridden with new text if desired. BAAQMD recommends using one of the types of residential land uses listed in URBEMIS as a proxy when analyzing any type of unique residential project.

For unique nonresidential types of land uses, BAAQMD recommends either using another nonresidential land use type as a proxy or using a Blank land use type. If a new land use type is analyzed using a row on the Blank tab of the *Enter Land Use Data* module, enter a trip rate as URBEMIS does not provide default trip rate on the Blank tab. BAAQMD recommends using a trip rate from the ITE Trip Generation Manual, if an appropriate trip rate is available. If an applicable trip generation rate is not available, the Lead Agency should make a good faith effort to derive a trip generation rate for the proposed project.

Operational Data

The *Enter Operational Data* module allows users to estimate vehicle exhaust emissions from trips (and associated VMT) generated by a project. The module consists of seven operational

parameter categories including *Year & Vehicle Fleet*, *Trip Characteristics*, *Temperature Data*, *Variable Starts*, *Road Dust*, *Pass-by Trips*, and *Double-Counting Correction*. The first five operational categories are all needed to calculate vehicle exhaust emissions and; therefore, cannot be turned off. Three of the seven operational categories can be turned off: *Road Dust*, *Pass-by Trips*, and *Double-Counting Correction*.

Guidance regarding each of the operational categories is provided below. In general, most of the default values for these seven source categories do not need to be changed, except where otherwise noted.

Year & Vehicle Fleet
The *Year & Vehicle Fleet* category allows users to specify the operational year for the project. Use the earliest possible year when the project would be operational to estimate worst-case operational emissions. Be aware that changing the project start year also changes the vehicle fleet mix. The default fleet mix values (i.e., *Fleet %, Vehicle Type, Non-Catalyst, Catalyst, Diesel*) are based on values from EMFAC using the year and the location of the project that is specified when users creates a new project in URBEMIS. The fleet mix should be modified only if it is known that the fleet mix for a project would be different from the average vehicle fleet mix in the project area. In that situation, select *Keep Current Fleet Mix When Changing Years*. Changes to the fleet mix data should be based on information provided by the transportation analysis and/or assumptions that are disclosed in the CEQA document. For instance, the fleet mix of motor vehicle trips generated by a school project would likely consist of a higher percentage of school buses and a lower percentage of motor homes and motorcycles than the URBEMIS average.

Trip Characteristics
The *Trip Characteristics* category includes trip data such as average speed, trip percentages, urban and rural trip lengths for different trip types. The trip percentages for home-based trips can be modified; however, it is not possible to modify the same for commercial-based trips, which URBEMIS calculates using the worker commute trip percentage entered in the *Enter Land Use Data* module. URBEMIS uses either the urban or rural trip length values depending on whether *Urban Project* or *Rural Project* is selected on the same screen. In general, the *Urban Project* option should be selected for most land use development projects under BAAQMD's jurisdiction. The trip length values can be changed if supported by information produced in a transportation analysis and/or reasonable assumptions about the project. For instance, the trip length for a proposed school might be adjusted according to the spatial distribution of the households that would be served by that school, particularly if the majority of trip generation would consist of parents driving their children to the school.

In addition to trip rate adjustments based on residential density, URBEMIS allows for modifications to vehicle trips based on other project characteristics. If specific project information is available for any land use type it should be reflected in the URBEMIS inputs. The table "URBEMIS Measures – Operational (Mobile-source) Measures" in Section 4.2 lists available measures to alter the trip rate to better reflect specific conditions. For example, if a project includes access to transit, URBEMIS trip rates can be adjusted between 0% and 15%. A 15% reduction in vehicle trips due to transit access would only be appropriate for a project that offers access to exceptional transit service. See the User's Guide for further instructions on all adjustments. Lead agencies must discuss and justify their reductions with substantial evidence.

Temperature Data
The *Temperature Data* category contains default ambient winter and summer temperature values which are used to estimate winter and summer emissions, respectively. The default temperature values in these data fields are specific to SFBAAB and should only be modified in consultation with BAAQMD.

Variable Starts
The *Variable Starts* parameter category shows the percentage of vehicles in several time classes (minutes since the vehicle engine was turned off) for the six trip types defined in the *Trip Characteristics* parameter category. This information is derived from the applicable EMFAC file and should only be modified in consultation BAAQMD.

Road Dust
The *Road Dust* parameter category allows users to specify the distribution of vehicle travel between paved and unpaved roads. This category is used to calculate entrained road dust emissions due to vehicle travel on paved and unpaved surfaces. Do not turn this category off, and users can adjust the percentage of travel on paved and unpaved roads if detailed project information is known.

Pass-by Trips
The *Pass-by Trips* parameter category can only be turned on or off. When selected, this category divides all the project-generated trips into primary, pass-by, and diverted-linked trips (entered as percentages in *Enter Land Use Data* module). When this category is not selected, URBEMIS assumes 100 percent of the project-generated trips are primary trips. Pass-by trips are trips made as intermediate stops on the way from an origin to a primary trip destination. URBEMIS accounts for these trips by setting the trip length to 0.1 miles for each pass-by trip. These trips are most important for retail and commercial land uses, such as gas stations and fast food restaurants. This option is not applicable to all land use types. For example, most of the trips to and from a *Warehouse* are typically expected to be primary trips and the *Pass-by Trips* option should not be used. This category check box should not be selected unless the percentage of pass-by trips is supported by a transportation analysis or a set of reasonable assumptions discussed in the CEQA document. If the trip length values in the *Trip Characteristics* category or the trip rate values in the Enter Land Use Data module are overwritten using information provided by a transportation analysis, be aware of whether the traffic data incorporated the occurrence of pass-by trips. If the *Pass-By Trips* checkbox is selected then the Lead Agency should discuss its reasoning for assuming that some of the project-generated vehicle trips would be considered pass-by trips.

Double-Counting Correction
The *Double-Counting Correction* parameter category is designed to account for internal trips between residential and nonresidential land uses. The *Double-Counting Correction* is applicable to mixed-use projects that include both residential and nonresidential land use types in the *Enter Land Use Data* module. For example, a residential trip and a retail trip generated by a mixed-use project may be the same trip. Users have the option of entering the number of internal trips between residential and nonresidential land uses in the *Enter the gross internal trip* as desired. The value entered represents the number of internal trips that would not be included in the emissions estimate. This category should not be used unless the transportation analysis or local transportation studies contain data to support the correction factor. In some cases, the transportation analysis may report project-specific trip generation that is already corrected for internal trips. Consult with a traffic engineer to determine the appropriate method to account for internal trips. The *Double-Counting Correction* checkbox should not be selected if detailed project information is unknown.

Area Source
The *Enter Area Source Data* module allows users to adjust the five area-source emission categories including, natural gas fuel combustion, hearth fuel combustion, landscape fuel combustion, consumer products, and architectural coatings. The natural gas, hearth, and landscape maintenance categories relate to on-site fuel combustion and the consumer products and architectural coatings categories address on-site evaporative emissions.

Guidance regarding each of the area-source categories is provided below. In general, most of the default values for these five source categories do not need to be changed except where otherwise noted in this guide.

Natural Gas Fuel Combustion
Parameters in the *Natural Gas Fuel Combustion* category are used to estimate the natural gas combustion emissions from space and water heating. On the *Natural Gas* tab the default percentage for land uses using natural gas should be changed to 100 percent for both residential and nonresidential land use types, as is representative of most development projects in the SFBAAB, unless project-specific data is available. Similarly, do not override the default natural gas usage values unless project-specific data is available.

Hearth Fuel Combustion
The *Hearth Fuel Combustion* category consists of separate tabs for *Hearth Percentages*, *Wood Stoves*, *Wood Fireplaces*, *Natural Gas Fireplaces*, and *Natural Gas Emission Factors*. Each of the tabs is discussed separately below.

- *Hearth Percentages*
  The parameters on the *Hearth Percentages* tab are applicable only to projects that include residential units. The default percentages should be used for the wood stoves, wood fireplaces, and wood stoves unless project-specific information is available. URBEMIS does not estimate emissions from any hearth types for nonresidential land use types.

- *Wood Stoves*
  On the *Wood Stoves* tab, the default percent values for the types of wood stoves (i.e., *Noncatalytic*, *Catalytic*, *Conventional*, and *Pellet*) should be changed in accordance with District Regulation 6, Rule 3, which allows only EPA-certified wood burning fireplaces and pellet stoves in new construction projects. The values for *Wood Burned*, *Wood Stove Usage*, and *Pounds in a Cord of Wood* should not be changed unless project-specific information is available.

- *Wood Fireplaces*
  The *Wood Fireplaces* tab is similar to the *Wood Stoves* tab. The emission factors on this tab cannot be modified. The values for *Wood Burned*, *Wood Stove Usage*, and *Pounds in a Cord of Wood* should not be changed unless project-specific information is available. District Regulation 6, Rule 3 allows only EPA-certified wood burning fireplaces in new construction projects.

- *Natural Gas Fireplaces*
  The values in the data fields on the *Natural Gas Fireplaces* tab should only be modified in the case that project-specific information is available that supports overriding default values.

- *Natural Gas Emission Factors*
  The emission factors contained in the *Natural Gas Emission Factors* tab cannot be modified. These values are used to estimate emissions from natural gas combustion in fireplaces/stoves and, according to the URBEMIS User's Guide, are based on U.S. Environmental Protection Agency Air Pollutant (AP-42) emission factors.

Landscape Fuel Combustion
The *Landscape Fuel Combustion* source category calculates on-site emissions from landscaping equipment such as lawn mowers, leaf blowers, chain saws, and hedge trimmers that are powered by internal combustion engines. On this tab, only adjust the value for the year being analyzed. The year entered into this field should be the earliest year when the project could become fully

operational. Landscaping emissions are estimated for the summer period only. URBEMIS uses emission rates from ARB's OFFROAD model to estimate of landscape maintenance equipment emissions.

Consumer Products
The *Consumer Products* source category is only relevant to projects that include residential land use types. The *Pounds of ROG (per person)* value should not be adjusted in this category. The persons per residential unit data field should be adjusted based on the estimated number of residents that would be supported by the proposed project, if available. The value should be consistent with the number of residents divided by the number of residential units.

Architectural Coating
Do not make changes to the values in the *Architectural Coating* source category without consulting BAAQMD.

EXAMPLE PROJECT OPERATIONAL-RELATED EMISSIONS CALCULATION

Description
The Example Project would develop a multi-story, mixed-use building that includes 40 units of residential condominium apartments, 50,000 square feet (or "50 thousand square feet" [ksf]) of offices and 35 ksf of retail land uses on an undeveloped 4.0-acre site. All of the residential condominium apartments would have natural gas lines for space heating but half of the units would be referred to as "suites" and include natural gas fireplaces. The regular apartments would not have natural gas fireplaces. Project construction would last two years beginning in 2010 and the project would be fully operational by 2013.

Screening Analysis
In the Land Use Module of URBEMIS (*Enter Land Use Data*) the corresponding Land Use Types of the proposed development would be Apartment High Rise units, General Office Building, and Strip Mall.

When each of the Land Use Types (i.e. Apartment High Rise units, General Office Building, and Strip Mall) is considered individually, their respective sizes would not exceed any of the District's Operational Screening Criteria (Table 3-1). However, because the project would contain more than one land use type, the operational screening levels cannot be used to assess the project's operational emissions, as explained in the discussion about the screening levels earlier in this guidance. The lead agency would be required to perform a detailed estimation of operational emissions using URBEMIS.

Emissions Quantification
When entering the proposed land uses into the Land Use Module, URBEMIS estimates the number of Acres for each Land Use Type assuming that each land use type would be constructed on separate lots. Using default values URBEMIS would assume this Example Project is 4.56 total acres (i.e. 0.65 acres for Apartment High Rise, 2.30 acres for General Office Building, and 1.61 acres for Strip Mall). For mixed-use and/or multi-level developments, the user should adjust the Acres for each of the proposed land uses such that the combined total acreage of all land use types is equal to the actual combined total size of the proposed project site (i.e., 4.0 acres, in this example) prior to running the model.

URBEMIS estimates the Trip Rate differently for residential land use types than for non-residential land use types. For residential land use types, URBEMIS adjusts the default Trip Rate based on residential density (i.e., dwelling units/residential acre). Therefore, overriding the default

value for the number of Acres assumed by URBEMIS for a residential land use type would automatically result in a change to the value assumed in the Trip Rate data field. If both the number of Acres and the Trip Rate for a residential development are known, the user should adjust the Acres field first, then adjust the Trip Rate field, and then click the Submit button. For nonresidential Land Use Types, URBEMIS uses a default value for in the Trip Rate data field that is directly based on the Unit Amt entered into the Land Use Module. The trip rates used by URBEMIS are based on standard rates from the ITE Trip Generation Manual. URBEMIS also assumes a Floor Area Ratio (FAR) of 0.5 for all nonresidential land use types. The FAR is the ratio of the total floor area of a building to the size of the parcel on which it is located. The user should override the value in the Acres data field based on the actual FAR for the development, as appropriate.

In the Area Source Module, Hearth Fuel Combustion category, the user should change the data fields for Wood Stoves, Wood Fireplaces, Natural Gas Fireplaces, and None (% w/o any hearth option) on the Hearth Percentages tab to 0, 0, 50, and 50, respectively to match the project description. In the Landscape Fuel Combustion source category the Year being Analyzed data field should be changed to 2013.

In the Operational Module the year data field in the Year & Vehicle Fleet category page should also be changed to 2013.

Lastly, the estimated daily and annual emissions of criteria air pollutants and precursors should be compared to the District's thresholds of significance (Table 2-2). If the daily or annual emissions would exceed the thresholds of significance, operational emissions would be considered significant and all feasible mitigation measures should be implemented to reduce these emissions.

CONSTRUCTION-RELATED EMISSIONS

Land Use Development Projects

URBEMIS includes a module (*Enter Construction Data*) that quantifies emissions from the following construction-related activity phases: demolition, mass and fine grading ("grading"), trenching, asphalt paving, building construction, and the application of architectural coatings.

URBEMIS Input Parameters

BAAQMD recommends input parameters and data requirements along with general URBEMIS user information for each construction-related activity phase below. Refer to the URBEMIS User's Manual for more detailed information. Appendix A contains a *Construction Data Needs Form* template that can be used to assist with requesting and gathering project-specific information.

Land Use Type and Size

Choose each individual land use type (e.g., single family housing, apartment high rise, regional shopping center, or office park) that is most applicable to the proposed development project in the *Enter Land Use Data* module and enter the size of the project (e.g., acres, thousand square feet [ksf], students, dwelling units [du], rooms, pumps, rooms, or employees). For several of the land use types, various size units are available (e.g., ksf and acres); ensure that the unit type for the project-specific data is consistent with the unit type selected in URBEMIS.

Schedule

The project schedule typically provides the number of months or days required for the completion of each construction-related activity phase (e.g., grading, building construction, asphalt paving), as well as the total duration of project construction. Where project-specific information is

available, modify URBEMIS default assumptions in *Click to Add, Delete, or Modify Phases* under the *Enter Construction Data* module. In this module, add or delete construction activities, add multiple similar construction activities (e.g., three grading phases), as well as overlap any construction activities as necessary. The URBEMIS default assumption for the number of work days per week is five, which inherently assumes that construction-related activities would only occur during weekdays, not on weekends. This can be altered if project-specific data is available in *Click to Add, Delete, or Modify Phases* under the construction phase setting *Work Days/Week.* For projects with specific phasing information (i.e., duration of each construction phase), but no definite construction commencement date, the earliest feasible start date should be used to be conservative. In addition, when project-specific information is not known, assume some overlap of construction phases (e.g., overlap of grading and asphalt paving activities or asphalt paving and building construction activities) to also be conservative. Please note that URBEMIS quantifies annual emissions on a calendar year basis (i.e., January to December) rather than the year-long period (running yearly average from the start date of construction) with the maximum amount of emissions.

Demolition

URBEMIS quantifies exhaust and fugitive PM dust emissions from demolition activities in the *Demolition Phase* within the *Enter Construction Data* module. Information to quantify emissions from this activity phase includes:

1. Duration of demolition (work days/week, phase start and end dates);
2. Total volume of building to be demolished (width, length, and height);
3. Maximum daily volume of building to be demolished (width, length, and height);
4. Haul truck capacity (cubic yards [yd^3]);
5. Haul truck trip length to disposal site (round trip miles); and
6. Off-road equipment requirements (number and type of equipment).

URBEMIS contains default assumptions for haul truck capacity (yd^3 per truck) and round trip distance (miles), if project-specific information is not available. URBEMIS also contains default assumptions for off-road equipment requirements. URBEMIS bases these on the size(s) of the proposed land use type(s) in the *Enter Land Use Data* module to estimate the off-road equipment requirements. In other words, URBEMIS assumes the size of the land use to be demolished is equal to the land use that would be developed. If the size(s) and/or type(s) of the land use(s) to be demolished are different from the land use(s) to be developed, create a separate URBEMIS run to quantify demolition emissions. Input the size and type of land use(s) for the different demolition building space versus the proposed building space in the *Enter Land Use Data* module for the separate URBEMIS run and only include the *Demolition* phase within the *Enter Construction Data* module.

Site Grading (Mass and Fine)

URBEMIS quantifies exhaust and fugitive PM dust emissions from grading activities in the *Site Grading* phase within the *Enter Construction Data* module. Information to quantify emissions from this activity phase includes, where applicable:

1. Duration of grading (work days/week, phase start and end dates);
2. Total acreage to be graded (acres);
3. Maximum daily acreage disturbed (acres per day);
4. Type and amount of cut/fill activities (yd^3 per day on- or off-site);
5. Description of soil hauling (amount of soil import/export [yd^3], haul truck capacity [yd^3 per truck], round trips per day, round trip distance [miles]); and

6. Off-road grading equipment requirements (number and type of equipment).

URBEMIS default assumptions for the total acreage to be graded and the maximum daily acreage disturbed are shown in the *Daily Acreage* tab within the *Site Grading* phase. Under the default settings, URBEMIS assumes that the maximum daily acreage disturbed is equivalent to 25 percent of the total acreage to be graded. Override this default assumption if more specific project information is available. The *Site Grading* phase consists of separate tabs for *Daily Acreage*, as mentioned above, *Fugitive Dust*, *Soil Hauling*, and *Site Grading Equipment*. Due to the differences in methodology and level of information required, each is discussed separately below.

Fugitive Dust
URBEMIS quantifies fugitive PM dust emissions in the *Site Grading* phase under the *Fugitive Dust* tab. URBEMIS provides four different levels of detail from which to select (i.e., default, low, medium, and high), described below.

Default: This method involves the use of the *Default Emission Rate* quantification methodology in the *Fugitive Dust* tab for which fugitive PM dust emissions are based on an emission rate (pound per disturbed acre per day [lb/acre-day]). This method should only be used when no project-specific information is known, or when no cut/fill activities would occur. BAAQMD recommends the selection of the worst-case emission rate (i.e., 38.2 lb/acre-day) for extensive site preparation activities (e.g., cut/fill) where the exact type and amount (e.g., yd^3 per day on- or off-site) are not known, and selection of the average emission rate (i.e., 10 lb/acre-day) otherwise. The average emission rate would be used for projects that involve typical site grading activities, but no cut/fill or earthmoving activities.

Low: The *Low Level of Detail* quantification method should be used when cut/fill activities would occur and the amount of on-site and off-site cut/fill is known. Input the type and amount of cut/fill activities (yd^3 per day on- or off-site). On-site cut/fill activities involve soil movement within the boundaries of the project site via scrapers or graders, while off-site cut/fill activities involve soil movement outside of the boundaries of the project site via haul trucks. Projects that require off-site cut/fill should also enter the appropriate amount of soil import/export in the *Soil Hauling* tab, as discussed in more detail below.

Medium: The *Medium Level of Detail* quantification method should be used when cut/fill activities would occur and the required number of activity hours per day for on-site scrapers and off-site haul trucks is known. Input the number of hours per day for on-site scraper and off-site haul trucks conducting cut/fill activities. Input the total number of scraper-hours and/or haul truck-hours that are anticipated to occur per day. For example, if two scrapers would operate for eight hours per day each and three haul trucks would operate for four hours per day each, enter 16 for the *Onsite Scraper* parameter (i.e., 2 scrapers × 8 hours) and 12 for the *Offsite Haul* parameter (i.e., 3 haul trucks × 4 hours). Similar to the *Low Level of Detail* quantification method, on-site cut/fill activities involve soil movement within the boundaries of the project site via scrapers or graders, while off-site cut/fill activities involve soil movement outside of the boundaries of the project site via haul trucks. Projects that require off-site cut/fill should also enter the appropriate amount of soil import/export in the *Soil Hauling* tab, as discussed in more detail below.

High: The *High Level of Detail* quantification method should be used when cut/fill activities would occur and details about soil haulage is known. Input data on the amount of on- and off-site haulage (ton-miles per day) based on the total volume of cut/fill (yd^3), duration of the cut/fill activities (work days), density of soil being moved (tons per yd^3), and the scraper or haul truck round-trip distance (miles). A *High Level Haulage Input* worksheet that can be used to assist with

determining the amount of on- and off-site haulage (ton-miles per day) required for this method is contained in Appendix A.

Soil Hauling
URBEMIS quantifies entrained PM road dust and exhaust emissions from soil hauling in the *Soil Hauling* tab within the *Site Grading* phase. Information requirements include the amount of soil import/export (yd^3), round trips per day, round trip distance (miles), and haul truck capacity (yd^3 per truck). For round trip distance and haul truck capacity, URBEMIS provides default assumptions of 20 yd^3 per truck and 20 miles, respectively. Override the default assumptions if the project specific values are known.

Grading Equipment
URBEMIS quantifies exhaust emissions from on-site heavy-duty equipment in the *Site Grading Equipment* tab within the *Site Grading* phase. Information requirements include the type of equipment and quantity or amount, along with horsepower, load factor, and hours of operation per work day. URBEMIS provides default assumptions for all of these, primarily based on the amount of maximum daily acreage disturbed shown in the *Daily Acreage* tab. If project-specific grading equipment is known, click on the *All Checks Off* button and input the number for each type of equipment to be used for the project. Note that although the *All Checks Off* button will allow users to override the URBEMIS default equipment assumptions in the *Amount Model Uses* column, make sure to delete the previous URBEMIS default equipment selections prior to entering the project-specific equipment information.

Asphalt Paving
URBEMIS quantifies off-gas and exhaust emissions from asphalt paving activities in the *Paving* tab within the *Enter Construction Data* module. Information to quantify emissions from this activity phase includes the duration of asphalt paving (work days/week, phase start and end dates), total acreage to be paved, and off-road equipment requirements. URBEMIS includes default assumptions for the amount of asphalt to be paved based on the size of the proposed land use type(s) in the *Enter Land Use Data* module. Account for the size of project features (e.g., parking structure, roadways, and large hardtop fields) that would require asphalt paving in excess of default assumptions (i.e., standard site access and parking spaces) within the *Total Acreage to be Paved with Asphalt* parameter.

Architectural Coating
URBEMIS quantifies off-gas emissions from the application of architectural coatings in the *Arch Coating* tab within the *Enter Construction Data* module. Information to quantify emissions from this phase include the duration of activities (i.e., work days/week, phase start and end dates). URBEMIS includes default parameters for the volatile organic compound content per liter of coating based on BAAQMD's Regulation 8, Rule 3: Architectural Coating.

Basic Construction Mitigation Measures
BAAQMD recommends that all proposed projects implement the *Basic Construction Mitigation Measures* regardless of the significance determination. The methodology for quantifying criteria air pollutant and precursor emission reductions from both fugitive PM dust and exhaust emissions by implementing the *Basic Construction Mitigation Measures* discussed below.

Fugitive Particulate Matter Dust Emissions
For quantification of fugitive PM dust-related *Basic Construction Mitigation Measures* in URBEMIS, BAAQMD first recommends selecting the *Mitigation* option in the *Enter Construction Data* module for the *Site Grading* phase. For *Site Grading Soil Disturbance Mitigation*, select (turn on) the soil stabilizing measure titled *Water exposed surfaces* along with the two times daily option without altering the default percent reduction. For *Unpaved Roads Mitigation*, select the

measure titled *Reduce speed on unpaved roads to less than 15 mph* without altering the default percent reduction. URBEMIS assumes that fugitive PM dust emissions from soil disturbance activities and travel on unpaved roads account for approximately 79 percent and 21 percent of total the fugitive PM dust emissions, respectively. URBEMIS will apply an approximate 53 percent reduction to total fugitive PM dust emissions as a result of implementation of the *Basic Construction Mitigation Measures* 1 through 5 in Table 8-2.

BAAQMD considers this as a surrogate for the implementation of the *Basic Construction Mitigation Measures* listed in Section 8.2. RoadMod assumes an inherent 50 percent reduction in fugitive PM dust emissions when water trucks are selected. BAAQMD recommends selecting water trucks to account for the implementation of the *Basic Construction Mitigation Measures.*

Exhaust Emissions

For quantification of the exhaust-related *Basic Construction Mitigation Measures* in URBEMIS, select the *Mitigation* option in the *Enter Construction Data* module for the *Site Grading, Building Construction,* and *Asphalt Paving* phases, as applicable to the proposed project. BAAQMD then recommends that for the *Off-Road Equipment Mitigation*, select (turn on) the measure titled *Use aqueous diesel fuel* and alter the default percent reduction for each to match those recommended by BAAQMD in Section 8.2. BAAQMD considers this as a surrogate for the implementation of the *Basic Construction Mitigation Measures* listed in Section 8.2.

RoadMod

RoadMod does not calculate emission reductions associated with the implementation of the exhaust-related *Basic Construction Mitigation Measures*. To quantify the exhaust-related emission reductions associated with the implementation of the *Basic Construction Mitigation Measures*, rely on the information and data contained in the *Data Entry* and *Emission Estimates* tabs in RoadMod. Reductions in exhaust emissions should be quantified separately for each phase (i.e., Grubbing/Land Clearing, Grading/Excavation, Drainage/Utilities/ Sub-Grade, and Paving). First isolate the exhaust emissions from off-road (e.g., heavy-duty) equipment for each phase. Table 8-4 below provides a cell reference for the *Data Entry* tab of RoadMod to assist with the identification and isolation of such emissions.

Once isolated, apply the specified percent reductions listed in Section 8.2 to each compound emission to determine the resultant amount of mitigated emissions from construction of the proposed project for each phase. A 5 percent reduction could be applied for NO_X, PM_{10}, and $PM_{2.5}$ to account for implementation of the appropriate *Basic Construction Mitigation Measures.*

Emission reductions should be estimated by multiplying the total emissions for each compound by the anticipated emission reduction applicable for that compound to estimate the mitigated amount of emissions reductions.

Linear Projects

For proposed projects that are linear in nature (e.g., road or levee construction, pipeline installation, transmission lines), BAAQMD recommends using the most current version of Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Emissions Model (RoadMod) to quantify construction-related criteria air pollutants and precursors. Similar to URBEMIS, RoadMod quantifies fugitive PM dust, exhaust, and off-gas emissions from the following construction-related activity phases: grubbing/land clearing, grading/excavation, drainage/utilities/sub-grade, and paving. BAAQMD recommends using RoadMod in accordance with the user instructions and default assumptions unless project-specific information is available. The default assumptions are applicable to projects located within the SFBAAB. Also, URBEMIS inherently accounts for the on-site construction of roadways and the installation of project infrastructure. If the proposed project involves off-site improvements that

are linear in nature (e.g., roadway widening), use RoadMod in addition to URBEMIS to determine total emissions.

Table B-1
Roadway Construction Emissions Model
Cell Reference for Unmitigated Off-Road Equipment Emissions

Linear Construction Phase	NO_X	PM_{10}	$PM_{2.5}$
Grubbing/Land Clearing	G155	H155	I155
Grading/Excavation	G195	H195	I195
Drainage/Utilities/Sub-Grade	G235	H235	I235
Paving	G275	H275	I275

Notes: NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less.
Cell references refer to the *Data Entry* tab from the SMAQMD Road Construction Emissions Model.
Source: SMAQMD 2009.

NO_X Emission Reduction
Emissions of NO_X (lb/day) × (1 – [NO_X percent reduction])

PM_{10} Emission Reduction
Emissions of PM_{10} (lb/day) × (1 – [PM_{10} percent reduction])

$PM_{2.5}$ Emission Reduction
Emissions of $PM_{2.5}$ (lb/day) × ([1 – [$PM_{2.5}$ percent reduction])

Users should use the *Emission Estimates* tab to calculate the total mitigated amount of emissions for each phase of construction. The total NO_X, PM_{10}, and $PM_{2.5}$ exhaust emissions for each phase are contained in cells E6 to E9, H6 to H9, and K6 to K9, respectively. To calculate the total amount of mitigated emissions, first subtract the unmitigated off-road equipment exhaust emissions (Please refer to Table 8-2) from the total exhaust emissions to calculate total emissions without inclusion of off-road equipment exhaust emissions. Then, add the mitigated off-road exhaust emissions (calculated with the method described above) to the remaining emissions to calculate the total emissions with mitigated off-road construction equipment exhaust emissions. For PM_{10} and $PM_{2.5}$, add the mitigated exhaust emissions with the mitigated fugitive PM dust emissions (calculated by RoadMod) to calculate the total amount of mitigated PM_{10} and $PM_{2.5}$ emissions.

Fugitive Particulate Matter Dust
BAAQMD recommends that for *Site Grading Soil Disturbance Mitigation* select (turn on) the soil stabilizing measure titled *Equipment loading/unloading*. To account for the implementation of the *Additional Construction Mitigation Measures* 1 through 8, alter the default percent reduction to 63 percent, which would result in a total reduction of 75 percent in fugitive PM dust emissions.

To quantify emission reductions associated with the implementation of the fugitive PM dust-related *Additional Construction Mitigation Measures* in RoadMod, rely on the *Emission Estimates* tab. RoadMod assumes a 50 percent reduction in fugitive PM dust emissions. Apply an additional 50 percent reduction to the fugitive PM dust emissions contained in the *Emission Estimates* tab of RoadMod to account for the implementation of the *Additional Construction Mitigation Measures* 1

through 8. The resulting total percent reduction from fugitive PM dust emissions would be 75 percent (i.e., 1 – (0.5 × 0.5)). The resultant amount of fugitive PM dust emissions should be added to the average daily mitigated exhaust PM emissions (methodology described below) to calculate the total amount of mitigated PM_{10} and $PM_{2.5}$ emissions.

Exhaust Emissions

BAAQMD recommends that for the *Off-Road Equipment Mitigation* select (turn on) the measure titled *Diesel particulate filter* and alter the default percent reduction for each to match those recommended by BAAQMD in Section 8.2. BAAQMD considers this as a surrogate for the implementation of the *Additional Construction Mitigation Measures*. BAAQMD recommends that, if implementing Measure 9, turn on the measure titled *Use aqueous diesel fuel* and alter the default percent reduction values to 20 percent for NO_X and 45 percent for PM_{10}, and $PM_{2.5}$.

For RoadMod, apply a 20 percent reduction for NO_X and a 45 percent reduction for PM_{10} and $PM_{2.5}$ to account for implementation of Measure 9 in the *Additional Construction Mitigation Measure* .To quantify the other exhaust-related emission reductions associated with the implementation of the *Additional Construction Mitigation Measures*, follow the same methodology described above for applying the reductions associated with the implementation of the *Basic Construction Mitigation Measures*.

Off-Gas Emissions

For quantification of off-gas-related *Additional Construction Mitigation Measures*, first select the *Mitigation* option in the *Enter Construction Data* module for the *Architectural Coating* phase. Then select (turn on) the measures applicable to the proposed project and alter the default percent reduction for each to match those recommended by BAAQMD in Section 8.2. BAAQMD considers this as a surrogate for the implementation of the *Additional Construction Mitigation Measures* listed in Section 8.2.

EXAMPLE PROJECT CONSTRUCTION-RELATED EMISSIONS CALCULATION

Description

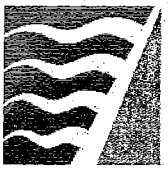
This Example Project proposes development of 100 single-family residential units over a 2-year period. The project site would be approximately 33 acres (URBEMIS default assumption) and require an undetermined volume of fill materials to be imported to the site. In addition, the project would involve construction of a new access road to serve the development.

Screening Analysis

The project size is less than the construction screening level for single-family residential uses listed in Table 3-4. However, because the project includes the import of fill to the site, the construction screening levels cannot be used to address construction emissions. Therefore, a detailed quantitative analysis of construction-generated NO_X emissions should be performed using URBEMIS to estimate NO_X generated by construction of the residential units and using the RoadMod to estimate NO_X emissions from construction of the new access road.

Emissions Quantification

The size and type of land use proposed (i.e., single family housing) should be entered into the Land Use Module in URBEMIS. In this case, the project's total acres are equal to the default URBEMIS assumption; therefore, no override is necessary in the Acres data field. Modeling the construction emissions associated with single-family residential units in URBEMIS requires detailed information about the construction schedule (e.g., commencement date, types of construction activities required, and length of construction activities).



The fugitive PM dust emissions associated with fill activities should be estimated using the Fugitive Dust tab of the Mass Site Grading phase. For use of the Low Level of Detail quantification method, the volume of fill activities should be divided by the number of days that fill activities would occur. For example, if the project would require up to 20,000 yd^3 of fill materials to be imported over a minimum of 40 work days, the user should enter 500 (i.e., 20,000 $yd^3 \div 40$ days) into the Amount of Offsite Cut/Fill (cubic yards/day) data field. In addition, users should also input the total volume of fill materials to be imported into the Total Amount of Soil to Import (cubic yards) data field in the Soil Hauling tab. Off-road construction equipment for grading activities is estimated by URBEMIS based on the Maximum Daily Acreage Disturbed data field.

URBEMIS estimates the types and quantities of construction equipment in the Building Construction phase to develop the proposed project. For the Asphalt Paving phase, URBEMIS assumes the project requires asphalt paving for 25% of the total site. If more specific information can be provided, then user should turn off the Reset acreage with land use changes button in the Off Gas Emissions tab and override the Total Acreage to be Paved with Asphalt data field.

Due to the linear nature of the new access road to the project, daily mass emissions associated with its construction should be quantified using RoadMod. Users should obtain basic project information for the new access road and enter the information into the Data Entry tab of RoadMod. If project-specific information is not available RoadMod estimates the construction schedule for the road and the equipment used in each construction phase.

For analysis of the project's total average daily emissions, users should add emissions of each respective pollutant associated with development of the single-family residential units with the respective emissions associated with construction of the access road where construction activities are anticipated to overlap in the construction schedule. The average daily emissions of each pollutant that would occur throughout the entire construction period should be identified and compared with the District's threshold of significance. If the emissions would exceed the threshold of significance, construction emissions would be considered significant and all feasible mitigation measures to reduce emissions shall be implemented.

The user should keep in mind that the District's numeric thresholds for construction emissions apply to exhaust emissions only. The District recommends implementation of Basic Control Measures to reduce fugitive dust emissions for all projects, and Additional Control Measures to reduce fugitive dust emissions for significant projects.

C. SAMPLE AIR QUALITY SETTING

The Bay Area Air Quality Management District (BAAQMD) is the regional air quality agency for the San Francisco Bay Area Air Basin (SFBAAB), which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

C.1.1. Climate, Topography, Air Pollution Potential

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range splits resulting in a western coast gap, Golden Gate, and an eastern coast gap, Carquinez Strait, which allow air to flow in and out of the SFBAAB and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high pressure cell is centered over the northeastern Pacific Ocean resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band resulting in condensation and the presence of fog and stratus clouds along the Northern California coast.

In the winter, the Pacific high-pressure cell weakens and shifts southward resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

High Pressure Cell

During the summer, the large-scale meteorological condition that dominates the West Coast is a semi-permanent high pressure cell centered over the northeastern Pacific Ocean. This high pressure cell keeps storms from affecting the California coast. Hence, the SFBAAB experiences little precipitation in the summer months. Winds tend to blow on shore out of the north/northwest.

The steady northwesterly flow induces upwelling of cold water from below. This upwelling produces a band of cold water off the California coast. When air approaches the California coast, already cool and moisture-laden from its long journey over the Pacific, it is further cooled as it crosses this bank of cold water. This cooling often produces condensation resulting in a high incidence of fog and stratus clouds along the Northern California coast in the summer.

Generally in the winter, the Pacific high weakens and shifts southward, winds tend to flow offshore, upwelling ceases and storms occur. During the winter rainy periods, inversions (layers of warmer air over colder air; see below) are weak or nonexistent, winds are usually moderate and air pollution potential is low. The Pacific high does periodically become dominant, bringing strong inversions, light winds and high pollution potential.

Topography

The topography of the SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys and bays. This complex terrain, especially the higher elevations, distorts the normal wind flow patterns in the SFBAAB. The greatest distortion occur when low-level inversions are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summer time.

The only major break in California's Coast Range occurs in the SFBAAB. Here the Coast Range splits into western and eastern ranges. Between the two ranges lies San Francisco Bay. The gap in the western coast range is known as the Golden Gate, and the gap in the eastern coast range is the Carquinez Strait. These gaps allow air to pass into and out of the SFBAAB and the Central Valley.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3 p.m. to 4 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited and stagnant conditions are likely to result.

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

Temperature

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons the temperatures at the coast can be 35°F cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10°.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

Precipitation

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing are usually high, and thus pollution levels tend to be low. However, frequent dry periods do occur during the winter where mixing and ventilation are low and pollutant levels build up.

Air Pollution Potential

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

Wind Circulation

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commute traffic (early morning) and wood burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants upvalley during the day, and cold air drainage flows move the air mass downvalley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

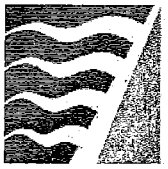
Wind-roses provide useful information for communities that contain industry, landfills or other potentially odorous or noxious land uses. Each wind-rose diagram provides a general indication of the proportion of time that winds blow from each compass direction. The longer the vector length, the greater the frequency of wind occurring from that direction. Such information may be particularly useful in planning buffer zones. For example, sensitive receptors such as residential developments, schools or hospitals are inappropriate uses immediately downwind from facilities that emit toxic or odorous pollutants, unless adequate separation is provided by a buffer zone. Caution should be taken in using wind-roses in planning and environmental review processes. A site on the opposite side of a hill or tall building, even a short distance from a meteorological monitoring station, may experience a significant difference in wind pattern. Consult BAAQMD meteorologists if more detailed wind circulation information is needed.

Inversions

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth, i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground. The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

There are two types of inversions that occur regularly in the SFBAAB. One is more common in the summer and fall, while the other is most common during the winter. The frequent occurrence of elevated temperature inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution. Elevated inversions are caused by subsiding air from the subtropical high pressure zone, and from the cool marine air layer that is drawn into the SFBAAB by the heated low pressure region in the Central Valley.

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the build-up of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next



to the ground. Mixing depths under these conditions can be as shallow as 50 to 100 meters, particularly in rural areas. Urban areas usually have deeper minimum mixing layers because of heat island effects and increased surface roughness. During radiation inversions downwind transport is slow, the mixing depths are shallow, and turbulence is minimal. All of these factors contribute

Although each type of inversion is most common during a specific season, either inversion mechanism can occur at any time of the year. Sometimes both occur simultaneously. Moreover, the characteristics of an inversion often change throughout the course of a day. The terrain of the SFBAAB also induces significant variations among subregions.

Solar Radiation

The frequency of hot, sunny days during the summer months in the SFBAAB is another important factor that affects air pollution potential. It is at the higher temperatures that ozone is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases and oxides of nitrogen react to form secondary photochemical pollutants, including ozone.

Because temperatures in many of the SFBAAB inland valleys are so much higher than near the coast, the inland areas are especially prone to photochemical air pollution.

In late fall and winter, solar angles are low, resulting in insufficient ultraviolet light and warming of the atmosphere to drive the photochemical reactions. Ozone concentrations do not reach significant levels in the SFBAAB during these seasons.

Sheltered Terrain

The hills and mountains in the SFBAAB contribute to the high pollution potential of some areas. During the day, or at night during windy conditions, areas in the lee sides of mountains are sheltered from the prevailing winds, thereby reducing turbulence and downwind transport. At night, when wind speeds are low, the upper atmospheric layers are often decoupled from the surface layers during radiation conditions. If elevated terrain is present, it will tend to block pollutant transport in that direction. Elevated terrain also can create a recirculation pattern by inducing upvalley air flows during the day and reverse downvalley flows during the night, allowing little inflow of fresh air.

The areas having the highest air pollution potential tend to be those that experience the highest temperatures in the summer and the lowest temperatures in the winter. The coastal areas are exposed to the prevailing marine air , creating cooler temperatures in the summer, warmer temperatures in winter, and stratus clouds all year. The inland valleys are sheltered from the marine air and experience hotter summers and colder winters. Thus, the topography of the inland valleys creates conditions conducive to high air pollution potential.

Pollution Potential Related to Emissions

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends upon the amount of air pollutant emissions in the surrounding area or transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use and/or industrialization. These contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals.

Climatological Subregions

This section discusses the varying climatological and topographic conditions, and the resulting variations in air pollution potential, within inhabited subregions of the SFBAAB. All urbanized areas of the SFBAAB are included in one of 11 climatological subregions. Sparsely inhabited

areas are excluded from the subregional designations. Some of the climatological subregions discussed in this appendix overlap county boundaries. The Lead Agencies analyzing projects located close to the boundary between subregions may need to examine the characteristics of the neighboring subregions to adequately evaluate potential air quality impacts.

The information about each subregion includes location, topography and climatological factors relevant to air quality. Where relevant to air quality concerns, more localized subareas within a subregion are discussed. Each subregional section concludes with a discussion of pollution potential resulting from climatological and topographic variables and the major types of air pollutant sources in the subregion.

Carquinez Strait Region

The Carquinez Strait runs from Rodeo to Martinez. It is the only sea-level gap between the Bay and the Central Valley. The subregion includes the lowlands bordering the strait to the north and south, and includes the area adjoining Suisun Bay and the western part of the Sacramento-San Joaquin Delta as far east as Bethel Island. The subregion extends from Rodeo in the southwest and Vallejo in the northwest to Fairfield on the northeast and Brentwood on the southeast.

Prevailing winds are from the west in the Carquinez Strait. During the summer and fall months, high pressure offshore coupled with low pressure in the Central Valley causes marine air to flow eastward through the Carquinez Strait. The wind is strongest in the afternoon. Afternoon wind speeds of 15 to 20 mph are common throughout the strait region. Annual average wind speeds are 8 mph in Martinez, and 9 to 10 mph further east. Sometimes atmospheric conditions cause air to flow from the east. East winds usually contain more pollutants than the cleaner marine air from the west. In the summer and fall months, this can cause elevated pollutant levels to move into the central SFBAAB through the strait. These high pressure periods are usually accompanied by low wind speeds, shallow mixing depths, higher temperatures and little or no rainfall.

Summer mean maximum temperatures reach about 90° F. in the subregion. Mean minimum temperatures in the winter are in the high 30's. Temperature extremes are especially pronounced in sheltered areas farther from the moderating effects of the strait itself, e.g. at Fairfield.

Many industrial facilities with significant air pollutant emissions — e.g., chemical plants and refineries — are located within the Carquinez Strait Region. The pollution potential of this area is often moderated by high wind speeds. However, upsets at industrial facilities can lead to short-term pollution episodes, and emissions of unpleasant odors may occur at anytime. Receptors downwind of these facilities could suffer more long-term exposure to air contaminants than individuals elsewhere., It is important that local governments and other Lead Agencies maintain buffers zones around sources of air pollution sufficient to avoid adverse health and nuisance impacts on nearby receptors. Areas of the subregion that are traversed by major roadways, e.g. Interstate 80, may also be subject to higher local concentrations of carbon monoxide and particulate matter, as well as certain toxic air contaminants such as benzene.

Cotati and Petaluma Valleys

The subregion that stretches from Santa Rosa to the San Pablo Bay is often considered as two different valleys: the Cotati Valley in the north and the Petaluma Valley in the south. To the east, the valley is bordered by the Sonoma Mountains, while to the west is a series of low hills, followed by the Estero Lowlands, which open to the Pacific Ocean. The region from the Estero Lowlands to the San Pablo Bay is known as the Petaluma Gap. This low-terrain area allows marine air to travel into the SFBAAB.

Wind patterns in the Petaluma and Cotati Valleys are strongly influenced by the Petaluma Gap, with winds flowing predominantly from the west. As marine air travels through the Petaluma Gap, it splits into northward and southward paths moving into the Cotati and Petaluma valleys. The



southward path crosses San Pablo Bay and moves eastward through the Carquinez Strait. The northward path contributes to Santa Rosa's prevailing winds from the south and southeast. Petaluma's prevailing winds are from the northwest.

When the ocean breeze is weak, strong winds from the east can predominate, carrying pollutants from the Central Valley and the Carquinez Strait. During these periods, upvalley flows can carry the polluted air as far north as Santa Rosa.

Winds are usually stronger in the Petaluma Valley than the Cotati Valley because the former is directly in line with the Petaluma Gap. Petaluma's climate is similar to areas closer to the coast even though Petaluma is 28 miles from the ocean. Average annual wind speed at the Petaluma Airport is seven mph. The Cotati Valley, being slightly north of the Petaluma Gap, experiences lower wind speeds. The annual average wind speed in Santa Rosa is five mph.

Air temperatures are very similar in the two valleys. Summer maximum temperatures for this subregion are in the low-to-mid-80's, while winter maximum temperatures are in the high-50's to low-60's. Summer minimum temperatures are around 50 degrees, and winter minimum temperatures are in the high 30's.

Generally, air pollution potential is low in the Petaluma Valley because of its link to the Petaluma Gap and because of its low population density. There are two scenarios that could produce elevated pollutant levels: 1) stagnant conditions in the morning hours created when a weak ocean breeze meets a weak bay breeze, and 2) an eastern or southeastern wind pattern in the afternoon brings in pollution from the Carquinez Strait Region and the Central Valley.

The Cotati Valley has a higher pollution potential than does the Petaluma Valley. The Cotati Valley lacks a gap to the sea, contains a larger population and has natural barriers at its northern and eastern ends. There are also industrial facilities in and around Santa Rosa. Both valleys of this subregion are also threatened by increased motor vehicle traffic and the associated air contaminants. Population and motor vehicle use are increasing significantly, and housing costs and the suburbanization of employment are leading to more and longer commutes traversing the subregion.

Diablo and San Ramon Valleys

East of the Coast Range lay the Diablo and San Ramon Valleys. The valleys have a northwest to southeast orientation, with the northern portion known as Diablo Valley and the southern portion as San Ramon Valley. The Diablo Valley is bordered in the north by the Carquinez Strait and in the south by the San Ramon Valley. The San Ramon Valley is long and narrow and extends south from Walnut Creek to Dublin. At its southern end it opens onto the Amador Valley.

The mountains on the west side of these valleys block much of the marine air from reaching the valleys. During the daytime, there are two predominant flow patterns: an upvalley flow from the north and a westerly flow (wind from the west) across the lower elevations of the Coast Range. On clear nights, surface inversions separate the flow of air into two layers: the surface flow and the upper layer flow. When this happens, there are often drainage surface winds which flow downvalley toward the Carquinez Strait.

Wind speeds in these valleys generally are low. Monitoring stations in Concord and Danville report annual average wind speeds of 5 mph. Winds can increase in the afternoon near San Ramon because it is located at the eastern edge of the Crow Canyon gap. Through this gap, polluted air from cities near the Bay travels to the valley in the summer months.

Air temperatures in these valleys are cooler in the winter and warmer in the summer than are temperatures further west, as these valleys are far from the moderating effect of the Bay and

ocean. Mean summer maximum temperatures are in the low- to mid-80's. Mean winter minimum temperatures are in the high-30's to low-40's.

Pollution potential is relatively high in these valleys. On winter evenings, light winds combined with surface-based inversions and terrain that restricts air flow can cause pollutant levels to build up. San Ramon Valley can experience high pollution concentrations due to motor vehicle emissions and emissions from fireplaces and wood stoves. In the summer months, ozone and ozone precursors are often transported into the valleys from both the central SFBAAB and the Central Valley.

Livermore Valley

The Livermore Valley is a sheltered inland valley near the eastern border of SFBAAB. The western side of the valley is bordered by 1,000 to 1,500 foot hills with two gaps connecting the valley to the central SFBAAB, the Hayward Pass and Niles Canyon. The eastern side of the valley also is bordered by 1,000 to 1,500 foot hills with one major passage to the San Joaquin Valley called the Altamont Pass and several secondary passages. To the north lie the Black Hills and Mount Diablo. A northwest to southeast channel connects the Diablo Valley to the Livermore Valley. The south side of the Livermore Valley is bordered by mountains approximately 3,000 to 3,500 feet high.

During the summer months, when there is a strong inversion with a low ceiling, air movement is weak and pollutants become trapped and concentrated. Maximum summer temperatures in the Livermore Valley range from the high-80's to the low-90's, with extremes in the 100's. At other times in the summer, a strong Pacific high pressure cell from the west, coupled with hot inland temperatures causes a strong onshore pressure gradient which produces a strong, afternoon wind. With a weak temperature inversion, air moves over the hills with ease, dispersing pollutants.

In the winter, with the exception of an occasional storm moving through the area, air movement is often dictated by local conditions. At night and early morning, especially under clear, calm and cold conditions, gravity drives cold air downward. The cold air drains off the hills and moves into the gaps and passes. On the eastern side of the valley the prevailing winds blow from north, northeast and east out of the Altamont Pass. Winds are light during the late night and early morning hours. Winter daytime winds sometimes flow from the south through the Altamont Pass to the San Joaquin Valley. Average winter maximum temperatures range from the high-50's to the low-60's, while minimum temperatures are from the mid-to-high-30's, with extremes in the high teens and low-20's.

Air pollution potential is high in the Livermore Valley, especially for photochemical pollutants in the summer and fall. High temperatures increase the potential for ozone to build up. The valley not only traps locally generated pollutants but can be the receptor of ozone and ozone precursors from San Francisco, Alameda, Contra Costa and Santa Clara counties. On northeasterly wind flow days, most common in the early fall, ozone may be carried west from the San Joaquin Valley to the Livermore Valley.

During the winter, the sheltering effect of the valley, its distance from moderating water bodies, and the presence of a strong high pressure system contribute to the development of strong, surface-based temperature inversions. Pollutants such as carbon monoxide and particulate matter, generated by motor vehicles, fireplaces and agricultural burning, can become concentrated. Air pollution problems could intensify because of population growth and increased commuting to and through the subregion.

Marin County Basins

Marin County is bounded on the west by the Pacific Ocean, on the east by San Pablo Bay, on the south by the Golden Gate and on the north by the Petaluma Gap. Most of Marin's population lives in the eastern part of the county, in small, sheltered valleys. These valleys act like a series of miniature air basins.

Although there are a few mountains above 1500 feet, most of the terrain is only 800 to 1000 feet high, which usually is not high enough to block the marine layer. Because of the wedge shape of the county, northeast Marin County is further from the ocean than is the southeastern section. This extra distance from the ocean allows the marine air to be moderated by bayside conditions as it travels to northeastern Marin County. In southern Marin the distance from the ocean is short and elevations are lower, resulting in higher incidence of maritime air in that area.

Wind speeds are highest along the west coast of Marin, averaging about 8 to 10 miles per hour. The complex terrain in central Marin creates sufficient friction to slow the air flow. At Hamilton Air Force Base, in Novato, the annual average wind speeds are only 5 mph. The prevailing wind directions throughout Marin County are generally from the northwest.

In the summer months, areas along the coast are usually subject to onshore movement of cool marine air. In the winter, proximity to the ocean keeps the coastal regions relatively warm, with temperatures varying little throughout the year. Coastal temperatures are usually in the high-50's in the winter and the low-60's in the summer. The warmest months are September and October.

The eastern side of Marin County has warmer weather than the western side because of its distance from the ocean and because the hills that separate eastern Marin from western Marin occasionally block the flow of the marine air. The temperatures of cities next to the Bay are moderated by the cooling effect of the Bay in the summer and the warming effect of the Bay in the winter. For example, San Rafael experiences average maximum summer temperatures in the low-80's and average minimum winter temperatures in the low-40's. Inland towns such as Kentfield experience average maximum temperatures that are two degrees cooler in the winter and two degrees warmer in the summer.

Air pollution potential is highest in eastern Marin County, where most of population is located in semi-sheltered valleys. In the southeast, the influence of marine air keeps pollution levels low. As development moves further north, there is greater potential for air pollution to build up because the valleys are more sheltered from the sea breeze. While Marin County does not have many polluting industries, the air quality on its eastern side — especially along the U.S. 101 corridor — may be affected by emissions from increasing motor vehicle use within and through the county.

Napa Valley

The Napa Valley is bordered by relatively high mountains. With an average ridge line height of about 2000 feet, with some peaks approaching 3000 to 4000 feet, these mountains are effective barriers to the prevailing northwesterly winds. The Napa Valley is widest at its southern end and narrows in the north.

During the day, the prevailing winds flow upvalley from the south about half of the time. A strong upvalley wind frequently develops during warm summer afternoons, drawing air in from the San Pablo Bay. Daytime winds sometimes flow downvalley from the north. During the evening, especially in the winter, downvalley drainage often occurs. Wind speeds are generally low, with almost 50 percent of the winds less than 4 mph. Only 5 percent of the winds are between 16 and 18 mph, representing strong summertime upvalley winds and winter storms.

Summer average maximum temperatures are in the low 80's at the southern end of the valley and in the low 90's at the northern end. Winter average maximum temperatures are in the high-

50's and low-60's, and minimum temperatures are in the high to mid 30's with the slightly cooler temperatures in the northern end.

The air pollution potential in the Napa Valley could be high if there were sufficient sources of air contaminants nearby. Summer and fall prevailing winds can transport ozone precursors northward from the Carquinez Strait Region to the Napa Valley, effectively trapping and concentrating the pollutants when stable conditions are present. The local upslope and downslope flows created by the surrounding mountains may also recirculate pollutants already present, contributing to buildup of air pollution. High ozone concentrations are a potential problem to sensitive crops such as wine grapes, as well as to human health. The high frequency of light winds and stable conditions during the late fall and winter contribute to the buildup of particulate matter from motor vehicles, agriculture and woodburning in fireplaces and stoves.

Northern Alameda and Western Contra Costa Counties

This climatological subregion stretches from Richmond to San Leandro. Its western boundary is defined by the Bay and its eastern boundary by the Oakland-Berkeley Hills. The Oakland-Berkeley Hills have a ridge line height of approximately 1500 feet, a significant barrier to air flow. The most densely populated area of the subregion lies in a strip of land between the Bay and the lower hills.

In this area, marine air traveling through the Golden Gate, as well as across San Francisco and through the San Bruno Gap, is a dominant weather factor. The Oakland-Berkeley Hills cause the westerly flow of air to split off to the north and south of Oakland, which causes diminished wind speeds. The prevailing winds for most of this subregion are from the west. At the northern end, near Richmond, prevailing winds are from the south-southwest.

Temperatures in this subregion have a narrow range due to the proximity of the moderating marine air. Maximum temperatures during summer average in the mid-70's, with minimums in the mid-50's. Winter highs are in the mid- to high-50's, with lows in the low- to mid-40's.

The air pollution potential is lowest for the parts of the subregion that are closest to the bay, due largely to good ventilation and less influx of pollutants from upwind sources. The occurrence of light winds in the evenings and early mornings occasionally causes elevated pollutant levels.

The air pollution potential at the northern (Richmond) and southern (Oakland, San Leandro) parts of this subregion is marginally higher than communities directly east of the Golden Gate, because of the lower frequency of strong winds.

This subregion contains a variety of industrial air pollution sources. Some industries are quite close to residential areas. The subregion is also traversed by frequently congested major freeways. Traffic and congestion, and the motor vehicle emissions they generate, are increasing.

Peninsula

The peninsula region extends from northwest of San Jose to the Golden Gate. The Santa Cruz Mountains run up the center of the peninsula, with elevations exceeding 2000 feet at the southern end, decreasing to 500 feet in South San Francisco. Coastal towns experience a high incidence of cool, foggy weather in the summer. Cities in the southeastern peninsula experience warmer temperatures and fewer foggy days because the marine layer is blocked by the ridgeline to the west. San Francisco lies at the northern end of the peninsula. Because most of San Francisco's topography is below 200 feet, marine air is able to flow easily across most of the city, making its climate cool and windy.

The blocking effect of the Santa Cruz Mountains results in variations in summertime maximum temperatures in different parts of the peninsula. For example, in coastal areas and San Francisco

the mean maximum summer temperatures are in the mid-60's, while in Redwood City the mean maximum summer temperatures are in the low-80's. Mean minimum temperatures during the winter months are in the high-30's to low-40's on the eastern side of the Peninsula and in the low 40's on the coast.

Two important gaps in the Santa Cruz Mountains occur on the peninsula. The larger of the two is the San Bruno Gap, extending from Fort Funston on the ocean to the San Francisco Airport. Because the gap is oriented in the same northwest to southeast direction as the prevailing winds, and because the elevations along the gap are less than 200 feet, marine air is easily able to penetrate into the bay. The other gap is the Crystal Springs Gap, between Half Moon Bay and San Carlos. As the sea breeze strengthens on summer afternoons, the gap permits maritime air to pass across the mountains, and its cooling effect is commonly seen from San Mateo to Redwood City.

Annual average wind speeds range from 5 to 10 mph throughout the peninsula, with higher wind speeds usually found along the coast. Winds on the eastern side of the peninsula are often high in certain areas, such as near the San Bruno Gap and the Crystal Springs Gap.

The prevailing winds along the peninsula's coast are from the west, although individual sites can show significant differences. For example, Fort Funston in western San Francisco shows a southwest wind pattern while Pillar Point in San Mateo County shows a northwest wind pattern. On the east side of the mountains winds are generally from the west, although wind patterns in this area are often influenced greatly by local topographic features.

Air pollution potential is highest along the southeastern portion of the peninsula. This is the area most protected from the high winds and fog of the marine layer. Pollutant transport from upwind sites is common. In the southeastern portion of the peninsula, air pollutant emissions are relatively high due to motor vehicle traffic as well as stationary sources. At the northern end of the peninsula in San Francisco, pollutant emissions are high, especially from motor vehicle congestion. Localized pollutants, such as carbon monoxide, can build up in "urban canyons". Winds are generally fast enough to carry the pollutants away before they can accumulate.

Santa Clara Valley

The Santa Clara Valley is bounded by the Bay to the north and by mountains to the east, south and west. Temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild. At the northern end of the valley, mean maximum temperatures are in the low-80's during the summer and the high-50's during the winter, and mean minimum temperatures range from the high-50's in the summer to the low-40's in the winter. Further inland, where the moderating effect of the Bay is not as strong, temperature extremes are greater. For example, in San Martin, located 27 miles south of the San Jose Airport, temperatures can be more than 10 degrees warmer on summer afternoons and more than 10 degrees cooler on winter nights.

Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds.

Wind speeds are greatest in the spring and summer and weakest in the fall and winter. Nighttime and early morning hours frequently have calm winds in all seasons, while summer afternoons and

evenings are quite breezy. Strong winds are rare, associated mostly with the occasional winter storm.

The air pollution potential of the Santa Clara Valley is high. High summer temperatures, stable air and mountains surrounding the valley combine to promote ozone formation. In addition to the many local sources of pollution, ozone precursors from San Francisco, San Mateo and Alameda Counties are carried by prevailing winds to the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low level inversions, ozone can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing northwesterlies in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of carbon monoxide and particulate matter. This movement of the air up and down the valley increases the impact of the pollutants significantly.

Pollution sources are plentiful and complex in this subregion. The Santa Clara Valley has a high concentration of industry at the northern end, in the Silicon Valley. Some of these industries are sources of air toxics as well as criteria air pollutants. In addition, Santa Clara Valley's large population and many work-site destinations generate the highest mobile source emissions of any subregion in the SFBAAB.

Sonoma Valley

The Sonoma Valley is west of the Napa Valley. It is separated from the Napa Valley and from the Cotati and Petaluma Valleys by mountains. The Sonoma Valley is long and narrow, approximately 5 miles wide at its southern end and less than a mile wide at the northern end.

The climate is similar to that of the Napa Valley, with the same basic wind characteristics. The strongest upvalley winds occur in the afternoon during the summer and the strongest downvalley winds occur during clear, calm winter nights. Prevailing winds follow the axis of the valley, northwest/southeast, while some upslope flow during the day and downslope flow during the night occurs near the base of the mountains. Summer average maximum temperatures are usually in the high-80's, and summer minimums are around 50 degrees. Winter maximums are in the high-50's to the mid-60's, with minimums ranging from the mid-30's to low-40's.

As in the Napa Valley, the air pollution potential of the Sonoma Valley could be high if there were significant sources of pollution nearby. Prevailing winds can transport local and nonlocally generated pollutants northward into the narrow valley, which often traps and concentrates the pollutants under stable conditions. The local upslope and downslope flows set up by the surrounding mountains may also recirculate pollutants.

However, local sources of air pollution are minor. With the exception of some processing of agricultural goods, such as wine and cheese manufacturing, there is little industry in this valley. Increases in motor vehicle emissions and woodsmoke emissions from stoves and fireplaces may increase pollution as the valley grows in population and as a tourist attraction.

Southwestern Alameda County

This subregion encompasses the southeast side of San Francisco Bay, from Dublin Canyon to north of Milpitas. The subregion is bordered on the east by the East Bay hills and on the west by the bay. Most of the area is flat.

This subregion is indirectly affected by marine air flow. Marine air entering through the Golden Gate is blocked by the East Bay hills, forcing the air to diverge into northerly and southerly paths. The southern flow is directed down the bay, parallel to the hills, where it eventually passes over southwestern Alameda County. These sea breezes are strongest in the afternoon. The further from the ocean the marine air travels, the more the ocean's effect is diminished. Although the

climate in this region is affected by sea breezes, it is affected less so than the regions closer to the Golden Gate.

The climate of southwestern Alameda County is also affected by its close proximity to San Francisco Bay. The Bay cools the air with which it comes in contact during warm weather, while during cold weather the Bay warms the air. The normal northwest wind pattern carries this air onshore. Bay breezes push cool air onshore during the daytime and draw air from the land offshore at night.

Winds are predominantly out of the northwest during the summer months. In the winter, winds are equally likely to be from the east. Easterly-southeasterly surface flow into southern Alameda County passes through three major gaps: Hayward/Dublin Canyon, Niles Canyon and Mission Pass. Areas north of the gaps experience winds from the southeast, while areas south of the gaps experience winds from the northeast. Wind speeds are moderate in this subregion, with annual average wind speeds close to the Bay at about 7 mph, while further inland they average 6 mph.

Air temperatures are moderated by the subregion's proximity to the Bay and to the sea breeze. Temperatures are slightly cooler in the winter and slightly warmer in the summer than East Bay cities to the north. During the summer months, average maximum temperatures are in the mid-70's. Average maximum winter temperatures are in the high-50's to low-60's. Average minimum temperatures are in the low 40's in winter and mid-50's in the summer.

Pollution potential is relatively high in this subregion during the summer and fall. When high pressure dominates, low mixing depths and Bay and ocean wind patterns can concentrate and carry pollutants from other cities to this area, adding to the locally emitted pollutant mix. The polluted air is then pushed up against the East Bay hills. In the wintertime, the air pollution potential in southwestern Alameda County is moderate. Air pollution sources include light and heavy industry, and motor vehicles. Increasing motor vehicle traffic and congestion in the subregion may increase Southwest Alameda County pollution as well as that of its neighboring subregions.

C.1.2. Existing Ambient Air Quality: Criteria Air Pollutants

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone, particulate matter (PM), nitrogen dioxide (NO_2), CO, sulfur dioxide (SO_2), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as "criteria air pollutants." Sources and health effects of the criteria air pollutants are summarized in Table C.2. Current state and federal air quality standards are available at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf and designations are available at http://www.arb.ca.gov/desig/desig.htm. See Table C.1 for current attainment status.

Table C.1
Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California		National Standards[a]		
		Standards[b, c]	Attainment Status[d]	Primary[c,e]	Secondary[c,f]	Attainment Status[g]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	N (Serious)	–[h]	Same as Primary Standard	–[h]
	8-hour	0.070 ppm (137 µg/m^3)	–	0.075 ppm (147 µg/m^3)		N
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	–	U/A
	8-hour	9 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	–	0.053 ppm (100 µg/m^3)	Same as Primary Standard	U/A
	1-hour	0.18 ppm (339 µg/m^3)	A	–		–
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	–	0.030 ppm (80 µg/m^3)	–	A
	24-hour	0.04 ppm (105 µg/m^3)	A	0.14 ppm (365 µg/m^3)	–	
	3-hour	–	–	–	0.5 ppm (1300 µg/m^3)	
	1-hour	0.25 ppm (655 µg/m^3)	A	–	–	–
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	N	–[h]	Same as Primary Standard	U
	24-hour	50 µg/m^3		150 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	N	15 µg/m^3	Same as Primary Standard	N[i]
	24-hour	–	–	35 µg/m^3		
Lead[j]	30-day Average	1.5 µg/m^3	A	–	–	–
	Calendar Quarter	–	–	1.5 µg/m^3	Same as Primary Standard	–

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Table C.1
Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California		National Standards[a]		
		Standards[b, c]	Attainment Status[d]	Primary[c,e]	Secondary[c,f]	Attainment Status[g]
Sulfates	24-hour	25 µg/m^3	A	No National Standards		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	U			
Vinyl Chloride[l]	24-hour	0.01 ppm (26 µg/m^3)	–			
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%.	U			

[a] National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

[b] California standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[c] Concentration expressed first in units in which it was promulgated [i.e., parts per million (ppm) or micrograms per cubic meter (µg/m^3)]. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Unclassified (U): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
Attainment (A): a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period.
Nonattainment (N): a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area.
Nonattainment/Transitional (NT): is a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Nonattainment (N): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.
Attainment (A): any area that meets the national primary or secondary ambient air quality standard for the pollutant.
Unclassifiable (U): any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

[h] The 1-hour ozone NAAQS was revoked on June 15, 2005 and the annual PM_{10} NAAQS was revoked in 2006.

[i] ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant.

[j] U.S EPA lowered the 24-hour $PM_{2.5}$ standard from 65 µg/m^3 to 35 µg/m^3 in 2006. EPA issued attainment status designations for the 35 µg/m^{3}standard on December 22, 2008. EPA has designated the Bay Area as nonattainment for the 35 µg/m^3 $PM_{2.5}$ standard. The EPA designation will be effective 90 days after publication of the regulation in the Federal Register.

Table C.2
Common Sources of Health Effects for Criteria Air Pollutants

Pollutants	Sources	Health Effects
Ozone	Atmospheric reaction of organic gases with nitrogen oxides in sunlight	Aggravation of respiratory and cardiovascular diseases; reduced lung function; increased cough and chest discomfort
Fine Particulate Matter (PM_{10} and $PM_{2.5}$)	Stationary combustion of solid fuels; construction activities; industrial processes; atmospheric chemical reactions	Reduced lung function; aggravation of respiratory and cardiovascular diseases; increases in mortality rate; reduced lung function growth in children
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust; high temperature stationary combustion; atmospheric reactions	Aggravation of respiratory illness
Carbon Monoxide (CO)	Incomplete combustion of fuels and other carbon-containing substances; such as motor vehicle exhaust; natural events, such as decomposition of organic matter	Aggravation of some heart diseases; reduced tolerance for exercise; impairment of mental function; birth defects; death at high levels of exposure
Sulfur Dioxide (SO_2)	Combination of sulfur-containing fossil fuels; smelting of sulfur-bearing metal ore; industrial processes	Aggravation of respiratory diseases; reduced lung function
Lead	Contaminated soil	Behavioral and hearing disabilities in children; nervous system impairment

Source: South Coast Air Quality Management District 2005; EPA 2009; EDAW 2009

Ozone, or smog, is not emitted directly into the environment, but is formed in the atmosphere by complex chemical reactions between ROG and NO_X in the presence of sunlight. Ozone formation is greatest on warm, windless, sunny days. The main sources of NO_X and ROG, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) the evaporation of solvents, paints, and fuels, and biogenic sources. Automobiles are the single largest source of ozone precursors in the SFBAAB. Tailpipe emissions of ROG are highest during cold starts, hard acceleration, stop-and-go conditions, and slow speeds. They decline as speeds increase up to about 50 mph, then increase again at high speeds and high engine loads. ROG emissions associated with evaporation of unburned fuel depend on vehicle and ambient temperature cycles. Nitrogen oxide emissions exhibit a different curve; emissions decrease as the vehicle approaches 30 mph and then begin to increase with increasing speeds.

Ozone levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. Ozone can also damage plants and trees, and materials such as rubber and fabrics.

Particulate Matter refers to a wide range of solid or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. $PM_{2.5}$ includes a subgroup of finer particles that have an aerodynamic diameter of 2.5 micrometers or less. Some particulate matter,

such as pollen, is naturally occurring. In the SFBAAB most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} is of concern because it bypasses the body's natural filtration system more easily than larger particles, and can lodge deep in the lungs. The EPA and the state of California revised their PM standards several years ago to apply only to these fine particles. $PM_{2.5}$ poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. Motor vehicles are currently responsible for about half of particulates in the SFBAAB. Wood burning in fireplaces and stoves is another large source of fine particulates.

Nitrogen Dioxide (NO_2) is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, nitrogen dioxide can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Carbon Monoxide (CO) is an odorless, colorless gas. It is formed by the incomplete combustion of fuels. The single largest source of CO in the SFBAAB is motor vehicles. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. New findings indicate that CO emissions per mile are lowest at about 45 mph for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease or anemia, as well as fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.

Sulfur Dioxide (SO_2) is a colorless acid gas with a pungent odor. It has potential to damage materials and it can have health effects at high concentrations. It is produced by the combustion of sulfur-containing fuels, such as oil, coal and diesel. SO_2 can irritate lung tissue and increase the risk of acute and chronic respiratory disease.

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Monitoring Data

The BAAQMD operates a regional air quality monitoring network that regularly measures the concentrations of the five major criteria air pollutants. Air pollutant monitoring data is available at http://www.arb.ca.gov/adam/welcome.html. Air quality conditions in the SFBAAB have improved significantly since the BAAQMD was created in 1955. Ambient concentrations and the number of days on which the region exceeds standards have declined dramatically. Neither State nor

national ambient air quality standards of these chemicals have been violated in recent decades for nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and vinyl chloride.

Emissions Inventory

The BAAQMD estimates emissions of criteria air pollutants from approximately nine hundred source categories. The estimates are based on BAAQMD permit information for stationary sources (e.g., manufacturing industries, refineries, dry-cleaning operations), plus more generalized estimates for area sources (e.g., space heating, landscaping activities, use of consumer products) and mobile sources (e.g., trains, ships and planes, as well as on-road and off-road motor vehicles). BAAQMD emissions inventory data is available at http://www.arb.ca.gov/ei/maps/statemap/dismap.htm.

C.1.2. Existing Ambient Air Quality: Toxic Air Contaminants

In addition to the criteria air pollutants listed above, another group of pollutants, commonly referred to as toxic air contaminants (TACs) or hazardous air pollutants can result in health effects that can be quite severe. Many TACs are confirmed or suspected carcinogens, or are known or suspected to cause birth defects or neurological damage. Secondly, many TACs can be toxic at very low concentrations. For some chemicals, such as carcinogens, there are no thresholds below which exposure can be considered risk-free.

Industrial facilities and mobile sources are significant sources of TACs. The electronics industry, including semiconductor manufacturing, has the potential to contaminate both air and water due to the highly toxic chlorinated solvents commonly used in semiconductor production processes. Sources of TACs go beyond industry. Various common urban facilities also produce TAC emissions, such as gasoline stations (benzene), hospitals (ethylene oxide), and dry cleaners (perchloroethylene). Automobile exhaust also contains TACs such as benzene and 1,3-butadiene. Most recently, diesel particulate matter was identified as a TAC by the ARB. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. BAAQMD research indicates that mobile-source emissions of diesel PM, benzene, and 1,3-butadiene represent a substantial portion of the ambient background risk from TACs in the SFBAAB.

C.1.3. Greenhouse Gases and Global Climate Change

Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of greenhouse gases (GHGs) that contribute to global warming or global climate change have a broader, global impact. Global warming is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principal GHGs contributing to global warming are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds. The primary GHGs of concern are summarized in Table C.3. These gases allow visible and ultraviolet light from the sun to pass through the atmosphere, but they prevent heat from escaping back out into space. Among the potential implications of global warming are rising sea levels, and adverse impacts to water supply, water quality, agriculture, forestry, and habitats. In addition, global warming may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health. Like most criteria and toxic air pollutants, much of the GHG production comes from motor vehicles. GHG emissions can be reduced to some degree by improved coordination of land use and transportation planning on the city, county, and subregional level, and other measures to reduce automobile use. Energy conservation measures also can contribute to reductions in GHG emissions.

Table C.3 Examples of Greenhouse Gases	
Gas	**Sources**
Carbon dioxide (CO_2)	Fossil fuel combustion in stationary and point sources; emission sources includes burning of oil, coal, gas.
Methane (CH_4)	Incomplete combustion in forest fires, landfills, and leaks in natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, and certain industrial processes.
Nitrous oxide (N_2O)	Fossil fuel combustion in stationary and point sources; other emission sources include agricultural soil management, animal manure management, sewage treatment, adipic acid production, and nitric acid production.
Chlorofluorocarbon (CFC), and Hydro-chlorofluorocarbon (HCFC)	Agents used in production of foam insulation; other sources include air conditioners, refrigerators, and solvents in cleaners.
Sulfur hexafluoride (SF_6)	Electric insulation in high voltage equipment that transmits and distributes electricity, including circuit breakers, gas-insulated substations, and other switchgear used in the transmission system to manage the high voltages carried between generating stations and customer load centers.
Perfluorocarbons (PFC's)	Primary aluminum production and semiconductor manufacturing.
Source: EPA 2009	

California Greenhouse Gas Emissions Inventory

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.

California produced 474 million gross metric tons (MMT) of CO_2 equivalent (CO_2e) averaged over the period from 2002-2004. CO_2e is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 23 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. Expressing emissions in CO_2e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2002-2004, accounting for 38 percent of total GHG emissions in the state. This sector was followed by the electric power sector (including both in-state and out-of-state sources) (18 percent) and the industrial sector (21 percent).

California Greenhouse Gas Emissions Projections

The 1990 GHG emissions limit is approximately 430 MMT CO_2e, which must be met in California by 2020 per the requirements of AB 32 (discussed below in the Regulatory Setting). ARB's GHG inventory for all emissions sectors would require an approximate 28 percent reduction in GHG emissions from projected 2020 forecasts to meet the target emissions limit (equivalent to levels in 1990) established in AB 32. The AB 32 Scoping Plan, discussed further below, is ARB's plan for meeting this mandate.

C.1.4. Existing Ambient Air Quality: Odors and Dust

Other air quality issues of concern in the SFBAAB include nuisance impacts of odors and dust. Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries and chemical plants. Similarly, nuisance dust may be generated by a variety of sources including quarries, agriculture, grading and construction. Odors rarely have direct health impacts, but they can be very unpleasant and can lead to anger and concern over possible health effects among the public. Each year the BAAQMD receives thousands of citizen complaints about objectionable odors. Dust emissions can contribute to increased ambient concentrations of PM_{10}, and can also contribute to reduced visibility and soiling of exposed surfaces.

REGULATORY SETTING

Air quality with respect to criteria air pollutants and TACs within the SFBAAB is regulated by such agencies as the BAAQMD, ARB, and EPA. Each of these agencies develops rules, regulations, policies, and/or goals to attain the goals or directives imposed through legislation. Although the EPA regulations may not be superseded, both state and local regulations may be more stringent.

C.1.5. Criteria Air Pollutants

Federal Air Quality Regulations

U.S. Environmental Protection Agency

At the federal level, EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS, which are available at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformation to the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

State Air Quality Regulations

In 1992 and 1993, the California Air Resources Board (CARB) requested delegation of authority for the implementation and enforcement of specified New Source Performance Standards

(NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPS) to the following local agencies: Bay Area and South Coast Air Quality Management Districts (AQMDs). EPA's review of the State of California's laws, rules, and regulations showed them to be adequate for the implementation and enforcement of these federal standards, and EPA granted the delegations as requested.

California Air Resources Board

ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), which was adopted in 1988. The CCAA requires that all air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

ARB is primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. The ARB is primarily responsibility for statewide pollution sources and produces a major part of the SIP. Local air districts are still relied upon to provide additional strategies for sources under their jurisdiction. The ARB combines this data and submits the completed SIP to EPA.

Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

Transport of Pollutants

The California Clean Air Act, Section 39610 (a), directs the ARB to "identify each district in which transported air pollutants from upwind areas outside the district cause or contribute to a violation of the ozone standard and to identify the district of origin of transported pollutants." The information regarding the transport of air pollutants from one basin to another was to be quantified to assist interrelated basins in the preparation of plans for the attainment of State ambient air quality standards. Numerous studies conducted by the ARB have identified air basins that are impacted by pollutants transported from other air basins (as of 1993). Among the air basins affected by air pollution transport from the SFBAAB are the North Central Coast Air Basin, the Mountain Counties Air Basin, the San Joaquin Valley Air Basin, and the Sacramento Valley Air Basin. The SFBAAB was also identified as an area impacted by the transport of air pollutants from the Sacramento region.

Local Air Quality Regulations

Bay Area Air Quality Management District

The BAAQMD attains and maintains air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the BAAQMD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The BAAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA, FCAAA, and the CCAA.

In 2009, the BAAQMD released the update to its CEQA Guidelines. This is an advisory document that provides the Lead Agency, consultants, and project applicants with uniform procedures for

addressing air quality in environmental documents. The handbook contains the following applicable components:

1. Criteria and thresholds for determining whether a project may have a significant adverse air quality impact;
2. Specific procedures and modeling protocols for quantifying and analyzing air quality impacts;
3. Methods available to mitigate air quality impacts;
4. Information for use in air quality assessments and environmental documents that will be updated more frequently such as air quality data, regulatory setting, climate, topography.

Air Quality Plans

As stated above, the BAAQMD prepares plans to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans (OAP) for the national ozone standard and clean air plans (CAP) for the California standard both in coordination with the Metropolitan Transportation Commission and the Association of Bay Area Governments (ABAG).

With respect to applicable air quality plans, the BAAQMD prepared the *2009 Clean Air Plan* to address nonattainment of the national 1-hour ozone standard in the SFBAAB. The purpose of the 2009 Clean Air Plan is to:

1. Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
2. Consider the impacts of ozone control measures on particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
3. Review progress in improving air quality in recent years;
4. Establish emission control measures to be adopted or implemented in the 2009-2012 timeframe.

Similarly, the BAAQMD prepared the 2009 Clean Air Plan to address nonattainment of the CAAQS.

C.1.6. Toxic Air Contaminants

TACs, or in federal parlance under the FCAA, HAPs, are pollutants that result in an increase in mortality, a serious illness, or pose a present or potential hazard to human health. Health effects of TACs may include cancer, birth defects, and immune system and neurological damage.

TACs can be separated into carcinogens and noncarcinogens based on the nature of the physiological degradation associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which heath impacts will not occur. Noncarcinogenic TACs differ in that there is a safe level in which it is generally assumed that no negative health impacts would occur. These levels are determined on a pollutant-by-pollutant basis.

It is important to understand that TACs are not considered criteria air pollutants and thus are not specifically addressed through the setting of ambient air quality standards. Instead, the EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (MACT and BACT) to limit emissions. These in conjunction with additional rules set forth by the BAAQMD establish the regulatory framework for TACs.

Federal Hazardous Air Pollutant Program

Title III of the FCAAA requires the EPA to promulgate national emissions standards for hazardous air pollutants (NESHAPs). The NESHAP may differ for major sources than for area sources of HAPs. (Major sources are defined as stationary sources with potential to emit more than 10 tons per year [TPY] of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources.) The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring MACT. These federal rules are also commonly referred to as MACT standards, because they reflect the Maximum Achievable Control Technology. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the EPA is required to promulgate health risk–based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards. The FCAAA required the EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, §219 required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions.

State Toxic Air Contaminant Programs

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. To date, ARB has identified over 21 TACs, and adopted the EPA's list of HAPs as TACs. Most recently, diesel exhaust particulate was added to the ARB list of TACs. Once a TAC is identified, ARB's then adopts an Airborne Toxics Control Measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate TBACT to minimize emissions. None of the TACs identified by ARB have a safe threshold.

The Hot Spots Act requires that existing facilities that emit toxic substances above specified level:

1. Prepare a toxic emission inventory;
2. Prepare a risk assessment if emissions are significant;
3. Notify the public of significant risk levels;
4. Prepare and implement risk reduction measure.

ARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). In February 2000, ARB adopted a new public transit bus fleet rule and emission standards for new urban buses. These new rules and standards provide for 1) more stringent emission standards for some new urban bus engines beginning with 2002 model year engines, 2) zero-emission bus demonstration and purchase requirements applicable to transit agencies, and 3) reporting requirements with which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Upcoming milestones include the low sulfur diesel fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially less TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced

significantly over the last decade, and will be reduced further in California through a progression of regulatory measures [e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be reduced by 75% in 2010 and 85% in 2020 from the estimated year 2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

Local Air Quality Regulations

Bay Area Air Quality Management District

The BAAQMD has regulated TACs since the 1980s. At the local level, air pollution control or management districts may adopt and enforce ARB's control measures. Under BAAQMD Regulation 2-1 (General Permit Requirements), Regulation 2-2 (New Source Review), and Regulation 2-5 (New Source Review), all nonexempt sources that possess the potential to emit TACs are required to obtain permits from BAAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. The BAAQMD limits emissions and public exposure to TACs through a number of programs. The BAAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. In addition, the BAAQMD has adopted Regulation 11 Rules 2 and 14, which address asbestos demolition renovation, manufacturing, and standards for asbestos containing serpentine.

C.1.7. Greenhouse Gases and Global Climate Change

Federal Greenhouse Gas Regulations

Supreme Court Ruling

The U.S. Environmental Protection Agency (EPA) is the Federal agency responsible for implementing the Clean Air Act (CAA). The U.S. Supreme Court ruled in its decision in *Massachusetts et al. v. Environmental Protection Agency* et al. ([2007] 549 U.S. 05-1120), issued on April 2, 2007, that carbon dioxide (CO_2) is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs.

EPA Actions

In response to the mounting issue of climate change, EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO2 per year. This publically available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act

On April 23, 2009, EPA published their Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CCA (Endangerment Finding) in the Federal Register. The Endangerment Finding is based on Section 202(a) of the CAA, which states that the Administrator (of EPA) should regulate and develop standards for "emission[s] of air pollution from any class of classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." The proposed rule addresses Section 202(a) in two distinct findings. The first addresses whether or not the concentrations of the six key GHGs (i.e., carbon dioxide [CO_2], methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFCs], perflurorocarbons [PFCs], and sulfur hexafluoride [SF_6]) in the atmosphere threaten the public health and welfare of current and future generations. The second addresses whether or not the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and therefore the threat of climate change.

The Administrator proposed the finding that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CCA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, which are very likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wild fires, droughts, sea level rise, higher intensity storms) are a threat to the public health and welfare. Therefore, GHGs were found to endanger the public health and welfare of current and future generations.

The Administrator also proposed the finding that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. The proposed finding cites that in 2006, motor vehicles were the second largest contributor to domestic GHG emissions (24 percent of total) behind electricity generation. Furthermore, in 2005, the U.S. was responsible for 18 percent of global GHG emissions. Therefore, GHG emissions from motor vehicles and motor vehicle engines were found to contribute to air pollution that endangers public health and welfare.

State Greenhouse Gas Regulations

Assembly Bill 1493 (2002)

In 2002, then-Governor Gray Davis signed Assembly Bill (AB) 1493. AB 1493 requires that ARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, in 2004 ARB approved amendments to the California Code of Regulations (CCR) adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1) require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily for the transportation of persons), beginning with the 2009 model year. For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emission limits for the 2016 model year are approximately 37percent lower than the limits for the first year of the regulations, the 2009 model year. For light-duty trucks with LVW of 3,751 pounds to gross vehicle

weight (GVW) of 8,500 pounds, as well as medium-duty passenger vehicles, GHG emissions would be reduced approximately 24 percent between 2009 and 2016.

In December 2004, a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against ARB to prevent enforcement of 13 CCR Sections 1900 and 1961 as amended by AB 1493 and 13 CCR 1961.1 (*Central Valley Chrysler-Jeep et al. v. Catherine E. Witherspoon, in Her Official Capacity as Executive Director of the California Air Resources Board, et al.*). The auto-makers' suit in the U.S. District Court for the Eastern District of California, contended California's implementation of regulations that, in effect, regulate vehicle fuel economy violates various federal laws, regulations, and policies.

On December 12, 2007, the Court found that if California receives appropriate authorization from EPA (the last remaining factor in enforcing the standard), these regulations would be consistent with and have the force of federal law, thus, rejecting the automakers' claim. This authorization to implement more stringent standards in California was requested in the form of a CAA Section 209, subsection (b) waiver in 2005. Since that time, EPA failed to act on granting California authorization to implement the standards. Governor Schwarzenegger and Attorney General Edmund G. Brown filed suit against EPA for the delay. In December 2007, EPA Administrator Stephen Johnson denied California's request for the waiver to implement AB 1493. Johnson cited the need for a national approach to reducing GHG emissions, the lack of a "need to meet compelling and extraordinary conditions", and the emissions reductions that would be achieved through the Energy Independence and Security Act of 2007 as the reasoning for the denial.

The state of California filed suit against EPA for its decision to deny the CAA waiver. The recent change in presidential administration directed EPA to reexamine its position for denial of California's CAA waiver and for its past opposition to GHG emissions regulation. California received the waiver, notwithstanding the previous denial by EPA, on June 30, 2009.

Assembly Bill 32 (2006), California Global Warming Solutions Act

In September 2006, the governor of California signed AB 32 (Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006, which enacted Sections 38500–38599 of the California Health and Safety Code. AB 32 requires the reduction of statewide GHG emissions to 1990 levels by 2020. This equates to an approximate 15 percent reduction compared to existing statewide GHG emission levels or a 30 percent reduction from projected 2020 "business as usual" emission levels. The required reduction will be accomplished through an enforceable statewide cap on GHG emissions beginning in 2012.

To effectively implement the statewide cap on GHG emissions, AB 32 directs ARB to develop and implement regulations that reduce statewide GHG emissions generated by stationary sources. Specific actions required of ARB under AB 32 include adoption of a quantified cap on GHG emissions that represent 1990 emissions levels along with disclosing how the cap was quantified, institution of a schedule to meet the emissions cap, and development of tracking, reporting, and enforcement mechanisms to ensure that the state achieves the reductions in GHG emissions needed to meet the cap.

In addition, AB 32 states that if any regulations established under AB 1493 (2002) cannot be implemented then ARB is required to develop additional, new regulations to control GHG emissions from vehicles as part of AB 32.

AB 32 Climate Change Scoping Plan

In December 2008, ARB adopted its *Climate Change Scoping Plan*, which contains the main strategies California will implement to achieve reduction of approximately 169 million metric tons (MMT) of CO_2e, or approximately 30% from the state's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10%,

from 2002-2004 average emissions). The *Scoping Plan* also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e), and
- a renewable portfolio standard for electricity production (21.3 MMT CO_2e).

ARB has not yet determined what amount of GHG reductions it recommends from local government operations; however, the *Scoping Plan* does state that land use planning and urban growth decisions will play an important role in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. (Meanwhile, ARB is also developing an additional protocol for community emissions.) ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The *Scoping Plan* states that the ultimate GHG reduction assignment to local government operations is to be determined (ARB 2008). With regard to land use planning, the *Scoping Plan* expects approximately 5.0 MMT CO_2e will be achieved associated with implementation of SB 375, which is discussed further below.

Senate Bills 1078 and 107 and Executive Order S-14-08

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33 percent renewable power by 2020. Governor Schwarzenegger plans to propose legislative language that will codify the new higher standard.

Senate Bill 1368 (2006)

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (PUC) to establish a greenhouse gas emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The California Energy Commission (CEC) must establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Senate Bill 97 (2007)

SB 97, signed by governor of California in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code, Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Resources Agency by July 1, 2009 guidelines for mitigating GHG emissions or the effects of GHG emissions,

as required by CEQA. The California Resources Agency is required to certify and adopt these guidelines by January 1, 2010.

This bill also removes, both retroactively and prospectively, as legitimate causes of action in litigation any claim of inadequate CEQA analysis of effects of GHG emissions associated with environmental review for projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006 (Proposition 1B) or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E). This provision will be repealed by provision of law on January 1, 2010 at that time such projects, if any remain unapproved, will no longer enjoy protection against litigation claims based on failure to adequately address issues related to GHG emissions.

Senate Bill 375 (2008)

SB 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. As part of the alignment, SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) which prescribes land use allocation in that MPO's Regional Transportation Plan (RTP). The ARB, in consultation with MPOs, is required to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned GHG emission reduction targets. If MPOs do not meet the GHG reduction targets, transportation projects located in the MPO boundaries would not be eligible for funding programmed after January 1, 2012.

This bill also extends the minimum time period for the Regional Housing Needs Allocation (RNHA) cycle from 5 years to 8 years for local governments located in an MPO that meets certain requirements. City or County land use policies (e.g., General Plans) are not required to be consistent with the RTP including associated SCSs or APSs. Qualified projects consistent with an approved SCS or APS and categorized as "transit priority projects" would receive incentives under new provisions of CEQA.

Executive Order S-3-05 (2005)

Governor Schwarzenegger signed Executive Order S-3-05 on June 1, 2005 which proclaimed California is vulnerable to the impacts of climate change. The executive order declared increased temperatures could reduce snowpack in the Sierra Nevada Mountains, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the executive order established targets for total GHG emissions which include reducing GHG emissions to the 2000 level by 2010, to the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

The executive order also directed the secretary of the California Environmental Protection Agency to coordinate a multiagency effort to reduce GHG emissions to the target levels. The secretary will submit biannual reports to the governor and legislature describing progress made toward reaching the emission targets; impacts of global warming on California's resources; and mitigation and adaptation plans to combat impacts of global warming.

To comply with the executive order, the Secretary of the California Environmental Protection Agency created the California Climate Action Team which is made up of members from various state agencies and commissions. The California Climate Action Team released its first report in March 2006 of which proposed achieving the GHG emissions targets by building on voluntary

actions of California businesses and actions by local governments and communities along with continued implementation of state incentive and regulatory programs.

Executive Order S-13-08

Governor Schwarzenegger signed Executive Order S-13-08 on November 14, 2008 which directs California to develop methods for adapting to climate change through preparation of a statewide plan. The executive order directs OPR, in cooperation with the California Resources Agency (CRA), to provide land use planning guidance related to sea level rise and other climate change impacts by May 30, 2009. The order also directs the CRA to develop a state Climate Adaptation Strategy by June 30, 2009 and to convene an independent panel to complete the first California Sea Level Rise Assessment Report. The assessment report is required to be completed by December 1, 2010 and required to include the following four items:

1. Project the relative sea level rise specific to California by taking into account issues such as coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates;
2. Identify the range of uncertainty in selected sea level rise projections;
3. Synthesize existing information on projected sea level rise impacts to state infrastructure (e.g., roads, public facilities, beaches), natural areas, and coastal and marine ecosystems; and
4. Discuss future research needs relating to sea level rise in California.

Executive Order S-1-07

Governor Schwarzenegger signed Executive Order S-1-07 in 2007 which proclaimed the transportation sector as the main source of GHG emissions in California. The executive order proclaims the transportation sector accounts for over 40 percent of statewide GHG emissions. The executive order also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020.

In particular, the executive order established a Low-Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (*State Alternative Fuels Plan* adopted by CEC on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the LCFS on April 23, 2009.

Local Greenhouse Gas Regulations

Bay Area Air Quality Management District Climate Protection Program

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the SFBAAB. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

D. THRESHOLD OF SIGNIFICANCE JUSTIFICATION

[TO BE ADDED AFTER BAAQMD BOARD OF DIRECTORS TAKE ACTION]

E. GLOSSARY

Aerosol -- Particle of solid or liquid matter that can remain suspended in the air because of its small size (generally under one micrometer in diameter).

Air Quality Management District (AQMD) -- Local agency charged with controlling air pollution and attaining air quality standards. The Bay Area Air Quality Management District is the regional AQMD that includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara Counties and the southern halves of Solano and Sonoma Counties.

Air Resources Board (ARB) -- The State of California agency responsible for air pollution control. Responsibilities include: establishing State ambient air quality standards, setting allowable emission levels for motor vehicles in California and oversight of local air quality management districts.

Area Sources -- Sources of air pollutants that individually emit relatively small quantities of air pollutants, but that may emit considerable quantities of emissions when aggregated over a large area. Examples include water heaters, lawn maintenance equipment, and consumer products.

Best Available Control Technology (BACT) -- The most stringent emissions control that has been achieved in practice, identified in a state implementation plan, or found by the District to be technologically feasible and cost-effective for a given class of sources.

California Clean Air Act (CCAA) -- Legislation enacted in 1988 mandating a planning process to attain state ambient air quality standards.

CALINE -- A model developed by the Air Resources Board that calculates carbon monoxide concentrations resulting from motor vehicle use.

Carbon Monoxide (CO) -- A colorless, odorless, toxic gas produced by the incomplete combustion of carbon-containing substances. It is emitted in large quantities by exhaust of gasoline-powered vehicles.

Carbon Dioxide (CO_2) -- A colorless, odorless gas that is an important contributor to Earth's greenhouse effect.

Carbon Dioxide Equivalent (CO_2E) -- A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

Chlorofluorocarbons (CFCs) -- A family of inert, nontoxic, and easily liquefied chemicals used in refrigeration, air conditioning, packaging, insulation, or as solvents and aerosol propellants. CFCs drift into the upper atmosphere where their chlorine components destroy stratospheric ozone.

Clean Air Act (CAA) -- Long-standing federal legislation, last amended in 1990, that is the legal basis for the national clean air programs.

Conformity -- A requirement in federal law and administrative practice that requires that projects will not be approved if they do not conform with the State Implementation Plan by: causing or contributing to an increase in air pollutant emissions, violating an air pollutant standard, or increasing the frequency of violations of an air pollutant standard.

Criteria Air Pollutants -- Air pollutants for which the federal or State government has established ambient air quality standards, or criteria, for outdoor concentration in order to protect public health. Criteria pollutants include: ozone, carbon monoxide, sulfur dioxide PM10 (previously total suspended particulate), nitrogen oxide, and lead.

EMFAC -- The computer model developed by the California Air Resources Board to estimate composite on-road motor vehicle emission factors by vehicle class.

Emission Factor -- The amount of a specific pollutant emitted from a specified polluting source per unit quantity of material handled, processed, or burned.

Emission Inventory -- A list of air pollutants emitted over a determined area by type of source. Typically expressed in mass per unit time.

Environmental Protection Agency (EPA) -- The federal agency responsible for control of air and water pollution, toxic substances, solid waste, and cleanup of contaminated sites.

Exceedance -- A monitored level of concentration of any air contaminant higher than national or state ambient air quality standards.

Global Warming Potential (GWP) -- The index used to translate the level of emissions of various gases into a common measure in order to compare the relative radiative forcing of different gases without directly calculating the changes in atmospheric concentrations. GWPs are calculated as the ratio of the radiative forcing that would result from the emissions of one kilogram of a greenhouse gas to that from emission of one kilogram of carbon dioxide over a period of time (usually 100 years).

Greenhouse Gas (GHG) -- Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), halogenated fluorocarbons (HCFCs), ozone (O_3), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and hydrofluorocarbons (HFCs).

Hazardous Air Pollutants – Federal terminology for air pollutants which are not covered by ambient air quality standards but may reasonably be expected to cause or contribute to serious illness or death (see NESHAPs).

Health Risk Assessment -- An analysis where human exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risk.

Hot Spot -- A location where emissions from specific sources may expose individuals and population groups to elevated risks of adverse health effects and contribute to the cumulative health risks of emissions from other sources in the area.

Hydrogen Sulfide (H_2S) -- A gas characterized by "rotten egg" smell, found in the vicinity of oil refineries, chemical plants and sewage treatment plants.

Impacted Communities – Also known as priority communities, the Air District defines impacted communities within the Bay Area as having higher emitting sources, highest air concentrations, and nearby low income and sensitive populations. The Air District identified the following impacted communities: the urban core areas of Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose.

Indirect Sources – Land uses and facilities that attract or generate motor vehicle trips and thus result in air pollutant emissions, e.g., shopping centers, office buildings, and airports.

Inversion -- The phenomenon of a layer of warm air over cooler air below. This atmospheric condition resists the natural dispersion and dilution of air pollutants.

Level of Service (LOS) -- A transportation planning term for a method of measurement of traffic congestion. The LOS compares actual or projected traffic volume to the maximum capacity of the road under study. LOS ranges from A through F. LOS A describes free flow conditions, while LOS F describes the most congested conditions, up to or over the maximum capacity for which the road was designed.

Mobile Source -- Any motor vehicle that produces air pollution, e.g., cars, trucks, motorcycles (on-road mobile sources) or airplanes, trains and construction equipment (off-road mobile sources).

National Ambient Air Quality Standards (NAAQS) -- Health-based pollutant concentration limits established by EPA that apply to outdoor air (see Criteria Air Pollutants).

National Emissions Standards for Hazardous Air Pollutants (NESHAPs) – Emissions standards set by EPA for air pollutants not covered by NAAQS that may cause an increase in deaths or in serious, irreversible, or incapacitating illness.

Nitrogen Oxides (NO_X) -- Gases formed in great part from atmospheric nitrogen and oxygen when combustion takes place under conditions of high temperature and high pressure; NOX is a precursor to the criteria air pollutant ozone.

Nonattainment Area -- Defined geographic area that does not meet one or more of the

Ambient Air Quality Standards for the criteria pollutants designated in the federal Clean Air Act and/or California Clean Air Act.

Ozone (O_3) -- A pungent, colorless, toxic gas. A product of complex photochemical processes, usually in the presence of sunlight. Tropospheric (lower atmosphere) ozone is a criteria air pollutant.

Particulate -- A particle of solid or liquid matter; soot, dust, aerosols, fumes and mists.

Photochemical Process -- The chemical changes brought about by the radiant energy of the sun acting upon various polluting substances. The products are known as photochemical smog.

$PM_{2.5}$ -- Fine particulate matter (solid or liquid) with an aerodynamic diameter equal to or less than 2.5 micrometers. Individual particles of this size are small enough to be inhaled deeply into the lungs..

PM_{10} -- Fine particulate matter (solid or liquid) with an aerodynamic diameter equal to or less than 10 micrometers. Individual particles of this size are small enough to be inhaled into human lungs; they are not visible to the human eye.

Precursor -- Compounds that change chemically or physically after being emitted into the air and eventually produce air pollutants. For example, organic compounds are precursors to ozone.

Prevention of Significant Deterioration (PSD) -- EPA program in which State and/or federal permits are required that are intended to restrict emissions for new or modified sources in places where air quality is already better than required to meet primary and secondary ambient air quality standards.

Reactive Organic Gases (ROG) -- Classes of organic compounds, especially olefins, substituted aromatics and aldehydes, that react rapidly in the atmosphere to form photochemical smog or ozone.

Sensitive Receptors -- Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals and residential areas.

State Implementation Plan (SIP) -- EPA-approved state plans for attaining and maintaining federal air quality standards.

Stationary Source -- A fixed, non-mobile source of air pollution, usually found at industrial or commercial facilities.

Sulfur Oxides (SO_X) -- Pungent, colorless gases formed primarily by the combustion of sulfur-containing fossil fuels, especially coal and oil. Considered a criteria air pollutant, sulfur oxides may damage the respiratory tract as well as vegetation.

Toxic Air Contaminants -- Air pollutants which cause illness or death in relatively small quantities. Non-criteria air contaminants that, upon exposure, ingestion, inhalation, or assimilation into organisms either directly from the environment or indirectly by ingestion through food chains, may cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, or physical deformations in such organisms or their offspring.

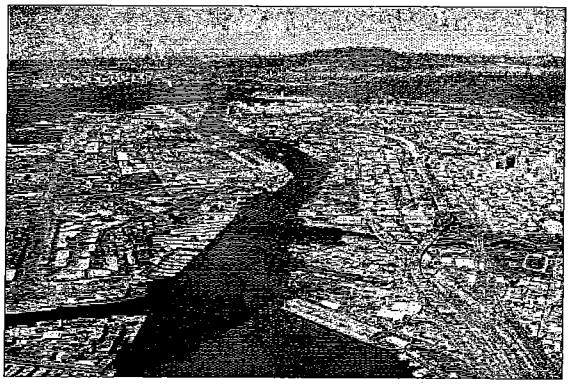
Transportation Control Measures (TCMs) -- Measures to reduce traffic congestion and decrease emissions from motor vehicles by reducing vehicle use.

URBEMIS -- A computer model developed by the California Air Resources Board to estimate air pollutant emissions from motor vehicle trips associated with land use development.

EXHIBIT 4

Revised Draft Options and Justification Report

California Environmental Quality Act Thresholds of Significance



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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	State of California Assembly Bill
ABAG	Association of Bay Area Governments
APS	Alternative Planning Strategy
AQP	air quality plan
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BMP	Best Management Practices
BAU	Business as Usual
CAA	federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAP	climate action plan
CAPCOA	California Air Pollution Control Officers Association
CARE	Community Air Risk Evaluation
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DOF	California Department of Finance
EDD	California Economic Development Department
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ERPG	Emergency Response Planning Guidelines
GBC	California Green Building Code
GHG	greenhouse gas
GPA	general plan amendment
HAP	hazardous air pollutants
IS/MND	Initial Study/Mitigated Negative Declaration
lb/day	pounds per day
LCFS	Low Carbon Fuel Standard
LOS	level of service
MDAQMD	Mojave Desert Air Quality Management District

MEI	Maximally Exposed Individual
MMT	million metric tons
MMT/yr	million metric tons per year
MPO	Metropolitan Planning Organization
MT	metric tons
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NOE	Notice of Exemption
NO_X	oxides of nitrogen
NSR	New Source Review
OPR	Governor's Office of Planning and Research
PM_{10}	respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less
PM	particulate matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
RMPP	Risk Management Prevention Program
ROG	reactive organic gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCH	California State Clearinghouse
SCS	Sustainable Communities Strategy
sf	square feet
SFBAAB	San Francisco Bay Area Air Basin
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
TACs	toxic air contaminants
T-BACT	Toxic Best Available Control Technology
TBPs	Toxic Best Practices
TCMs	transportation control measures
tons/day	tons per day
tpy	tons per year
UNFCCC	United Nations Framework Convention on Climate Change
URBEMIS	Urban Emissions Model
VCAPCD	Ventura County Air Pollution Control District
VMT	vehicle miles traveled

1 EXECUTIVE SUMMARY

Bay Area Air Quality Management District (BAAQMD or Air District) California Environmental Quality Act (CEQA) Guidelines for assessing air quality impacts, first published in 1985, were last revised in 1999. The CEQA process and the associated Guidelines are one of many mechanisms BAAQMD employs to further the primary goal of attaining and maintaining state and national ambient air quality standards. CEQA alone will not achieve the air quality goals. Thus, this paper recommends thresholds of significance that BAAQMD staff believes will provide a fair share of emission reductions from land use development.

BAAQMD publishes these Guidelines to assist local jurisdictions and agencies to comply with the requirements of CEQA regarding potentially adverse impacts to air quality. The primary purpose of the Guidelines are to provide a means to identify proposed local plans and development projects that may have a significant adverse effect on air quality, public health, attainment of state and national ambient air quality standards, and to provide recommendations to mitigate those impacts. Many of the assumptions underlying the analytical methodologies have been updated or revised since the last update of the Guidelines. In addition, some air quality impact issues, such as toxic air contaminant (TAC) risk and global climate change, have received significantly increased focus and prominence.

For these reasons, BAAQMD has decided to update the Guidelines, review existing significance criteria, establish new significance criteria where needed, and develop substantial evidence to support the threshold options available for use.

These thresholds are intended for application to land use development projects, which includes both project level residential and commercial development and Plans, e.g., general plans, specific plans, transportation plans, etc. These thresholds only apply in part to industrial sources. Mobile sources and area sources from industrial land use can be evaluated using the thresholds below as these emission sources have much in common with mobile sources and area sources from residential and commercial uses. Stationary sources are regulated through Air District rules and regulations, the federal Clean Air Act, and the California Clean Air Act and CEQA evaluation of stationary sources should apply these relevant regulations to make significance determinations.

Many of the thresholds are proposed as cumulatively significant impact levels that identify a level of impact that is considered either a cumulatively considerable contribution to an existing adverse condition or a level of impact where, in combination with the project being evaluated, together with other projects causing related impacts, is considered cumulatively significant. In the case of emissions of regional (e.g. ozone precursors) or global pollutants (greenhouse gases) no single project would be sufficient in size, by itself, to result in emissions that are considered significant.

BAAQMD staff-recommended CEQA thresholds of significance for construction, operational-related, and plan-level emissions of criteria air pollutants and ozone precursors, greenhouse gases (GHGs), TACs, and odors include the following, as summarized in Table 1 at the end of this section. The justifications for the recommended thresholds are presented in the main body of this report.

1.1 CONSTRUCTION-RELATED IMPACTS

1.1.1 CRITERIA AIR POLLUTANTS AND OZONE PRECURSORS (REGIONAL)

Staff recommends the following thresholds for addressing attainment-related pollutants, which includes the following average daily thresholds of significance:

- 54 pounds per day (lb/day) for reactive organic gases (ROG),

- 54 lb/day for oxides of nitrogen (NO_x),
- 82 lb/day for respirable particulate matter from exhaust emissions with an aerodynamic resistance diameter of 10 micrometers or less (PM_{10}), and
- 54 lb/day for fine particulate matter from exhaust emissions with an aerodynamic resistance diameter of 2.5 micrometers or less ($PM_{2.5}$).

These levels are based on the trigger levels for the federal New Source Review (NSR) Program and BAAQMD's Regulation 2, Rule 2 for new or modified sources. These levels represent a cumulatively considerable contribution.

For fugitive dust, staff recommends a continuation of the current Best Management Practice approach for the control of construction fugitive dust production.

No thresholds are proposed for regional Carbon Monoxide or Sulfur Dioxide construction emissions as control of these sources is currently not required to achieve regional attainment for these pollutants.

1.1.2 Localized Carbon Monoxide

Staff recommends a case-by-case consideration of localized carbon monoxide emissions from construction because carbon monoxide emissions from construction activities are rarely a public health concern except for the occasionally very large construction efforts.

1.1.3 Greenhouse Gases

Staff does not recommend a construction GHG threshold at this time because there is not sufficient evidence to determine a level at which construction emissions are significant. Staff recommends a case-by-case consideration of construction GHG emissions and encourages project applicants to implement construction GHG reduction strategies where feasible. The Air District will develop a list of best management practices, such as alternative fuels, use of local materials, and recycling of construction and demolition waste, to provide lead agencies with strategies that reduce greenhouse gas emissions from construction.

1.1.4 Local Community Risks and Hazards

Staff recommends the following thresholds for evaluation of a project's construction related toxic air contaminant emissions:

- Increase of greater than 10 in a million cancer risk;
- Increase of non-cancer risk greater than a chronic or acute Hazard Index of 1.0; or
- Increase in ambient air quality emissions of $PM_{2.5}$ greater than > 0.3 $\mu g/m^3$.

Staff recommends a case-by-case consideration of a project's cumulative construction impact. A cumulative analysis of a project's construction risk impacts should be considered if there is a substantial overlap of projects or there is a major source of risk nearby. Where a cumulative analysis is warranted, staff recommends that the operational-related cumulative risks and hazards thresholds described below are used.

1.1.5 ODORS

Staff recommends individual lead agencies address this issue on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity of off-site receptors. Proximity examples are given in the text below. Examples of odorous compounds are found in District Regulation 7.

1.2 OPERATIONAL-RELATED IMPACTS

1.2.1 CRITERIA AIR POLLUTANTS AND OZONE PRECURSORS (REGIONAL)

Staff recommends the following average daily and maximum annual thresholds of significance for evaluation of attainment-related criteria pollutants and ozone precursors:

- 54 lb/day and 10 tons per year (tpy) for ROG,
- 54 lb/day and 10 tpy for NO_x,
- 82 lb/day and 15 tpy for PM_{10}, and
- 54 lb/day and 10 tpy for $PM_{2.5}$.

These levels are based on the trigger levels for the federal NSR Program and BAAQMD's Regulation 2, Rule 2 for new or modified sources. These levels represent a cumulatively considerable contribution.

1.2.2 LOCALIZED CARBON MONOXIDE

Staff recommends the following ambient CO thresholds of significance for operational emissions:

- 20 ppm for 1-hour exposure
- 8 ppm for 8-hour exposure

These thresholds are based on the California ambient air quality standards for carbon monoxide.

1.2.3 GREENHOUSE GASES

1.2.3.1 LAND USE SECTOR PROJECTS

Staff recommends a tiered approach to consideration of operational GHG emissions.

Projects consistent with a qualified Climate Action Plan adopted by the local jurisdiction (or similar adopted policies, ordinances and programs) that include enforceable measures to reduce GHG emissions consistent with AB 32 goals or Executive Order S-03-05 targets, would be considered less than significant.

Projects not consistent with an adopted qualified Climate Action Plan (or similar adopted policies, ordinances and programs) would be considered to have a significant impact.

Projects proposed in areas where a qualified Climate Action Plan has not been adopted should be reviewed against a "bright-line" threshold of 1,100 MT carbon dioxide equivalent per year (CO_2e/yr). A bright line numeric threshold of 1,100 MT CO_2e/yr would result in approximately 59 percent of all future projects and 92 percent of all future land use emissions being subject to mitigation requirements under CEQA, and achieve aggregate emissions reduction of 1.6 MMT CO_2e by 2020 to achieve the SFBAAB's fair share GHG emission reductions

needed from new land use projects. This threshold corresponds to a project size of approximately 60 single family dwelling units.

Residential projects that are over the bright line threshold would not be considered significant if their overall GHG efficiency is less than 6.7 MT CO_2e/yr/capita. Mixed use projects that are over the bright line threshold would not be considered significant if their overall efficiency is less than 4.6 MT CO_2e/yr/service population (= project jobs + project residents).

The above levels represent a cumulatively considerable contribution.

For tiering, projects consistent with a SB 375 Sustainable Communities Strategy or Alternative Planning Strategy would be considered less than significant for transportation-related GHG emissions, but not necessarily for other GHG emissions. Review against the bright-line threshold for non-transportation related emissions would still be required. Given that transportation emissions are often the largest source of GHG emissions for land use sector projects, it is expected that projects consistent with a SB 375 plan would more readily demonstrate compliance with the bright line significance threshold.

Staff will revisit these thresholds over time as implementation of AB 32 and SB 375 proceed.

1.2.3.2 Stationary Sources

Staff recommends that stationary source permit applications be reviewed against a bright-line threshold of 10,000 MT CO_2e/yr. This threshold corresponds to a level that would capture approximately 95 percent of stationary source GHG emissions based on all combustion emissions.

1.2.4 Local Community Risk and Hazard Impacts

1.2.4.1 Siting of a New Source or New Receptor

Staff recommends a tiered approach to consideration of community risk and hazard impacts.

Projects consistent with a qualified Community Risk Reduction Plan (CRRP) adopted by the local jurisdiction that includes enforceable measures to reduce the community risk to acceptable levels would be considered less than significant.

Proposed development projects that are not consistent with a qualified CRRP that has been adopted for the area where the project is proposed to be located would be considered to have a significant impact.

Projects proposed in areas where a qualified CRRP has not been adopted and the potential to expose sensitive receptors or the general public to emissions-related risk in excess of the following thresholds from any source would be considered to have a significant air quality impact:

- *Increased Cancer Risk to Maximally Exposed Individual (MEI)* - Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of carcinogenic TACs from any source result in an increased cancer risk greater than 10.0 in one million.

- *Increased Non-Cancer Risk to MEI* – Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of non-carcinogenic TACs result in an increased chronic or acute Hazard Index from any source greater than 1.0.

- *Increased Ambient Concentration of $PM_{2.5}$* – Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of $PM_{2.5}$ from any source would result in an average annual increase greater than 0.3 $\mu g/m^3$.

These thresholds would apply to stationary, area, and mobile sources of TAC emissions.

Accidental Release of Acutely Hazardous Air Pollutants

Staff recommends continuing with the current threshold for the accidental release of hazardous air pollutants. Staff recommends that agencies consult with the California Emergency Management Agency for the most recent guidelines and regulations for the storage of hazardous materials. Staff recommends that projects using or storing acutely hazardous materials locating near existing receptors, and projects resulting in receptors locating near facilities using or storing acutely hazardous materials be considered significant.

1.2.4.2 CUMULATIVE RISK AND HAZARD EMISSIONS

Staff recommends the following as the thresholds of significance for cumulative impacts of siting a new source of risks or hazards or siting a new receptor.

Projects consistent with a qualified Community Risk Reduction Plan (CRRP) adopted by the local jurisdiction that includes enforceable measures to reduce the community risk to acceptable levels would be considered a less than cumulative significant.

Proposed development projects that are not consistent with a qualified CRRP that has been adopted for the area where the project is proposed to be located would be considered to have a significant cumulative impact.

Projects proposed in areas where a qualified CRRP has not been adopted and the potential to expose sensitive receptors or the general public to emissions-related risk in excess of the following thresholds from any source would be considered to have a significant cumulative air quality impact:

- *Cancer Risk to MEI* - Cumulative sources (including the proposed project, existing sources and reasonably foreseeable future sources) would be subject to a significance threshold of 100 in one million within 1,000 feet from the location of the new source being evaluated. Siting of new receptors would be subject to the 100 in one million threshold relative to all cumulative sources within 1,000 feet of the new receptor location.

- *Non-Cancer Risk to MEI* - Cumulative sources of risks or hazards would be subject to a significance threshold of a chronic or acute Hazard Index of greater than 1.0 within 1,000 feet from the location of the new source being evaluated. Siting of new receptors would be subject to the chronic or acute Hazard Index threshold of greater than 1.0 relative to all cumulative sources within 1,000 feet of the new receptor location.

- *Increased Ambient Concentration of $PM_{2.5}$* – Cumulative emissions within the 1,000 foot evaluation zone would be considered significant where the increased average annual ground-level concentrations of $PM_{2.5}$ would be greater than 0.8 $\mu g/m^3$.

These thresholds would apply to stationary, area, and mobile sources of TAC emissions.

1.2.5 ODOR IMPACTS

Staff recommends agencies use BAAQMD's current approach, which is based on screening level distances, complaint history, and other factors. The BAAQMD considers a project locating near an existing source of odors as having a significant odor impact if it is proposed for a site that is closer to an existing odor source than any location where there has been:

- More than one confirmed complaint per year averaged over a three year period; or
- More than three unconfirmed complaints per year averaged over a three year period.

If a proposed project involves the siting of sensitive receptors within the screening-level distances or the siting of an odor-producing land use within the impacts distances in Table 19 below, and the average complaints are greater than identified above, the BAAQMD recommends that mitigation measures be identified to reduce a potentially significant impact.

1.3 PLAN-LEVEL IMPACTS

1.3.1 CRITERIA AIR POLLUTANTS AND PRECURSORS

Staff s' recommendation is to continue the current approach for plan-level impacts with one addition. The current approach recommends that general plans of cities and counties must show consistency with regional plans and policies affecting air quality to claim a less than significant impact on air quality. General plan amendments, transportation plans, congestion management plans, redevelopment plans, specific area plans, annexations of lands and services, and similar planning activities should receive the same scrutiny as general plans with respect to consistency with regional air quality plans. Staff recommends the addition of a threshold requiring that the forecasted rate of vehicle-miles travelled (VMT) or vehicle trip increase from a new plan should be less than the forecasted rate of population increase.

1.3.2 GREENHOUSE GAS EMISSIONS

Staff recommends that plans, such as general plans, be considered less than significant if they either meet specified GHG efficiency metrics or if the jurisdiction has adopted a qualified Climate Action Plan (or similar adopted policies, ordinances and programs) that includes feasible measures to reduce GHG emissions consistent with AB 32 goals and Executive Order S-03-05 targets.

GHG-efficiency metrics (6.7 MT CO_2e/capita, 4.6 CO_2e/service population) can be used to enable comparison of a proposed general plan to determine if the proposed general plan meets AB 32 emission reduction goals on an efficiency basis. Staff will revisit the efficiency thresholds over time as implementation of AB 32 and SB 375 proceed.

Local jurisdictions that may not initiate a general plan update for a number of years may decide instead to address GHG emissions for general plans through a stand-alone Climate Action Plan. In order for a Climate Action Plan to be considered less than significant under CEQA, the Climate Action Plan for the jurisdiction must contain a GHG inventory and forecast, an adopted local reduction goal consistent with AB 32 (or S-03-05), enforceable reduction measures that are measureable in terms of their reduction effectiveness and are verifiable, a viable implementation plan and schedule and monitoring. In addition, CEQA compliance must be completed for adoption of the plan.

1.3.3 LOCAL COMMUNITY RISK AND HAZARDS

Staff recommends that for local plans to have a less-than-significant impact with respect to potential risks or hazards, special overlay zones should be established around existing and proposed land uses that would emit these air pollutants. Overlay zones should also be established for areas that have an adopted Community Risk Reduction Plan. Overlay zones should be established based on a quantitative threshold of exposure using the quantitative operational project level thresholds. Risk and hazard overlay zones should be reflected in local plan policies, land use map(s), and implementing ordinances (e.g., zoning ordinance).

1.3.4 ODORS

Staff recommends that for local plans to have a less-than-significant impact with respect to potential odors, special overlay zones based on current screening guidance would have to be established around existing and proposed land uses that would emit nuisance odors. Overlay zones to avoid odor impacts should be reflected in local plan policies, land use map(s), and implementing ordinances (e.g., zoning ordinance).

Table 1 - Staff-Recommended CEQA Thresholds of Significance

Pollutant	Construction-Related	Operational-Related	
Project-Level			
Criteria Air Pollutants and Precursors (Regional)	**Average Daily Emissions (lb/day)**	**Average Daily Emissions (lb/day)**	**Maximum Annual Emissions (tpy)**
ROG	54	54	10
NO_X	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices		
Criteria Air Pollutants and Precursors (Local CO)	Case-by–Case Basis	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
GHGs – Projects other than Stationary Sources	No Threshold Recommendation	Compliance with Qualified Climate Action Plan (or similar adopted policies, ordinances and programs) that includes enforceable measures to reduce GHG emissions consistent with AB 32 goals or Executive Order S-03-05 targets. OR Threshold of 1,100 MT of CO_2e/yr OR 6.7 MT CO2e/capita/yr; (residential) / 4.6 MT CO_2e/SP/yr (mixed use)	
GHGs –Stationary Sources	No Threshold Recommendation	10,000 MT/yr	
Risks and Hazards (Siting a New Source or Receptor)	Cancer Risk Increase > 10 in a million Non-Cancer Risk Increase Hazard Index >1.0 (Chronic or Acute) Ambient Increase $PM_{2.5}$: > 0.3 $\mu g/m^3$ annual average	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) $PM_{2.5}$: > 0.3 $\mu g/m^3$ annual average	
Risks and Hazards (Cumulative – Source or Receptor)	Same as Operational Thresholds	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 1.0 Hazard Index (from all local sources) (Chronic or Acute) $PM_{2.5}$: > 0.8 $\mu g/m^3$ annual average (from all local sources)	

Table 1 - Staff-Recommended CEQA Thresholds of Significance		
Pollutant	**Construction-Related**	**Operational-Related**
Accidental Release of Acutely Hazardous Air Pollutants	No Threshold Recommendation	Storage or use of acutely hazardous materials locating near receptors or receptors locating near stored or used acutely hazardous materials considered significant
Odors	Case-by-Case Basis	Screening Level Distances and Complaint History
Plan-Level		
Criteria Air Pollutants and Precursors (Regional and Local)	Consistency with Current Air Quality Plan control measures Rate of VMT increase or vehicle trips is less than rate of increase in population	
GHGs	No Threshold Recommendation	Qualified Climate Action Plan Meets or Exceeds AB 32 or EO S-03-05 targets OR 6.7 MT CO2e/capita/yr; 4.6 MT CO_2e/SP/yr;
Risks and Hazards/Odors	Overlay zones around existing and planned sources of TACs (including adopted Community Risk Reduction Plan areas) and odors Overlay zones of at least 500 feet from all freeways and high volume roadways	
Accidental Release of Acutely Hazardous Air Pollutants	No Threshold Recommended	No Threshold Recommended

Notes: CEQA = California Environmental Quality Act; CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO_X = oxides of nitrogen; $PM_{2.5}$= fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SO_2 = sulfur dioxide; SP = service population; TACs = toxic air contaminants; TBP = toxic best practices; tons/day = tons per day; tpy = tons per year; yr= year; TBD: to be determined.

2 INTRODUCTION

The purpose of this report is to evaluate options for California Environmental Quality Act (CEQA) thresholds of significance for use within Bay Area Air Quality Management District's (BAAQMD or Air District) jurisdiction. In this section the regulatory authority of BAAQMD, the justification for why the thresholds are being updated, the current air quality designation of the region, emission reduction nomenclature used in this report, and a review of other air districts efforts to revise air quality thresholds to evaluate new thresholds are introduced.

2.1 BAAQMD/CEQA REGULATORY AUTHORITY

The BAAQMD has direct and indirect regulatory authority over sources of air pollution in the San Francisco Bay Area Air Basin (SFBAAB). CEQA requires that public agencies consider the potential adverse environmental impacts of any project that a public agency proposes to carry out, fund or approve. CEQA requires that a lead agency prepare an Environmental Impact Report (EIR) whenever it can be fairly argued (the "fair argument" standard), based on substantial evidence,[1] that a project may have a significant effect[2] on the environment, even if there is substantial evidence to the contrary (CEQA Guidelines § 15064). CEQA requires that the lead agency review not only a project's direct effects on the environment, but also the cumulative impacts of a project and other projects causing related impacts. When the incremental effect of a project is cumulatively considerable, the lead agency must discuss the cumulative impacts in an EIR. (CEQA Guidelines § 15064).

The "fair argument" standard refers to whether a fair argument can be made that a project may have a significant effect on the environment (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84). The fair argument standard is generally considered a low threshold requirement for preparation of an EIR. The legal standards reflect a preference for requiring preparation of an EIR and for "resolving doubts in favor of environmental review." *Meija v. City of Los Angeles* (2005) 130 Cal. App. 4th 322, 332. "The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data." CEQA Guidelines § 15064(b).

In determining whether a project may have a significant effect on the environment, CEQA Guidelines Section 15064.7 provides that lead agencies may adopt and/or apply "thresholds of significance." A threshold of significance is "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant" (CEQA Guidelines § 15064.7).

While thresholds of significance give rise to a presumption of insignificance, thresholds are not conclusive, and do not excuse a public agency of the duty to consider evidence that a significant effect may occur under the fair argument standard. *Meija*, 130 Cal. App. 4th at 342. "A public agency cannot apply a threshold of significance or regulatory standard 'in a way that forecloses the consideration of any other substantial evidence showing there may be a significant effect.'" *Id.* This means that if a public agency is presented with factual information or other substantial evidence establishing a fair argument that a project may have a significant effect on the environment,

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[1] "Substantial evidence" includes facts, reasonable assumptions predicated upon facts, or expert opinions supported by facts, but does not include argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly inaccurate or erroneous, or evidence of social or economic impacts that do not contribute to, or are not caused by, physical impacts on the environment. Cal. Pub. Res. C. § 21080(c); *see also* CEQA Guidelines § 15384.

[2] A "significant effect" on the environment is defined as a "substantial, or potentially substantial, adverse change in the environment." Cal. Pub. Res. C. § 21068; *see also* CEQA Guidelines § 15382.

the agency must prepare an EIR to study those impacts even if the project's impacts fall below the applicable threshold of significance.

Thresholds of significance must be supported by substantial evidence. This Report provides the substantial evidence in support of the thresholds of significance developed by the BAAQMD. The BAAQMD recommends that lead agencies within the nine counties of the BAAQMD's jurisdiction use the thresholds of significance in this report when considering the air quality impacts of projects under their consideration.

2.2 JUSTIFICATION FOR UPDATING CEQA THRESHOLDS

Any analysis of environmental impacts under CEQA includes an assessment of the nature and extent of each impact expected to result from the project to determine whether the impact will be treated as significant or less than significant. CEQA gives lead agencies discretion whether to classify a particular environmental impact as significant. Ultimately, formulation of a standard of significance requires the lead agency to make a policy judgment about where the line should be drawn distinguishing adverse impacts it considers significant from those that are not deemed significant. This judgment must, however, be based on scientific information and other factual data to the extent possible (State CEQA Guidelines §15064(b)).

In the sense that advances in science provide new or refined factual data, combined with advances in technology and the gradual improvement or degradation of an environmental resource, the point where an environmental effect is considered significant is fluid over time. Other factors influencing this fluidity include new or revised regulations and standards, and emerging, new areas of concern.

In the ten years since BAAQMD last reviewed its recommended CEQA thresholds of significance for air quality, there have been tremendous changes that affect the quality and management of the air resource in the Bay Area. Traditional criteria air pollutant ambient air quality standards, at both the state and federal levels, have become increasingly more stringent. A new criteria air pollutant standard for $PM_{2.5}$ has been added to federal and state ambient air quality standards. We have found, through technical advances in impact assessment, that toxic air contaminants are not only worse than previously thought from a health perspective, but also their concentrations have been steadily increasing, giving rise to new regulations and programs to reduce the significantly elevated levels of ambient toxic air contaminant concentrations in the Bay Area. Another significant issue that affects the quality of life for Bay Area residents is the growing concern with global climate change

For the reasons stated above, and to further the goals of other District programs such as transit-oriented and infill development, BAAQMD has undertaken an effort to review all of its currently-recommended CEQA thresholds, revise them as appropriate, and develop new thresholds where appropriate. The overall goal of this effort is to develop CEQA significance criteria that ensure new development contributes its feasible fair share of emissions reductions to mitigate significant air quality impacts and meet the objectives stated above. The Air District's recommended CEQA significance criteria will be vetted through a public review process and presented to the BAAQMD Board of Directors for adoption.

2.3 SFBAAB AIR QUALITY DESIGNATIONS

SFBAAB is currently designated as an ozone non-attainment area for the California and national ambient air quality standards (CAAQS and NAAQS, respectively) as shown in Table 2. The U.S. Environmental Protection Agency (EPA) has also recently designated the SFBAAB as non-attainment for the new 24-hour fine particulate with an aerodynamic resistance diameter of 2.5 micrometers or less ($PM_{2.5}$) standard of 35 microgram per cubic meter ($\mu g/m^3$). However, since the new presidential administration has ordered a freeze on all pending federal rules, the designation will not be effective until after publication of the regulation in the Federal Register. With regards to the CAAQS, the SFBAAB is also designated as a non-attainment area for respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less (PM_{10}) and $PM_{2.5}$.

Table 2 - Ambient Air Quality Standards and Designations, San Francisco Bay Area Air Basin						
Pollutant	Averaging Time	California		National [1]		
		Standards [2,3]	Attainment Status [4]	Primary [3,5]	Secondary [3,6]	Attainment Status [7]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	N (Serious)	–	–	–
	8-hour	0.07 ppm (137 µg/m^3)	–	0.075 ppm (147 µg/m^3)	Same as Primary Standard	N
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	–	U/A
	8-hour	9 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 µg/m^3)	–	0.053 ppm (100 µg/m^3)	Same as Primary Standard	U/A
	1-hour	0.18 ppm (338 µg/m^3)	A	–		–
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	–	0.030 ppm (80 µg/m^3)	–	
	24-hour	0.04 ppm (105 µg/m^3)	A	0.14 ppm (365 µg/m^3)	–	A
	3-hour	–	–	–	0.5 ppm (1300 µg/m^3)	
	1-hour	0.25 ppm (655 µg/m^3)	A	–	–	–
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	N	-	Same as Primary Standard	U
	24-hour	50 µg/m^3		150 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	N	15 µg/m^3	Same as Primary Standard	N[9]
	24-hour	–	–	35 µg/m^3		
Lead[8]	30-day Average	1.5 µg/m^3	A	–	–	–
	Calendar Quarter	–	–	1.5 µg/m^3	Same as Primary Standard	
Sulfates	24-hour	25 µg/m^3	A	**No National Standards**		
Hydrogen Sulfide	1-hour	0.03 ppm	U			

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Table 2 - Ambient Air Quality Standards and Designations, San Francisco Bay Area Air Basin

Pollutant	Averaging Time	California		National [1]		
		Standards [2,3]	Attainment Status [4]	Primary [3, 5]	Secondary [3, 6]	Attainment Status [7]
		(42 µg/m^3)				
Vinyl Chloride[8]	24-hour	0.01 ppm (26 µg/m^3)	U			
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%.	U			

Notes: µg/m^3 = micrograms per cubic meter; mg/m^3 = milligram per cubic meter; ppm = parts per million.

[1] National standards (other than ozone, respirable and fine particulate matter (PM_{10} and $PM_{2.5}$, respectively)), and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For respirable particulate matter, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter is equal to or less than one. For fine particulate matter, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[2] California standards for ozone, carbon dioxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; parts per million (ppm) refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Unclassified (U): A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or non-attainment. Attainment (A): A pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period. Non-attainment (N): A pollutant is designated non-attainment if there was a least one violation of a state standard for that pollutant in the area. Non-attainment/Transitional (NT): A subcategory of the non-attainment designation. An area is designated non-attainment/transitional to signify that the area is close to attaining the standard for that pollutant.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Non-attainment (N): Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant. Attainment (A): Any area that meets the national primary or secondary ambient air quality standard for the pollutant. Unclassifiable (U): Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

[8] The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[9] The U.S Environmental Protection Agency (EPA) lowered the 24-hour $PM_{2.5}$ standard from 65 µg/m^3 to 35 µg/m^3 in 2006. EPA issued attainment status designations for the 35 µg/m^3 standard on December 22, 2008. EPA has designated the San Francisco Bay Area Air Basin as non-attainment for the 35 µg/m^3 $PM_{2.5}$ standard. The EPA designation will be effective 90 days after publication of the regulation in the Federal Register. The Office of the President has ordered a freeze on all pending federal rules; therefore, the effective date of the designation is unknown at this time.

Source: ARB 2009c.

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The fact that SFBAAB is designated as non-attainment for both national and California ambient air quality standards highlights the need to evaluate new CEQA thresholds to improve Bay Area air quality.

2.4 EMISSIONS NOMENCLATURE

Terminology such as capture and mitigation can change definition based on context. To ensure the unambiguous description of emission related terminology, the following definitions are used in this the report. All references to mitigation used below refer to air pollution emission reduction measures. Unless specifically qualified, the use of the word *total* in the definitions below refers to total emissions subject to CEQA not to total regional emissions.

The following terms relate to the total number of projects subject to CEQA:

- **CEQA Projects** – the total number of projects that require CEQA analysis.
- **Captured Projects** – the number of projects that require mitigation.
- **Project Capture Ratio** – the ratio of *Captured Projects* to *CEQA Projects*.

The following terms below can apply to any single project, program, plan, or the Bay Area as a whole.

- **Raw Emissions** – the amount of emissions (by mass) emitted as a result of a project, program or plan without considering mitigation measures.
- **Captured Emissions** – the amount of *Raw Emissions* (by mass) that require mitigation measures in any particular threshold option.
- **Mitigated Emissions** – the amount of emissions (by mass) emitted as a result of a project when mitigation measures are in place.
- **Mitigation Effectiveness** – the percent reduction in Raw Emissions as a result of mitigation measures.

2.5 A REVIEW OF CALIFORNIA AIR DISTRICT'S APPROACHES TO AIR QUALITY THRESHOLDS

In this section, a review of how various California air districts address CEQA thresholds is presented. This review should add context to the methodologies and approaches used by BAAQMD to update their air quality thresholds. A summary of air district thresholds, and supporting documentation, where available, is presented in Appendix A.

With respect to criteria air pollutant and ozone precursor emissions, numerous air districts (e.g., Monterey Bay Unified Air Pollution Control District, Santa Barbara County Air Pollution Control District, Mojave Desert Air Quality Management District [MDAQMD], and South Coast Air Quality Management District) have based thresholds of significance for reactive organic gases (ROG) and oxides of nitrogen (NO_X) on limits established by the federal New Source Review (NSR) Program. In certain cases, these NSR limits, which are identified in regulation on an annual basis (tons per year [tpy]), are converted to pounds per day (lb/day) for precursor emissions. While some air districts have no quantitative threshold levels, many use the CAAQS as thresholds of significance, particularly for carbon monoxide (CO) where impacts are more localized in nature. Dispersion modeling is often required to evaluate whether a concentration-based threshold would be exceeded as a result of project implementation. Within jurisdictions where thresholds of significance have not been adopted, air districts advise the lead agencies on a case-by-case basis and rely on guidance of nearby air districts.

Supporting documentation for non-NSR-derived thresholds of significance from the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Ventura County Air Pollution Control District (VCAPCD) are included in Appendix A. SMAQMD prepared draft justification documentation for both construction- and operational-related thresholds of significance in 2001. The bases for these thresholds were derived from the reductions (tons per day [tons/day] of ozone precursors) committed to by control measures contained in the State Implementation Plan (SIP) and in a manner that was intended to optimize project emission elimination of proposed projects, while requiring a level of mitigation that would be realistic and achievable.

VCAPCD developed thresholds of significance for ozone precursors by determining the emissions capture rate associated with applying five different increments of ROG and NO_X emission levels to projected development. This approach was intended to achieve a balance between the number of projects affected and the amount of emissions subject to mitigation.

With respect to toxic air contaminants (TACs), an excess cancer risk level of 10 in one million or a hazard index of one are widely used based on a thorough review of district-adopted CEQA guidance and discussions with air district staff. In most cases, these are applied to stationary sources and not to construction or mobile sources of TACs. The current rationale for not applying these indices to construction-related emissions is that such activities are short-term and intermittent in nature and the primary health concern with diesel particulate matter (PM) is long-term exposure. Because these indices were originally developed based on the behavior of stationary sources (e.g., constant emissions rate over time), they are also typically not applied to mobile sources. Some air districts (e.g., MDAQMD) also use adopted rules and regulations based on limits established by the federal Toxic NSR Program (e.g., new or modified source that emit more than 10 tpy of a single hazardous air pollutant [HAP] or more than 25 tpy of multiple HAPs would be required to implement maximum achievable control technology) for thresholds of significance (e.g., projects that would violate a rule or regulation would be considered significant with respect to TACs). Others refer to the *Air Quality and Land Use Handbook: A Community Health Perspective* released by the California Air Resources Board (ARB) in 2005 for guidance on land use compatibility issues; however, this document was intended to be advisory, not regulatory.

For assessing odor impacts, no quantitative thresholds of significance have been adopted, but instead many air districts use screening-level buffer distances for common odor-generating sources in combination with complaint history. Typically, a significant odor impact would occur under the complaint-based threshold if the project has: 1) more than one confirmed complaint per year averaged over a three-year period, or 2) more than three unconfirmed complaints per year averaged over a three-year period. Projects that would involve the siting of sensitive receptors within the screening-level distances or the siting of an odor-producing land use within these distances from existing sensitive receptors would be considered to have a significant odor impact and further analysis and/or mitigation would be required. Prevailing wind direction relative to the source and receptors are also taken into consideration.

Many air districts state that if implementation of a proposed project would not result in the generation of emissions that exceed applicable project-level mass emission thresholds, then the cumulative impact of the project on air quality would also be considered less than significant. In other words, if project-generated emissions would exceed the operational-related thresholds of significance in a designated non-attainment area, then the project's incremental contribution would be considered cumulatively considerable, and therefore, significant.

To date, no air district in California has adopted a threshold of significance for greenhouse gas (GHG) emissions for nonindustrial land use development projects. The South Coast Air Quality Management District (SCAQMD) has developed an approach to tiered threshold of significances for GHG emissions that considers CEQA exemptions, consistency with a GHG reduction plan, a quantitative threshold based on source analysis and a 90 percent capture rate, and several performance standard approaches for mitigation. SCAQMD has adopted a tiered threshold for industrial projects with a quantitative threshold of 10,000 metric tons/year using this general approach. SCAQMD is also developing a tiered threshold approach for residential and commercial projects using a similar methodology, but have not made a proposal for adoption yet. The San Joaquin Air Pollution Control

District is exploring a tiered GHG emissions threshold for land use development projects that considers CEQA exemptions, compliance with a GHG reduction plan, and compliance with best performance standards or a 29 percent reduction requirement compared to business as usual conditions.

3 ANALYSIS TO SUPPORT NEW THRESHOLD DEVELOPMENT

Relevant findings from a series of qualitative and quantitative studies conducted by BAAQMD to support the development and selection of new CEQA thresholds are presented below.

3.1 CAA/CCAA & NEW SOURCE REVIEW

The federal and California Clean Air Acts (CAA and CCAA, respectively) impose emission limitations on stationary sources (e.g., federal New Source Review [NSR], and BAAQMD Best Available Control Technology [BACT] and Offset Requirements) that serve to reduce emissions from those sources to the extent feasible.

The NSR Program[3] was created by the CAA to ensure that stationary sources of air pollution are constructed or modified in a manner that is consistent with attainment of health-based federal ambient air quality standards. Existing regulations require the NSR Program to address any pollutant for which there is an established federal ambient air quality standard. The NSR Program is composed of two primary components: Prevention of Significant Deterioration (PSD), which applies to pollutants where the standard has been attained, and NSR, which applies to pollutants where the standard has not been attained. The CAA regulations also require the installation of BACT, air quality monitoring and modeling analyses to ensure that a project's emissions will not cause or contribute to a violation of any air quality standard, limiting the incremental increase of a pollutant and offsetting new emissions with creditable emission reductions.

The determination of whether a source is subject to NSR is based, in part, on comparison to the Significant Emission Rates identified in the regulations. These are derived from modeling analyses to determine the level of emissions below which a source alone is not expected to have an impact on air quality (see Table 3). Although the limits are adopted in regulation to control stationary source emissions, they are considered to have the same effect of controlling emissions from land use development.

Table 3 – New Source Review Criteria Pollutant/Precursor Significant Emission Rates

Emissions Type	Significant Emissions Rate (tpy)
ROG	40
NO_X	40
CO	100
SO_2	40
PM_{10}	15
$PM_{2.5}$	10

Notes: CO = carbon monoxide; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; SO_2 = sulfur dioxide; tpy = tons per year.
Sources: BAAQMD 2005, EPA 2008.

BAAQMD Regulation 2, Rule 2 provides for the review of new and modified sources, including the use of BACT and offsets before a source is allowed to operate. Specifically, an applicant for a permit to operate shall apply BACT to any new or modified source that could result in the potential to emit more than the levels shown in Table 4.

[3] Code of Federal Regulation (CFR) [i.e., PSD (40 CFR 52.21, 40 CFR 51.166, 40 CFR 51.165 (b)), Non-attainment NSR (40 CFR 52.24, 40 CFR 51.165, 40 CFR part 51, Appendix S)

Table 4 – Criteria Air Pollutant/Precursor BACT and Offset Emissions Levels		
Emissions Type	BACT Emissions Level (lb/day)[1]	Offset Emissions Level (tpy)[2]
ROG	10	10
NO_X	10	10
CO	10	-
SO_2	10	100
PM_{10}	10	100

Notes: BACT = Best Available Control Technology; CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; SO_2 = sulfur dioxide; tpy = tons per year.

[1]The project size equivalent would be approximately 40 single-family dwelling units.

[2] The project size equivalent would be approximately 200 single-family dwelling units.

Source: BAAQMD 2005.

With respect to BAAQMD's Offset Requirements, before a permit to operate is issued for a new or modified source that could emit more than the levels specified in Table 4, federally enforceable emission offsets must be provided for the source's emissions and any preexisting cumulative increases. Emission offsets are verified reductions from an emission source that has shut down or has reduced its historical emissions through better control devices or modified operations. Verified offsets then can be used at a new or modified source and retired.

3.2 ANALYSIS OF BAY AREA GROWTH AND EMISSION FORECASTS

Operational-related criteria air pollutant and precursor emissions were estimated based on projected land use development in the SFBAAB. Growth projections were calculated for new land use development in the SFBAAB from 2010 to 2020 based on the following two data sets: (1) the California Department of Finance (DOF) projections for population, household size, and residential unit distribution (DOF 2009); and (2) the California Economic Development Department (EDD) for employment projections by North American Industry Classification System (NAICS) code (EDD 2009). These data sources were selected primarily because DOF and EDD have a long history and good track record of projecting growth estimates, and because they do so on a statewide level, thereby considering allocations between regions. This data was also reported at a level of specificity that allows for simple translation into land use type categories consistent with those in the Urban Emissions Model (URBEMIS). URBEMIS includes general land use categories (e.g., residential, educational, recreational, commercial, retail, and industrial). Within each general category there are several specific land use types resulting in a total of 52 possible land use types. Please refer to Exhibit 1 for a graphical representation of the derivation process for this concept for the single family residential land use type.

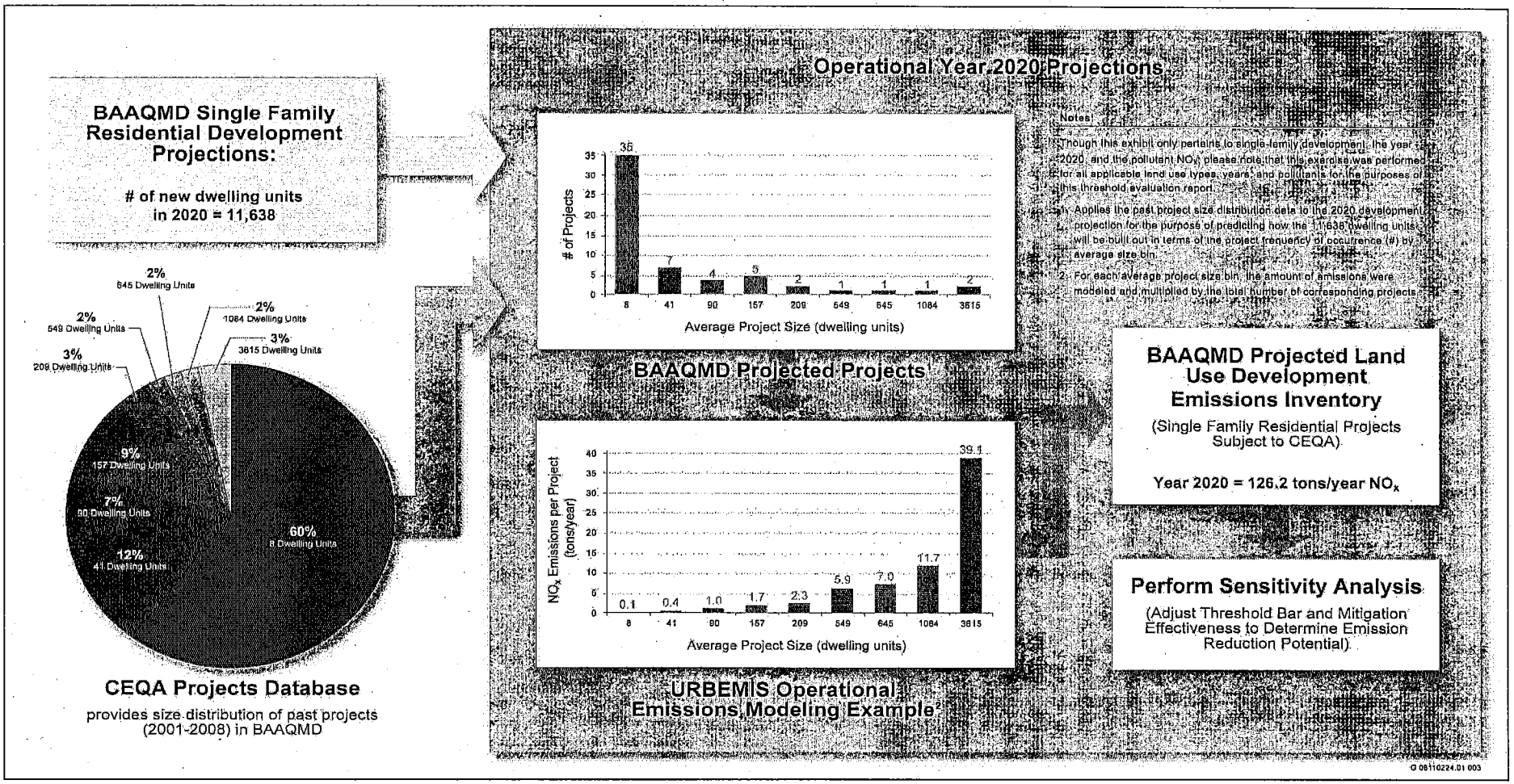
Data from the Association of Bay Area Governments (ABAG) were available, but not at the land use category resolution required for conversion into URBEMIS. Notwithstanding, the DOF/EDD data were not at a fine enough resolution to develop projections for every URBEMIS land use category. In instances of asymmetry between the DOF/EDD data and the URBEMIS land use categories, development projections were aggregated into the most similar URBEMIS category based on density and behavioral trip capture (i.e., trip generation rates) assumptions. The NAICS data projected less development over the next ten years in comparison to ABAG, thus, making the NAICS dataset more conservative for the purposes of a threshold evaluation, because fewer projects (and fewer associated emissions) would be available for capture by the threshold. In other words, the emissions reduction potential of the CEQA threshold would be lower using more conservative development projections. If more development occurs than was expected under the growth projections, the emissions reduction potential associated with the CEQA significance threshold would be greater than assumed in this analysis. Please refer to Appendix A for detailed land use development projections and associated emissions calculations.

For residential development, the DOF population, household size, and residential unit distribution projections were used to calculate population-driven residential square footage projections. For non-residential development, EDD projections for employment by NAICS code were used to calculate employment-driven commercial, retail, and industrial development square footage projections. Using type and size distribution data from projects in the SFBAAB that passed through the CEQA process from 2001-2008, the development square footage annual projections were translated into units and project size distributions for each URBEMIS land use category. This uses the 2001 – 2008 profile of proposed development to develop a projected development inventory for new development that would occur over the next ten years (i.e., 2010-2020). Please refer to Appendix B for detailed development projections calculations.

The CEQA Projects Database (Rimpo and Associates 2009), which includes information from environmental documents prepared by lead agencies within BAAQMD's jurisdiction and filed with the California State Clearinghouse (SCH) during the past eight years (2001-2008), was used to conduct a frequency analysis of projects categorized by land use type and size. Projects for which an Environmental Impact Report (EIR) or Initial Study/Mitigated Negative Declaration (IS/MND) was prepared during the last eight years were distributed over size intervals of 50,000 square feet (sf) by each corresponding URBEMIS land use category to develop frequency distributions of project type and size. These frequency distributions were applied to the total development projections to obtain development forecasts by project size and type in the SFBAAB. This development forecast dataset represents the manner in which the projected development will come under the purview of CEQA in terms of project type and size. It was assumed that past projects proposed in the SFBAAB Area are indicative of project attributes in the future.

It was necessary to forecast these attributes into the future to model the mass emissions for projects of different types and sizes in order to evaluate the sensitivity (e.g., emissions reduction and capture rates) of the threshold level for each pollutant. Projects of a certain size would trigger the CEQA threshold, and would require mitigation. The sensitivity analysis (presented in Section 4) involved adjusting the threshold in order to achieve a balance that attains different amount of emissions reduction. Project size intervals (i.e., "bins") of 50,000 sf (approximately 28 single family homes) were used to assess the sensitivity of operational criteria air pollutant and precursor threshold levels at different increments to determine a reasonable emissions capture rate which achieves a feasible (as defined by CEQA) amount of emission reductions when considering mitigation effectiveness.

It is important to note that there is an unknown amount of projected development included in the forecast totals that would not be subject to CEQA requirements, because some of the projected development included in the DOF/EDD data would be categorically (e.g., certain infill development projects in urban areas [Class 32; State of California CEQA Guidelines Section 15332]) or statutorily exempt (e.g., actions related to construction of less than 100 low-income housing units in urban areas [California Public Resources Code 21080.14]). Our presumption is that the quantity of potential development that is exempt is not considerable. Data to support this conclusion is incomplete, despite attempts to acquire it throughout the State. First, Notices of Exemption (NOE) are not required to be posted or filed for exempt projects; they are voluntary. Furthermore, NOEs are not required to be filed with the SCH unless a state agency serves as the CEQA lead agency. Otherwise, NOEs only need be filed with the County Clerk's office. NOEs filed with the SCH represent a small portion of total NOEs, and rarely do NOEs where the State is the lead agency represent development that could be categorized within URBEMIS. Typically, NOEs accompany ministerial actions that do not result in actual development, such as the subdivision of land or modification of an existing use. Further, many exempt development projects are, at some point, largely captured under CEQA, such as through an EIR prepared for a proposed subdivision. The exemption would apply to the building permits for already evaluated projects, in this instance. Projects that are not exempt are typically small, or would otherwise not meet a category that exempts the projects (plus lead agencies cannot, under CEQA, categorically exempt projects that considerably contribute to cumulative impacts or may have potentially significant impacts). Thus, it was concluded that NOEs represent a less-than-substantial portion of total projected development in the SFBAAB.



Notes: BAAQMD = Bay Area Air Quality Management District; CEQA = California Environmental Quality Act; NO_x = oxides of nitrogen; tons/year = tons per year; URBEMIS = Urban Emissions Model.
Source: Data adapted by EDAW 2009.

Exhibit 1: Example Derivation from BAAQMD Single-Family Residential Development Projections

An emissions inventory (see Table 5) for unmitigated emissions for new development that would fall under the purview of CEQA was calculated.

Table 5 - Unmitigated Criteria Pollutant/Precursor Emissions Subject to CEQA in the Basin

Year	Number of Projects/Yr	Unmitigated[1] Emissions (tpy)				Aggregate Unmitigated[1] Emissions Between 2010-2020 (Tons)			
		ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
2010	366	911	856	1,121	259	-	-	-	-
2015	404	777	618	1,240	287	-	-	-	-
2020	436	725	463	1,336	308	8,045	6,453	12,322	2,848

Notes: CEQA = California Environmental Quality Act; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year; yr = year.

[1] Unmitigated emissions are the results of an URBEMIS model run using default model settings, including default (i.e., worst-case) trip generation rates and average trip length assumptions. The modeling does not account for project attributes that may reduce emissions relative to the default settings (i.e., full trip generation) scenario, such as proximity to transit or mix of land use types.

Please refer to Appendix B for detailed unmitigated emissions calculations.

Sources: Data calculated by EDAW 2009, Rimpo and Associates 2009, DOF 2009, EDD 2009.

4 THRESHOLD OPTIONS EVALUATION

The following section evaluates options for CEQA thresholds of significance for use within BAAQMD's jurisdiction including current approaches for impact determinations. Threshold options evaluated are summarized in Tables 6 and 7.

Table 6 - CEQA Threshold Options for Project Construction Emissions

Criteria Air Pollutants and Precursors (Regional)	**Option 1: Qualitative Approach** (Current) BMPs for PM_{10}	**Option 2: CAA Approach** Average daily emissions (lb/day) ROG/NOx – 54 PM_{10} – 82 $PM_{2.5}$ - 54	
Criteria Air Pollutants and Precursors (Local CO)	**Option 1: Current Approach** Case by Case Basis	**Option 2: Ambient Standards (CAAQS)** 9.0 ppm (8-hour average) 20.0 ppm (1-hour average)	
GHGs	**Option 1: Qualitative Approach** BMPs for GHGs	**Option 2: Operational Threshold Approach** 33,000 MT of CO_2e Total	**Option 3: Regional Allocation Approach** 10 MT of CO_2e per day
Risks and Hazards	**Option 1: Qualitative Approach/Project Screening Level** Case-by-Case Basis Project Size Screening Level	**Option 2: Tiered Approach** <u>Impacted Communities</u> >5 in a million cancer risk >0.5 Chronic Hazard Index >1.0 Acute Hazard Index <u>Other Locations</u> >10 in a million cancer risk >1.0 Hazard Index (Chronic or Acute)	**Option 3: Operational Threshold Approach** <u>All Locations</u> >10 in a million cancer risk > 1.0 Hazard Index (Chronic or Acute) $PM_{2.5}$: > 0.3 $\mu g/m^3$
Odors	**Qualitative Approach** Case-by-Case Basis		

Notes: CEQA = California Environmental Quality Act; CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SO_2 = sulfur dioxide; SP = service population; TACs = toxic air contaminants; tons/day = tons per day; tpy = tons per year; yr= year; TBD: to be determined

Table 7 - CEQA Threshold Options for Operational Emissions				
Criteria Air Pollutants and Precursors (Regional - Project Level)	**Option 1 - Current Approach** Daily ROG / NOX / PM_{10} –80 lb/day Annual ROG / NOX / PM_{10} – 15 tpy Cumulative Consistency with AQMP	**Option 2 - CAA Approach** Daily (lb/day) ROG / NOx – 54 PM_{10} – 82 $PM_{2.5}$ – 54 Annual (tpy) ROG / NOx / $PM_{2.5}$ – 10 PM_{10} – 15 Cumulative Same as Option 1	**Option 3 - CCAA Approach** Various daily and annual thresholds (see text) Minor contribution toward 5% target from land use sector Cumulative – same as Option 1	**Option 4 - Gap Analysis Approach** Determine criteria pollutant gap for non-attainment pollutants. Close gap with threshold
Localized Carbon Monoxide (Project Level)	**Option 1 - Current Approach** Proxy Thresholds (requiring quantification) 550 lb/day of CO Contribute traffic to roadway at LOS D, E, or F Contribute 10% increase to roadway (if > 100 vehicles/hour) Ambient Threshold (if above the proxy thresholds) 20.0 ppm CO for 1 hour 9 ppm CO for 8 hour		**Option 2 – Ambient Standards (CAAQS)** Ambient Threshold 20.0 ppm CO for 1 hour 9 ppm CO for 8 hour	
Criteria Air Pollutants and Precursors (Plan Level)	**Option 1 – Current Approach** Consistency with Current Air Quality Plan 1. Population growth in plan will not exceed values used in current AQP 2. Plan's projected rate of VMT increase is less than the rate of increase in population used in AQP 3. Plan implements AQP TCMs		**Option 2 – Modified Current Approach** Consistency with Current Air Quality Plan 1. Plan's projected rate of increase in VMT or vehicle trips (may use either) is less than the rate of increase in population used for plan. 2. Plan implements AQP TCMs	
GHGs (Project Level, other than Stationary Sources)	**Option 1A - Quantitative Threshold** Projects > 1,100 MT CO_2e/yr Reduction to threshold or minimum 26% reduction compared to base case **Option 1B - Performance Standard** All Projects Minimum 26% reduction	**Option 1C - Quantitative Threshold and Performance Standard** All Projects 5% reduction Projects >1,900 MT CO_2e/yr Reduction to threshold or minimum 30% reduction compared to base case **Option 1D – Efficiency Thresholds** 6.7 MT CO_2e/capita/yr 4.6 MT CO_2e/SP/yr	**Option 2 - CARB Tiered Approach** Tier 1 Exemptions Tier 2 Consistent with an SB 375 SCS or equivalent Tier 3 (industrial) Performance standards < 7,000 MT for non-transport GHGs Tier 3 (residential/commercial) Performance standards for construction, mobile sources, energy, water, and waste	**Option 3 - BACT Approach** All Projects Implement GHG BACT for all projects BAAQMD to define and update BACT periodically **Option 4 - Tiered Threshold Approach** Tier 1 Consistent with a Climate Action Plan (or SB 375 SCS/APS for transportation emissions) Tier 2 Threshold Projects > 1,100 MT CO_2e/yr Reduction to threshold
GHGs (Stationary Sources)	**Option 1 – Natural Gas Approach** 18,000 MT CO_2e/yr		**Option 2 – All Combustion Approach** 10,000 MT CO_2e/yr	

Table 7 - CEQA Threshold Options for Operational Emissions				
GHGs (Plan Level)	**Option 1A - Per Capita Threshold** 6.7 MT CO_2e/capita/yr	**Option 1B - Service Population Threshold** 4.6 MT CO_2e/SP/yr	**Option 2 - Local Climate Action Plan** 26% GHG Reduction Goal Compared to 2020 BAU for Land Use Sector	
TACs (Siting New Sources – Project Level)	**Option 1 - Current Approach** All Bay Area Cancer risk > 10 in a million Non-Cancer HI of > 1.0 (Chronic or Acute)	**Option 2 - Stationary Source Permit Approach** TBP Trigger TBPs where increased cancer risk levels exceed one in one million Thresholds Same as Option 1	**Option 3 - Tiered Approach** All Bay Area Implement TBPs where increased Cancer risk > 1 in a million Impacted Communities Cancer risk >5 in a million, Non-cancer risk of >Chronic HI of 0.5 >Acute HI of 1.0 Mandatory T-BACT and/or TBPs; PM 2.5 of >0.2 $\mu g/m^3$ annual average All of Bay Area Cancer risk >10 in a million, Non-cancer risk of >HI of 1.0 (Chronic or Acute) PM 2.5 of >0.3 $\mu g/m^3$ annual average	**Option 4 - No Net Increase Approach** Impacted communities No net increase in cancer or non-cancer risk Rest of Bay Area Threshold for excess cancer risk level of 10 in one million and non-cancer HI of 1.0 (Chronic or Acute)
TACs (Siting New Receptor – Project Level)	**Option 1 - Health-Based Impact Approach** TBP Trigger TBPs for all projects with risk > 100 in a million Threshold Cancer risk for new receptors above 100 in a million Update very three years	**Option 2 - Source-Based Approach** Zone of Influence 1,000 feet from source/receptor Impacted Communities Mandatory T-BACT and/or TBPs All Bay Area Cancer risk >10 in a million, Non-cancer risk of >HI of 1.0 PM 2.5 of >0.3 µg/m3 annual average	**Option 3 – San Francisco DPM Approach** All Projects 0.2 µg/m3 for roadway exposures	**Option 4 – Community Risk Reduction Plan Approach** All Bay Area Consistent with Community Risk Reduction Plan that addresses community-wide risk

Table 7 - CEQA Threshold Options for Operational Emissions		
TACs (Cumulative Level)	**Option 1 – Incremental Risk Approach** Use Project Level threshold as cumulative contribution threshold	**Option 2 – Absolute Risk Approach** Zone of Influence 1,000 feet from source/receptor All Bay Area Cancer risk >100 in a million from all zone sources Non-cancer risk of >HI of 1.0 (Chronic or Acute) from all zone sources $PM_{2.5}$ of 0.8 µg/m3 annual average from all zone sources
TACs (Plan Level)	**Option 1 – TAC Buffer Zones** Establish Buffer Zones in General Plan around existing and planned sources Special overlay zones of at least 500 feet on each side of all freeways and high volume roadways	**Option 2 – Quantitative Thresholds** Adopt quantitative approaches used for projects as General Plan Policy
Odors – Project and Plan Level	**Current Approach** Establish Buffer Zones around existing and planned sources	
Notes: CEQA = California Environmental Quality Act; CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SO_2 = sulfur dioxide; SP = service population; TACs = toxic air contaminants; tons/day = tons per day; tpy = tons per year; yr= year; TBD: to be determined		

4.1 CONSTRUCTION EMISSIONS

4.1.1 CRITERIA AIR POLLUTANTS AND PRECURSORS (REGIONAL)

4.1.1.1 OPTION 1: QUALITATIVE APPROACH/BMPS FOR PM10 (CURRENT APPROACH)

BAAQMD's current threshold of significance for construction activities is qualitative in nature (i.e., emissions quantification is not required). Construction emissions of criteria pollutants (other than fugitive PM_{10}) and ozone precursors are considered less than significant on the rationale that they are already included in regional inventories used as the basis of the AQP. The current approach to fugitive PM_{10} dust emissions is a Best-Management Practices (BMP) approach. If BAAQMD-recommended BMPs, which are tiered based on the size of the construction site (less than or greater than four acres), are incorporated into the proposed project, then air quality impacts from project construction can be considered less than significant. The construction threshold of significance requires all projects, regardless of size, to implement at least a minimum level of mitigation for construction-related fugitive PM_{10} dust emissions.

4.1.1.2 OPTION 2: CLEAN AIR ACT EMISSIONS LIMIT APPROACH

This option evaluates the use of the CAA/CCAA stationary source emission limitation levels as CEQA thresholds of significance for construction-related criteria air pollutant and precursor emissions. This approach is considered appropriate because the source of the emissions is irrelevant to their effect on cumulative air quality impacts.

For those pollutants for which the SFBAAB is designated as a non-attainment area, this option uses BAAQMD's Offset Requirement limits, except for PM_{10} and $PM_{2.5}$. Though the SFBAAB is currently designated as a non-

attainment area for both PM_{10} and $PM_{2.5}$[4], the federal NSR Significant Emission Rate limits of 15 and 10 tons per year, respectively, are recommended for this option as BAAQMD has not established an Offset Requirement limit for $PM_{2.5}$ and the existing limit of 100 tons per year under the federal PSD program is much less stringent and would not be appropriate in light of our pending nonattainment designation for the federal 24-hour $PM_{2.5}$ standard. The BACT Requirement limits as shown in Table 8 represent the levels at which, if exceeded, stationary sources must install common control devices. However, stationary sources are still allowed to result in emissions up to the offset requirement and above if federally enforceable offsets are provided. With respect to construction sources, analogous common control devices include increasingly stringent tailpipe standards for off-road equipment, after-market controls such as diesel particulate matter traps and oxidation catalysts.

CARB's new off-road regulations will require the use of newer equipment with lower emission rates and retrofitting of older equipment with after-market controls. These statewide regulations will essentially require the equivalent of installing BACT on all off-road construction equipment over the next several years. Therefore, it would be appropriate to set a threshold level of significance at the NSR offset level to be consistent with this approach. Thus, utilization of the BACT Requirements as thresholds of significance for CEQA would result in achieving considerably more emission reductions from land use development than is needed to achieve air quality goals. The federal NSR Significant Emission Rate and BAAQMD's Offset Requirement limits are identified in regulation on an annual basis (in units of tons per year). For this option, the applicable limits were converted to average daily emissions (pounds per day) for each threshold of significance, as shown in Table 8. This is appropriate because of the short-term intermittent nature of construction activities and, if emissions would not exceed these average daily threshold emission levels, the project would also not exceed the annual levels.

Table 8 - Criteria Air Pollutant/Precursor Construction Threshold Option 2 (CAA Approach)

Emissions Type	BACT (lb/day)	Average Daily Emissions Level (lb/day)
ROG	10	54
NO_X	10	54
CO	10	547
SO_2	10	219
PM_{10}	10	82
$PM_{2.5}$	10	54

Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; SO_2 = sulfur dioxide.
Sources: Data compiled by EDAW 2009, BAAQMD 2005, EPA 2008.

All of these levels are used within current regulations and thus are consistent with thresholds for federal NSR, and associated definitions of significant emissions limits for criteria air pollutants and precursors.

4.1.1.3 STAFF RECOMMENDATION AND JUSTIFICATION

Staff recommends a hybrid approach of the two approaches described above regarding exhaust emissions and fugitive dust. While our current Guidelines considered construction exhaust emissions controlled by the overall air quality plan, the implementation of new and more stringent state and federal standards over the past ten years now warrants additional control of this source of emissions. The CAA approach for criteria pollutant construction thresholds and thus the average daily criteria air pollutant and precursor emission levels shown in Table 8 for

[4] The SFBAAB is designated nonattainment for the state annual and 24-hour PM_{10} and $PM_{2.5}$ standards and anticipates being designated nonattainment for the federal 24-hour $PM_{2.5}$ standard.

ROG, NOx, and PM are recommended as the thresholds of significance for construction activity for exhaust emissions. These thresholds represent the levels above which a project's individual emissions would result in a considerable contribution (i.e., significant) to the SFBAAB's existing non-attainment air quality conditions and thus establish a nexus to regional air quality impacts that satisfies CEQA requirements for evidence-based determinations of significant impacts.

For fugitive dust emissions, staff recommends following the current best management practices approach which has been a pragmatic and effective approach to the control of fugitive dust emissions. Studies have demonstrated (Western Regional Air Partnership, U.S.EPA) that the application of best management practices at construction sites have significantly controlled fugitive dust emissions. Individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to more than 90 percent. In the aggregate best management practices will substantially reduce fugitive dust emissions from construction sites. These studies support staff's recommendation that projects implementing construction best management practices will reduce fugitive dust emissions to a less than significant level.

Regional concentration levels of CO in the SFBAAB have not exceeded the CAAQS in the past 11 years and sulfur dioxide (SO_2) concentrations have never exceeded the standards (EPA 2009). Construction-related SO_2 emissions represent a negligible portion of total basin-wide emissions and construction-related CO emissions represent less than five percent of the SFBAAB total basin-wide CO emissions. BAAQMD has demonstrated that attainment pollutants are sufficiently controlled by air quality plans and regulations and thus no quantitative thresholds for construction are recommended for CO or SO_2 for evaluation of impacts to regional air quality.

4.1.2 Local Carbon Monoxide

4.1.2.1 Option 1 - Current Approach

BAAQMD has no formal guidance for the evaluation of construction localized carbon monoxide impact given that the volumes necessary to result in a health-based CO impact are rarely reached due to construction traffic. Thus, the current approach is left to the case by case considerations of CEQA lead agencies.

4.1.2.2 Option 2 - Ambient Standards

As a localized pollutant, this approach for evaluation of carbon monoxide impacts would be based on ambient concentration limits set by the California Clean Air Act for Carbon Monoxide and Appendix G of the State of California CEQA Guidelines. The CAAQS of 20.0 ppm and 9 ppm for 1-hour and 8-hour CO, respectively, would be used as the thresholds of significance for localized concentrations of CO. This approach is described further below in the discussion of operational thresholds.

4.1.2.3 Staff Recommendation and Justification

BAAQMD staff recommends Option 1 – Current Approach for consideration of construction CO emissions. As noted above, health-based CO impacts rarely arise due to construction traffic and thus there is little potential for significant impacts to occur for the vast majority of projects. Instead, it is recommended that CEQA lead agencies consider the potential for CO impacts on a case by case that would focus only on the largest of construction projects.

4.1.3 Greenhouse Gases

According to the greenhouse gas inventory developed by BAAQMD, GHG emissions from construction activities represent a relatively small portion (less than two percent) of the overall GHG emissions inventory in the Bay Area. Staff has identified three potential approaches to set a significance threshold for construction GHG emissions. Because constructions GHG emissions were not included in the land use-driven sectors analyzed for

the operational GHG threshold, they were analyzed as a separate GHG emissions sector. While there are other approaches to defining GHG thresholds, such as a percent reduction approach, these are the three approaches that staff finds to be the most promising to achieve AB32 goals. All options analyzed here identify cumulatively significant threshold options.

4.1.3.1 OPTION 1: QUALITATIVE APPROACH/BMPS FOR GHGS

This approach is similar to the current approach to construction fugitive dust emissions. Quantitative evaluation of construction emissions would not be required for GHGs. Instead, all projects would be required to implement a suite of construction BMPs to reduce GHGs. A list of BMPs would need to be developed by BAAQMD and would need to be updated periodically to reflect changes in technology, feasibility, and cost-effectiveness. Initial BMPs could include, but need not be limited to the following: use of alternatives fuels (biodiesel, electricity, etc.) for at least 15 percent of the construction fleet; reduction of equipment idling beyond existing ARB regulations; worker carpooling and use of worker shuttles; a minimum use of 10 percent local building materials (to reduce material lifecycle GHGs), and recycling/diversion of a minimum of 50 percent of construction and demolition waste.

4.1.3.2 OPTION 2: OPERATIONAL THRESHOLD APPROACH

This approach includes the same CEQA threshold of significance for construction-related GHG emissions as that for project operations, which is discussed in detail herein. Assuming that a project has an operational lifetime of approximately 30 years, the aggregate operational GHG emissions associated with a project that would generate 1,100 metric tons (MT) of carbon dioxide equivalent (CO_2e) emissions per year (See Operational Option 1A discussion below) would result in approximately 33,000 MT of CO_2e emissions over the 30–year operational life of the project. Thus, if a project would result in GHG emissions greater than 33,000 MT of CO_2e over the duration of construction, the impact would be considered significant.

4.1.3.3 OPTION 3: REGIONAL ALLOCATION APPROACH

The goal of this approach is to reduce the projected 2020 emissions associated with construction activities to the 1990 level, the overall goal of AB 32, by setting a per project threshold, that when aggregated, the total annual construction emissions would not exceed the total 1990 inventory levels in 2020. BAAQMD's current CO_2e emissions inventory estimated that in 1990 CO_2e emissions from construction activities were 1.3 million metric tons (MMT) CO_2e for off-road construction equipment. In addition, about five percent of the on-road medium/heavy duty truck CO_2e emissions inventory is attributed to construction debris and material haul trips, which equals 0.2 MMT CO_2e per year. Therefore, the total 1990 inventory for construction-related CO_2 emissions is 1.5 MMT, whereas the total projected 2020 construction-related emissions inventory is 2.9 MMT CO_2e. It is also estimated that approximately 4,000 development projects would be constructed in the SFBAAB between 2010 and 2020, or an average of 400 projects per year. The threshold of significance can be established by spreading the goal of 1.5 MMT over the 400 projects (1,500,000/400 equals 3,750 tons/year, or 10.3 metric tons/day). Therefore, projects with construction CO_2e emissions above 10 metric tons per day (tons/day) would be considered to have a significant impact.

4.1.3.4 STAFF RECOMMENDATION AND JUSTIFICATION

Staff does not recommend a construction GHG threshold at this time because there is not sufficient evidence to determine a level at which construction emissions are significant. Staff recommends a case-by-case consideration of construction GHG emissions and encourages project applicants to implement construction GHG reduction strategies where feasible. The Air District will develop a list of best management practices, such as alternative fuels, use of local materials, and recycling of construction and demolition waste, to provide lead agencies with strategies that reduce greenhouse gas emissions from construction.

A BMP approach (Option1), can be effective to promote on-site emissions reductions yet allow flexibility for a wide range of construction applications. If lead agencies require all projects to implement the BMPs identified by the Air District, GHG emission reductions will be achieved during construction activity. However, a BMP approach requires that a finding can be made that the recommended measures will indeed reduce the impact to a less than significant level. Since Staff cannot substantiate such a finding at this time, this approach is not recommended.

As shown by Option 2 and Option 3, quantitative threshold approaches to construction emissions do not at present represent reasonable approaches to determining significance. Options 2 and 3 would result in an emissions threshold for construction that is so large that only truly large projects would be required to conduct any mitigation, whereas a BMP approach requires feasible measures for all projects which would result in lower emission levels overall. Thus, neither of the quantitative thresholds provides sufficient nexus and proportionality to demonstrate a significant impact tied to the impact level and severity.

4.1.4 Local Community Risks and Hazards

4.1.4.1 Option 1: Case-By-Case Approach/Project Size Screening Level

This approach entails using the "Expose sensitive receptors to substantial pollutant concentrations" question as contained in the State of California CEQA Guidelines' Appendix G checklist to determine the significance of construction-related TAC emissions on a case-by-case basis.

This option does not include a recommendation for a numeric threshold of significance for construction-related TAC emissions, which is consistent with BAAQMD's current approach. Construction work could result in the generation of diesel PM, which ARB has designated as a TAC, from the use of off-road heavy-duty equipment during site grading, excavation, material transport, paving, and other construction activities. However, due to the variable nature of such activities, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such heavy-duty equipment are typically within an influential distance (e.g., 70 percent reduction at approximately 500 feet from mobile sources [ARB 2005]) to nearby sensitive receptors (i.e., people or facilities that generally house people [e.g., schools, hospitals, residences]) that may experience adverse effects from unhealthful concentrations of air pollutants. In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities resulting in difficulties with producing accurate modeling results.

Staff is currently assessing the size of a construction project where an assessment of the health risk to nearby receptors would be warranted. A recommended screening level for assessing a construction project's health risks will be provided in the methodologies section of the BAAQMD CEQA Guidelines update.

4.1.4.2 Option 2: Tiered Quantitative Threshold

This approach entails using the same risk thresholds in specific geographic areas developed below as potential operational quantitative thresholds (see discussion below). Construction emissions would need to be quantified where they occur in proximity to sensitive receptors. The threshold for incremental increase in risks would be a 10 in a million risk of cancer and a chronic or acute Hazard Index of 1.0 for all locations other than CARE communities. Within CARE communities, the threshold would be an incremental increase of 5 in a million risk of cancer, a chronic Hazard Index of 0.5 and an acute Hazard Index of 1.0.

4.1.4.3 Option 3: Quantitative Thresholds

This approach entails using the same thresholds throughout the Bay Area for operations (see discussion below). Construction emissions would need to be quantified where they occur in proximity to sensitive receptors.

Thresholds would be an increased excess cancer risk of 10.0 in a million and a chronic or acute Hazard Index of 1.0 throughout the Bay Area.

In addition, this approach would also include a quantitative $PM_{2.5}$ average annual concentration increase threshold of 0.3 $\mu g/m^3$. This concentration is the U.S. EPA staff-proposed Significant Impact level (SIL) for $PM_{2.5}$. The SIL is a threshold applied to individual facilities that apply for a permit to emit a regulated pollutant in an area that meets the NAAQS. The state and EPA must determine if emissions from that facility will cause the air quality to worsen. If an individual facility projects an increase in emissions that result in an increase greater than the established SIL, the permit applicant would be required to perform additional analyses to determine if those impacts will be more than the amount of the PSD increment.

4.1.4.4 STAFF RECOMMENDATION AND JUSTIFICATION

BAAQMD staff recommends Option 3 – Quantitative Thresholds as the approach for construction risks and hazards emissions. Risks due to toxic emissions from construction, though temporary, can still result in substantial public health impacts due to increased cancer and non-cancer risk. Applying a quantitative threshold allows a rigorous standardized method of determining when a construction project will cause a significant increase in cancer and non-cancer risks. Regarding the use of the proposed USEPA SIL for $PM_{2.5}$, under the Clean Air Act, the SIL is a measure of whether a source may cause or contribute to a violation of PSD increment or the NAAQS, which by definition would represent a significant deterioration of air quality and thus in an appropriate significance threshold under CEQA.

Staff recommends a case-by-case consideration of a project's cumulative construction risk impact. A cumulative analysis of a project's construction TAC impacts should be considered if there is a substantial overlap of projects or there is a major source of TAC nearby.

4.1.5 ODORS

Conventional construction-related activities typically do not result in the generation of odor emissions. As shown in Table 9, odor complaints are rarely due to construction.

Table 9 - Historical Bay Area Construction Site-Related Odor Complaints

Year	Total Complaints	Construction Site Complaints	Construction Percent of Total
2005	2,110	24	1.1%
2006	2,563	29	1.1%
2007	1,760	29	1.6%
2008	1,719	23	1.3%
Average	2,038	26	1.3%

Therefore, it is recommended that BAAQMD not adopt a numeric significance threshold for construction-related odor impacts, which is consistent with BAAQMD's current approach. A further consideration for not adopting a specific threshold is that the other construction thresholds recommended above will also cause concomitant reduction of odors at construction sites. It is recommended instead to allow individual lead agencies to address this issue on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity of off-site receptors.

4.2 OPERATIONAL-RELATED IMPACTS

4.2.1 CRITERIA AIR POLLUTANTS AND PRECURSORS (REGIONAL)

4.2.1.1 OPTION 1: CURRENT APPROACH

Project Impact Thresholds

At the project level, BAAQMD currently recommends that a proposed project that is estimated to generate operational criteria air pollutant or ozone precursor emissions in excess of the annual or daily thresholds shown in Table 10 should be considered to have a significant air quality impact. These thresholds of significance would be exceeded by an unmitigated project size approximately equivalent to a 430-unit single family subdivision.

Table 10 - Criteria Air Pollutant/Precursor Operational Threshold Option 1 (Current Practice)

Pollutant	Threshold Emissions (tpy)	Threshold Emissions (lb/day)	Threshold Emissions (kg/day)
ROG	15	80	36
NO_X	15	80	36
PM_{10}	15	80	36

Notes: kg/day = kilograms per day; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year.
Source: BAAQMD 1999.

Cumulative Impact Analysis

With respect to cumulative impacts of criteria pollutants and ozone precursors, BAAQMD's current approach is that any proposed project (excluding plans) that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. For any project that does not individually result in significant operational-related air quality impacts, the determination of a significant cumulative impact should be based on an evaluation of the consistency of the project with the local general plan and of the general plan with the regional air quality plan. The appropriate regional air quality plan for the SFBAAB is the most recently adopted air quality plan [AQP] that has been developed in response to the CCAA.

If a project is proposed in a city or county with a general plan that is consistent with the AQP and the project is consistent with that general plan (i.e., does not require a general plan amendment [GPA]), then the project would not have a significant cumulative impact (provided, of course, the project does not individually have any significant impacts). No further analysis regarding cumulative impacts is necessary.

In a jurisdiction with a general plan consistent with the AQP, a project may be proposed that is not consistent with that general plan because it requires a General Plan Amendment (GPA). In such instances, the cumulative impact analysis should consider the difference(s) between the project and the original (pre-GPA) land use designation for the site with respect to motor vehicle use and potential land use conflicts. In this case, a project would not have a significant cumulative impact if the vehicle miles traveled (VMT) from the project would not be greater than the VMT that would be anticipated under the original land use designation.

For a project in a city or county with a general plan that is not consistent with the AQP, the cumulative impact analysis is based on the combined impacts of the proposed project and past, present and reasonably anticipated future projects. A project would have a significant cumulative impact if these combined impacts would exceed any of the thresholds established above for project operations.

The cumulative impact threshold of significance could affect all projects, regardless of size, and require mitigation for cumulative impacts.

4.2.1.2 OPTION 2: CLEAN AIR ACT EMISSIONS LIMIT APPROACH

Project Thresholds

This option is identical to the Construction-Related Criteria Air Pollutants and Precursors Option 2 (CAA Approach) discussed above except this approach would use the maximum annual in addition to the average daily levels as shown in Table 11.

Table 11 - Criteria Air Pollutant/Precursor Operational Threshold Option 2 (CAA Approach)

Emissions Type	Maximum Annual Emissions Level (tpy)	Average Daily Emissions Level (lb/day)
ROG	10	54
NO_X	10	54
PM_{10}	15	82
$PM_{2.5}$	10	54

Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; SO_2 = sulfur dioxide; tpy = tons per year.
Sources: Data compiled by EDAW 2009, BAAQMD 2005, EPA 2008.

Threshold Level Sensitivity Analysis

A sensitivity analysis of the threshold level was conducted for each pollutant in order to determine reasonable emissions capture rates based on NSR/PSD thresholds. Emissions capture rates are hereafter defined as the proportion of project-generated emissions that would exceed the BAAQMD CEQA threshold of significance and would thereby be subject to mitigation. The sensitivity analysis involved adjusting the mass emissions threshold level in order to develop a matrix of emission reduction scenarios.

Based on the project-level data from the development projections that were used to calculate the unmitigated amount of criteria air pollutants and precursors shown in Table 5, a sensitivity analysis was conducted of operational-related mass emission threshold levels for ROG, NO_X, PM_{10}, and $PM_{2.5}$. This was done to determine the number of occurrences wherein such levels would be exceeded by projected development subject to CEQA requirements. In situations where development would exceed these threshold levels, CEQA requires implementation of feasible mitigation, to the extent that this impact is reduced to below significance. Feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (California Administrative Code, Title. 14, § 15364; California Public Resources Code, § 21061.1.). BAAQMD would achieve emission reductions from new development associated with implementation of feasible mitigation.

Reductions of 15 percent in operational emissions typically are achievable when considering standard (i.e., not "smart growth") projects. A reasonable and demonstrable amount of feasible mitigation can be required of projects, at least to the extent they are not already planned with emissions-reducing characteristics. If mitigation is deemed infeasible, CEQA allows lead agencies to override any remaining significant impacts provided certain findings are made. Thus, since a 15 percent reduction in operational emissions from an unmitigated (i.e., full trip generation URBEMIS default model run) baseline is a practicable amount of mitigation, as demonstrated in nearby jurisdictions, 15 percent mitigation effectiveness was assumed for the purposes of this analysis. It was

assumed that all of the projects that would trigger the CEQA thresholds would attempt to mitigate their emissions by at least 15 percent or down to the level of the threshold as required by CEQA.[5] It is the policy of the State that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects.

Results of the threshold sensitivity analysis are presented in Table 12.

For state and federal criteria air pollutants for which the SFBAAB is currently in attainment (e.g., CO, SO_2), the operational thresholds were not evaluated in the sensitivity analysis because it is not foreseeable that there would be any impacts from these constituents. Concentration levels of CO in the SFBAAB have not exceeded the CAAQS in the past 11 years and sulfur dioxide (SO_2) concentrations have never exceeded the standards (EPA 2009). BAAQMD has demonstrated that attainment pollutants are sufficiently controlled by air quality plans and regulations, thus, significant air quality impacts for CO and SO_2 emissions would not be expected to occur as a result of a project's operational-related emissions and quantitative thresholds are not included in this option for these pollutants.

Cumulative Thresholds

The non-attainment status of regional pollutants is a result of past and present development within the SFBAAB. Without the large scale of development that has occurred throughout the SFBAAB, non-attainment would not have occurred. Thus, this regional impact is a cumulative impact, and projects would adversely affect this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in non-attainment of the regional air quality standards. Consequently, the thresholds of significance discussed above are the amount of pollution that is deemed cumulatively considerable and, therefore, a significant adverse air quality impact.

4.2.1.3 Option 3: California Clean Air Act Approach

This approach is similar to Option 2, but uses a measurement of percent emissions reduction relative to the total emissions inventory as the supporting basis for each threshold level.

The CCAA requires a five percent per year reduction from the total emissions inventory. If a non-attainment area cannot achieve the five percent per year goal, the CCAA requires the area to implement all feasible measures to attain the state standards as soon as possible. If compounded annually between 2010 and 2020, a total of 38.75 percent reduction from the emissions inventory would be required. Table 13 summarizes the quantity of BAAQMD's emissions inventory reduction required by the CCAA during the period from 2010 through 2020 in tons/day.

The CEQA threshold developed with Option 3 is intended to contribute a portion of that five percent per year requirement. Table 14 summarizes the amount of emissions reduction achieved through various CEQA significance threshold levels evaluated. The values were calculated in the same manner as in Option 2, except in units of tons/day. The column labeled "% Reductions of 2020 Inventory" lists by how much each threshold would reduce the business as usual 2020 inventory. As shown these thresholds would reduce the 2020 inventory between 1.4 and 2.7 percent for ROG, between 0.2 and 1.5 percent for NOx, between 0.1 and 7.2 percent for PM_{10} and 1.7 to 2.6 percent of $PM_{2.5}$. These reductions would, for the most part contribute incrementally toward meeting the CCAA requirement of 5 percent per year (or 38.75 percent by 2020) for NOx, ROG, and $PM_{2.5}$. These reductions would contribute substantially towards meeting the CCAA requirement for PM_{10}, whereas the NSR, Rule 2 Offset, and Rule 2 BACT thresholds would result in 4 to 7 percent reductions in PM_{10} emissions which correspond to 13 to 24 percent of the overall CCAA reductions needed by 2020. The remaining emission reductions would need to be achieved through other control measures and regulations in BAAQMD's jurisdiction.

[5] California Public Resources Code Section 21002; *See Laurel Heights I*, 47 Cal.3d at 400-401

For cumulative impact analysis, this option would use the same approach as Option 2.

4.2.1.4 OPTION 4: QUANTITATIVE THRESHOLD, GAP ANALYSIS

This approach would involves using the same "gap" analysis described below under Operational GHG threshold Option 1 to determine a quantitative threshold for criteria pollutants and ozone precursors. The analysis would examine all sources of criteria pollutants and ozone precursors, the effect of current regulations and programs (such as the Diesel Risk Reduction Plan), the feasibility of project-specific mitigation, and then allocate an overall "budget" of emissions reductions to the land use sector subject to CEQA. This approach was not developed further given that regulatory bases for establishment of a quantitative threshold already exist in the form of the CAA and CCAA.

Table 12 - Criteria Air Pollutant/Precursor Operational Threshold Option 2 (CAA Approach) Sensitivity Analysis

Basis of Threshold	Mass Emissions Threshold Level (tpy)				Mitigation Requirement for Projects with Emissions >Threshold Level	Aggregate Emissions Reduction From Mitigation Between 2010-2020 (Tons)[1]				% Project Capture[2]				% Emissions Capture[2]				Project Size Equivalent (number of single family dwelling units)[3]
	ROG	NO_X	PM_{10}	$PM_{2.5}$		ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$	
NSR (Significant Emissions Rate)	40	40	15	10	15%	1,102	229	1,867	344	1%	0%	2%	1%	31%	0%	31%	23%	523
(BAAQMD Reg. 2, Offset)	10	10	100	-	15%	1,033	1,137	32	-	2%	1%	0%		43%	25%	16%	-	396
5 tpy Level[4]	5	5	5	5	15%	1,518	1,008	2,555	533	5%	2%	9%	1%	57%	33%	52%	30%	198
BAAQMD (Reg. 2, BACT)	1.8	1.8	1.8	1.8	15%	2,028	1,496	3,457	510	14%	10%	58%	7%	73%	53%	92%	52%	62

Notes: BAAQMD = Bay Area Air Quality Management District; BACT = Best Available Control Technology; NSR = New Source Review; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year.

[1]Unmitigated Emissions from Land Use Development between 2010 and 2020)

[2] Emissions capture refers to the portion of emissions that would exceed the CEQA significance threshold and would thereby be subject to mitigation. Similarly, project capture refers to the portion of projects that would result in emissions that exceed the CEQA significance threshold and would be subject to mitigation.

[3] Project size equivalent is determined by the limiting pollutant (i.e., whichever threshold is exceeded first).

[4] The mass emission level of 5 tpy represents a moderate scenario between offset levels and BACT levels. 5 tpy is not based on regulation or defined by BAAQMD as an emissions level of importance, but presented here for informational purposes only.

Please refer to Appendix C for detailed unmitigated emissions calculations.

Sources: Data calculated by EDAW 2009, DOF 2009, EDD 2009, Rimpo and Associates 2009.

Table 13 - Criteria Pollutant/Precursor Emissions with CCAA Five Percent per Year Reduction

BAAQMD Emissions Inventory (2010) (tons/day)				CCAA % reduction (over 2010-2020)	BAAQMD Inventory with CCAA Required Reduction (2020) (tons/day)				Difference (CCAA Reduction) (tons/day)			
ROG	NO_X	PM_{10}	$PM_{2.5}$		ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
335.5	449.6	216.1	87.9	38.75%	205.5	275.4	132.4	53.9	130.0	174.2	83.8	34.1

Notes: BAAQMD = Bay Area Air Quality Management District; CCAA = California Clean Air Act; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 microns or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 microns or less; ROG = reactive organic gases; tons/day = tons per day.

Source: BAAQMD 2009.

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Table 14 - Criteria Air Pollutant/Precursor Operational Threshold Option 3 (CCAA Approach) Sensitivity Analysis														
	Mass Emissions Threshold Level (tpy)				Mitigation Requirement for Projects with Emissions > Threshold Level	Emissions Reduction From Mitigation Between 2010-2020 (Tons/day)				% Reductions of 2020 Inventory				Project Size Equivalent (number of single family dwelling units)[1]
	ROG	NO_X	PM_{10}	$PM_{2.5}$		ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$	
NSR (Significant Emissions Rate)	40	40	15	10	15%	3.0	0.6	5.1	0.9	1.5%	0.2%	3.9%	1.7%	523
(BAAQMD Rule 2, Offset)	10	10	100	-	15%	2.8	3.1	0.1	-	1.4%	1.1%	0.1%	-	396
5 tpy Level[2]	5	5	5	5	15%	4.2	2.8	7.0	1.5	2.0%	1.0%	5.3%	2.7%	198
BAAQMD (Rule 2, BACT)	1.8	1.8	1.8	1.8	15%	5.6	4.1	9.5	1.4	2.7%	1.5%	7.2%	2.6%	62

Notes: BAAQMD = Bay Area Air Quality Management District; BACT = Best Available Control Technology; CCAA = California Clean Air Act; NSR = New Source Review; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 microns or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 microns or less; ROG = reactive organic gases; tons/day = tons per day; tpy =tons per year.

[1] Project size equivalent is determined by the limiting pollutant (i.e., whichever threshold is exceeded first).

[2] The mass emission level of 5 tpy represents a moderate scenario between offset levels and BACT levels. 5 tpy is not based on regulation or defined by BAAQMD as an emissions level of importance, but presented here for informational purposes only.

Please see Table 11 for % project and emission capture rates associated with these mass emission levels.

Please refer to Appendix C for detailed unmitigated emissions calculations.

Sources: Data calculated by EDAW 2009, DOF 2009, EDD 2009, Rimpo and Associates 2009.

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4.2.1.5 STAFF RECOMMENDATION AND JUSTIFICATION

BAAQMD staff recommends Option 2 and the average daily and maximum annual criteria air pollutant and precursor levels shown in Table 11 as the thresholds of significance that are derived from the information above (i.e., federal NSR Significant Emission Rate and BAAQMD Offset Requirement limits). This option applies the federal BAAQMD Offset Requirements to ozone precursors for which the SFBAAB is designated as a non-attainment area which is an appropriate approach to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevention of a regionally cumulative significant impact (e.g. worsened status of non-attainment). Despite non-attainment area for state PM_{10} and pending nonattainment for federal $PM_{2.5}$, the federal NSR Significant Emission Rate annual limits of 15 and 10 tons per year, respectively, are recommended for this option as BAAQMD has not established an Offset Requirement limit for $PM_{2.5}$ and the existing limit of 100 tons per year is much less stringent and would not be appropriate in light of our pending nonattainment designation for the federal 24-hour $PM_{2.5}$ standard. These thresholds represent the emission levels above which a project's individual emissions would result in a considerable adverse contribution to the SFBAAB's existing air quality conditions. As discussed for Option 2, the thresholds would be an evaluation both of project significance and of the cumulative contribution of a project to a significant cumulative impact. These threshold levels are well-established in terms of existing regulations as promoting review of emissions sources to prevent cumulative deterioration of air quality. Using existing environmental standards in this way to establish CEQA thresholds of significance under Guidelines section 15067.4 is an appropriate and effective means of promoting consistency in significance determinations and integrating CEQA environmental review activities with other areas of environmental regulation. (*See Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal. App. 4th 98, 111.[6])

As noted above under discussion of construction criteria pollutants, regional concentration levels of CO in the SFBAAB have not exceeded the CAAQS in the past 11 years and sulfur dioxide (SO_2) concentrations have never exceeded the standards (EPA 2009). BAAQMD has demonstrated that attainment pollutants are sufficiently controlled by air quality plans and regulations and thus no quantitative thresholds for construction are recommended for CO or SO_2 for evaluation of impacts to regional air quality.

4.2.2 LOCAL CARBON MONOXIDE

4.2.2.1 OPTION 1 - CURRENT APPROACH

BAAQMD's current approach to localized carbon monoxide concentrations is that CO emissions should be estimated for projects in which: 1) vehicle emissions of CO would exceed 550 lb/day; 2) project traffic would impact intersections or roadway links operating at Level of Service (LOS) D, E or F or would cause LOS to decline to D, E or F; or 3) project traffic would increase traffic volumes on nearby roadways by 10 percent or more. The current guidelines also state that a project contributing to CO concentrations exceeding the California Ambient Air Quality Standard (CAAQS) of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for 1 hour would be considered to have a significant impact.

Thus, in effect, the current approach has an overall threshold using the CAAQS ambient standards, but also includes several proxy thresholds in the form of a mass emissions threshold, traffic LOS threshold, and a traffic volume threshold. If below the proxy thresholds, then no quantification is done and no comparison to the ambient standards is completed.

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[6] The Court of Appeal in the *Communities for a Better Environment* case held that existing regulatory standards could not be used as a definitive determination of whether a project would be significant under CEQA where there is substantial evidence to the contrary. Staff's proposed thresholds would not do that. The thresholds are levels at which a project's emissions would normally be significant, but would not be binding on a lead agency if there is contrary evidence in the record.

4.2.2.2 OPTION 2 - AMBIENT STANDARDS

As a localized pollutant, this approach for evaluation of carbon monoxide impacts is based solely on ambient concentration limits set by the California Clean Air Act for Carbon Monoxide and Appendix G of the State of California CEQA Guidelines.

The CAAQS of 20.0 ppm and 9 ppm for 1-hour and 8-hour CO, respectively, would be used as the thresholds of significance for localized concentrations of CO. Carbon monoxide is a directly emitted pollutant with primarily localized adverse effects when concentrations exceed the health based standards established by the California Air Resources Board (ARB).

In addition, Appendix G of the State of California CEQA Guidelines includes the checklist question: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? Answering yes to this question would indicate that the project would result in a significant impact under CEQA. The use of the ambient standard would relate directly to this checklist question.

4.2.2.3 STAFF RECOMMENDATION AND JUSTIFICATION

Since the Option 2 ambient air quality standards are health-based (i.e., protective of public health), there is substantial evidence (i.e., health studies that the standards are based on) in support of their use as CEQA significance thresholds and they are recommended by BAAQMD staff instead of the current approach. The use of the ambient standard would relate directly to the CEQA checklist question. By not using a proxy standard, there would be a definitive bright line about what is or is not a significant impact and that line would be set using a health-based level.

4.2.3 GREENHOUSE GASES

4.2.3.1 CURRENT APPROACH

BAAQMD does not currently have an adopted threshold of significance for GHG emissions. BAAQMD currently recommends that lead agencies quantify GHG emissions resulting from new development and apply all feasible mitigation measures to lessen the potentially adverse impacts. One of the primary objectives in updating the current CEQA Guidelines is to identify a GHG significance threshold, analytical methodologies, and mitigation measures to ensure new land use development meets its fair share of the emission reductions needed to address the cumulative environmental impact of GHG emissions. Similar to regulated air pollutants, GHG emissions and global climate change also represent cumulative impacts. GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. As reviewed herein, climate change impacts include an increase in extreme heat days, higher concentrations of air pollutants, sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts. No single project could generate enough GHG emissions to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts.

BAAQMD's approach to developing a *Threshold of Significance* for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant. If mitigation can be applied to lessen the emissions such that the project meets its fair share of emission reductions needed to address the cumulative impact, the project would normally be considered less than significant.

GHG CEQA significance thresholds evaluated herein are intended to serve as interim levels during the implementation of the AB 32 Scoping Plan and SB 375, which will occur over time. Until AB 32 has been fully implemented in terms of adopted regulations, incentives, and programs and until SB 375 required plans have been fully adopted, or ARB adopts a recommended threshold, the BAAQMD recommends that local agencies in the SFBAAB apply the GHG threshold developed herein.

If left unchecked, GHG emissions from new land use development in California may result in a cumulatively considerable amount of GHG emissions and a substantial conflict with the State's ability to meet the goals within AB 32. Thus, BAAQMD has elected to adopt an interim GHG threshold for CEQA analysis, which can be used by lead agencies within the SFBAAB. This would help lead agencies navigate this dynamic regulatory and technological environment where the field of analysis has remained wide open and inconsistent. BAAQMD's framework for developing a GHG threshold for land development projects that is based on policy and substantial evidence follows, and is detailed in Appendix D.

It is widely recognized that AB 32 is only a starting point for the long-term effort to reduce the potential adverse effects from climate change. There will be a need for greater reductions beyond that called for by AB 32 by 2050 in order to avoid the potentially more catastrophic consequences. At this time, BAAQMD is considering threshold development to support the incremental GHG emission reductions mandated by AB 32 given the importance of curbing the growth of GHG emissions and to begin to reduce their absolute levels. Given the magnitude of this initial challenge, BAAQMD considers it premature to propose thresholds for the period after 2020. However, there will be a need in the future to consider CEQA evaluation of post-2020 GHG emissions and reductions. As California and the nation grapple with the post-2020 challenge, BAAQMD will need to update its guidelines to consider the appropriate contributions from CEQA as part of the overall effort to reduce emissions.

While there are myriad potential ways to approach thresholds as documented in the CAPCOA white paper, staff is exploring four options, as described below, as the most promising for application in the SFBAAB.

4.2.3.2 SCIENTIFIC AND REGULATORY JUSTIFICATION

Climate Science Overview

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, chlorofluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is *extremely unlikely* that global climate change of the past 50 years can be explained without the contribution from human activities (IPCC 2007a).

According to Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC), "Avoiding Dangerous Climate Change" means: *"stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."* Dangerous climate change defined in the UNFCCC based on several key indicators including the potential for severe degradation of coral reef systems, disintegration of the West Antarctic Ice Sheet, and shut down of the large-scale, salinity- and thermally-driven circulation of the oceans. (UNFCCC 2009). The global atmospheric concentration of carbon dioxide has increased from a pre-industrial value of about 280 ppm to 379 ppm in 2005 (IPCC 2007a). "Avoiding dangerous climate change" is generally understood to be achieved by stabilizing global average temperatures between 2 and 2.4°C above pre-industrial levels. In order to limit temperature increases to this level, ambient global CO_2 concentrations must stabilize between 350 and 400 ppm (IPCC 2007b).

Executive Order S-3-05

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's

snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total GHG emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill 32, the California Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. AB 32 finds and declares that "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020, and establishes regulatory, reporting, voluntary, and market mechanisms to achieve quantifiable reductions in GHG emissions to meet the statewide goal.

In December of 2008, ARB adopted its *Climate Change Scoping Plan* (*Scoping Plan*), which is the State's plan to achieve GHG reductions in California, as required by AB 32 (ARB 2008). The Scoping Plan contains the main strategies California will implement to achieve a reduction of 169 MMT CO_2e emissions, or approximately 28 percent from the state's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT of CO_2e, or almost 10 percent, from 2002-2004 average emissions), so that the state can return to 1990 emission levels, as is required by AB 32.

While the Scoping Plan establishes the policy intent to control numerous GHG sources through regulatory, incentive, and market means, given the early phase of implementation and the level of control that local CEQA lead agencies have over numerous GHG sources, CEQA is an important and supporting tool in achieving GHG reductions overall in compliance with AB 32. In this spirit, BAAQMD is considering the adoption of thresholds of significance for GHG emissions for land use development projects.

Senate Bill 375

Senate Bill (SB) 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), which will prescribe land use allocation in that MPO's Regional Transportation Plan (RTP). ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years, but can be updated every 4 years if advancements in emission technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects would not be eligible for State funding programmed after January 1, 2012. New provisions of CEQA would incentivize qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

While SB 375 is considered in the development of thresholds, given that Metropolitan Transportation Commission (MTC)'s development of the SCS for the Bay Area is in its early stages and the ARB GHG reduction target for light duty and passenger vehicles in the Bay Area has not yet been proposed, it is premature to be able to fully rely on SB 375 to address transportation emissions. In the future as SB 375 implementation progresses, BAAQMD may need to revisit GHG thresholds.

4.2.3.3 Option 1: Quantitative Threshold and Performance Standard Approaches

This approach sets a GHG significance threshold based on AB 32 GHG emission reduction goals while taking into consideration emission reduction strategies outlined in ARB's Scoping Plan. Within Option 1, there are four

sub-options to consider, which are described below. BAAQMD took eight essential steps in developing this approach.

Step 1. Estimate from ARB's statewide GHG emissions inventory the growth in emissions between 1990 and 2020 attributable to "land use"-driven sectors of the emission inventory per OPR's guidance document.

Step 2. Estimate the GHG emission reductions anticipated statewide to these same "land use" -driven emissions inventory sectors associated with adopted regulations identified in the AB 32 Scoping Plan.

Step 3. Determine any short fall or "gap" between the 2020 statewide emission inventory estimates and the anticipated emission reductions from Scoping Plan adopted regulations. This "gap" represents additional GHG emission reductions needed statewide from these "land use"-driven emissions inventory sectors, which represents new land development's fair share of the emission reductions needed to meet statewide GHG emission reduction goals.

Step 4. Determine the percent reduction this "gap" represents in the "land use"-driven statewide emissions inventory sectors and apply that percent to the same GHG emissions inventory sectors from BAAQMD's GHG emissions inventory to identify the mass of emission reductions needed in the SFBAAB from "land use"-driven emissions inventory sectors.

Step 5. Forecast new land use development for the Bay Area using DOF/EDD projections for all land use types. Translate the land use development projections into land use categories consistent with those contained in the Urban Emissions Model (URBEMIS).

Step 6. Apply BAAQMD's CEQA database to projected new land use development to determine the frequency distribution of project sizes and types that would be expected to see come through the CEQA process in the SFBAAB between 2010 and 2020.

Step 7. Estimate the amount of GHG emissions that can be eliminated through mitigation measures for all land use development projects subject to CEQA ("mitigation effectiveness") compared to BAU conditions.

Step 8. Conduct a sensitivity analysis of the numeric GHG mass emissions threshold needed to achieve the desired emissions reduction (i.e., "gap") determined in Step 4. This mass emission GHG threshold is that which would be needed to achieve the emissions reduction necessary by 2020 to fill the Bay Area's fair share of the statewide "gap" in emissions reduction needed from the "land use"-driven emissions inventory sectors to meet AB 32 goals.

Basis and Analysis

Derivation of Greenhouse Gas Reduction Goal

To meet the target emissions limit established in AB 32 (equivalent to levels in 1990), total GHG emissions would need to be reduced by approximately 28 percent from projected 2020 forecasts (ARB 2009a). The AB 32 Scoping Plan is ARB's plan for meeting this mandate (ARB 2008). While the Scoping Plan does not specifically identify GHG emission reductions from the CEQA process for meeting AB 32 derived emission limits, the scoping plan acknowledges that "other strategies to mitigate climate change . . . should also be explored." The Scoping Plan also acknowledges that "Some of the measures in the plan may deliver more emission reductions than we expect; others less . . . and new ideas and strategies will emerge." In addition, climate change is considered a significant environmental issue and, therefore, warrants consideration under CEQA. SB 97 represents the State Legislature's confirmation of this fact, and it directed the Governor's Office of Planning and Research (OPR) to develop CEQA Guidelines for evaluation of GHG emissions impacts and recommend mitigation strategies. In response, OPR released the *Technical Advisory: CEQA and Climate Change* (OPR 2008), and has released proposed CEQA guidelines (April 14, 2009) for consideration of GHG emissions. It is known

that new land use development must also do its fair share toward achieving AB 32 goals (or, at a minimum, should not hinder the State's progress toward the mandated emission reductions).

Foreseeable Emission Reductions from the Scoping Plan Measures

As stated above, to meet the requirements set forth in AB 32 (i.e., achieve California's 1990-equivalent GHG emissions levels by 2020) California would need to achieve an approximate 28 percent reduction in emissions across all sectors of the GHG emissions inventory compared with 2020 projections. However, to meet the AB 32 reduction goals in the emissions sectors that are related to land use development (e.g., on-road passenger and heavy-duty motor vehicles, commercial and residential area sources [i.e., natural gas], electricity generation/consumption, wastewater treatment, and water distribution/consumption), California would need to achieve an approximate 26 percent reduction in GHG emissions from these "land use-driven" sectors (ARB 2009a) by 2020. GHG emission reductions within these land use-driven sectors that are anticipated to occur from implementation of the Scoping Plan measures statewide are summarized in Table 15. Since the GHG emission reductions anticipated with the Scoping Plan were not accounted for in ARB's or BAAQMD's 2020 GHG emissions inventory forecasts (i.e., business as usual), an adjustment was made to include (i.e., give credit for) GHG emission reductions associated with key Scoping Plans measures, such as the Renewable Portfolio Standard, improvements in energy efficiency through periodic updates to Title 24, AB 1493 (Pavley) (which recently received a federal waiver to allow it to be enacted in law), the Low Carbon Fuel Standard (LCFS), and other measures. With reductions from these State regulations (Scoping Plan measures) taken into consideration, the Bay Area would still need to achieve a 2.3 percent reduction from projected 2020 GHG emissions to meet the 1990 GHG emissions goal from these "land-use driven" sectors. Refer to Tables 15 through 17 for data used in this analysis and Appendix C for detailed calculations.

Table 15 - California 1990, 2002-2004, and 2020 GHG Emissions Inventories and Projections[1]				
Sector	1990 Emissions (MMT CO_2e/yr)	2002-2004 Average (MMT CO_2e /yr)	2020 BAU Emissions Projections (MMT CO_2e/yr)	% of 2020 Total
Transportation	**137.98**	**168.66**	**209.06**	**52%**
On-Road Passenger Vehicles	108.95	133.95	160.78	40%
On-Road Heavy Duty	29.03	34.69	48.28	12%
Electric Power	**110.63**	**110.04**	**140.24**	**35%**
Electricity	95.39	88.97	107.40	27%
Cogeneration[2]	15.24	21.07	32.84	8%
Commercial and Residential	**44.09**	**40.96**	**46.79**	**12%**
Residential Fuel Use	29.66	28.52	32.10	8%
Commercial Fuel Use	14.43	12.45	14.63	4%
Recycling and Waste[1]	**2.83**	**3.39**	**4.19**	**1%**
Domestic Waste Water Treatment	2.83	3.39	4.19	1%
TOTAL GROSS EMISSIONS	**295.53**	**323.05**	**400.22**	
% Reduction Goal from Statewide land use driven sectors (from 2020 levels to reach 1990 levels within these emission inventory sectors)			26.2%	
% Reduction from AB32 Scoping Plan measures applied to land use sectors (see Table 16)			-23.9%	
% Reduction needed statewide beyond Scoping Plan measures (Gap)			2.3%	

Notes: MMT CO_2e /yr = million metric tons of carbon dioxide equivalent emissions per year.

[1] Landfills not included. See text.

[2] Cogeneration included due to many different applications for electricity, in some cases provides substantial power for grid use, and because electricity use served by cogeneration is often amenable to efficiency requirements of local land use authorities. Please refer to Appendix D for detailed calculations. Sources: Data compiled by EDAW and ICF Jones & Stokes from ARB data.

Table 16 - GHG Emission Reductions from State Regulations and AB-32 measures (2020)				
Affected Emissions Source	California Legislation	% Reduction from 2020 GHG inventory	End Use Sector (% of Bay Area LU Inventory)	Scaled % Emissions Reduction (credit)
Mobile	AB 1493 (Pavley)	19.7%	On road passenger/light truck transportation (45%)	8.9%
	LCFS	7.2%	On road passenger/light truck transportation (45%)	3.2%
	LCFS	7.2%	On road Heavy/Medium Duty Transportation (5%)	0.4%
	Heavy/Medium Duty Efficiency	2.9%	On road Heavy/Medium Duty Transportation (5%)	0.2%
	Passenger Vehicle Efficiency	2.8%	On road passenger/light truck transportation (45%)	1.3%
Area	Energy-Efficiency Measures	9.5%	Natural gas (Residential, 10%)	1.0%
			Natural gas (Non-residential,13%)	1.2%
Indirect	Renewable Portfolio Standard	21.0%	Electricity (excluding cogen) (17%)	3.5%
	Energy-Efficiency Measures	15.7%	Electricity (26%)	4.0%
	Solar Roofs	1.5%	Electricity (excluding cogen) (17%)	0.2%
Total credits given to land use-driven emission inventory sectors from Scoping Plan measures				**23.9%**

Notes: AB = Assembly Bill; LCFS = Low Carbon Fuel Standard; SB = Senate Bill; RPS = Renewable Portfolio Standard
Please refer to Appendix D for detailed calculations. Sources: Data compiled by ICF Jones & Stokes.

Table 17 - Basin 1990, 2007, and 2020 GHG Emissions Inventories and Projections				
Sector	1990 Emissions (MMT CO_2e /yr)	2007 Emissions (MMT CO_2e /yr)	2020 Emissions Projections (MMT CO_2e /yr)	% of 2020 Total[2]
Transportation	**26.1**	**30.8**	**35.7**	**50%**
On-Road Passenger Vehicles	23.0	27.5	32.0	
On-Road Heavy Duty	3.1	3.3	3.7	
Electric Power	**25.1**	**15.2**	**18.2**	**26%**
Electricity	16.5	9.9	11.8	
Cogeneration	8.6	5.3	6.4	
Commercial and Residential	**8.9**	**15.0**	**16.8**	**24%**
Residential Fuel Use	5.8	7.0	7.5	
Commercial Fuel Use	3.1	8.0	9.3	
Recycling and Waste[1]	**0.2**	**0.4**	**0.4**	**1%**
Domestic Waste Water Treatment	0.2	0.4	0.4	
TOTAL GROSS EMISSIONS	**60.3**	**61.4**	**71.1**	
SFBAAB's "Fair Share" % Reduction (from 2020 levels to reach 1990 levels) with AB-32 Reductions (from Table 16)			23.9%	
SFBAAB's Equivalent Mass Emissions Land Use Reduction Target at 2020			1.6	

Notes: MMT CO_2e /yr = million metric tons of carbon dioxide equivalent emissions per year; SFBAAB = San Francisco Bay Area Air Basin.
[1] Landfills not included.
[2] Percentages do not sum exactly to 100% in table due to rounding.
Please refer to Appendix D for detailed calculations.
Sources: Data compiled by EDAW 2009, ICF Jones & Stokes 2009, BAAQMD 2008.

Because the transportation sector is the largest emissions sector of the state's GHG emissions inventory, it is aggressively targeted in early actions and other priority actions in the Scoping Plan including measures concerning gas mileage (Pavley), fuel carbon intensity (LCFS) and vehicle efficiency measures.

The AB 32 Scoping Plan assigns an approximate 20 percent reduction in emissions from passenger vehicles associated with the implementation of AB 1493. The AB 32 Scoping Plan also notes that "AB 32 specifically states that if the Pavley regulations do not remain in effect, ARB shall implement alternative regulations to control mobile sources to achieve equivalent or greater reductions of greenhouse gas emissions (HSC §38590)." Thus, it is reasonable to assume full implementation of AB 1493 standards, or equivalent programs that would be implemented by ARB. While the Obama administration has proposed national CAFÉ standards that may be equivalent to or even surpass AB 1493, the timing for implementation of the proposed federal standards is uncertain such that development of thresholds based on currently unadopted federal standards would be premature. BAAQMD may need to revisit this methodology as the federal standards come on line, particularly if such standard are more aggressive than that forecast under state law.

According to the adopted LCFS rule (CARB, April 2009), the LCFS is expected to result in approximately 10 percent reduction in the carbon intensity of transportation fuels. However, a portion of the emission reductions required from the LCFS would be achieved over the life cycle of transportation fuel production rather than from mobile-source emission factors. Based on CARB's estimate of nearly 16 MMT reductions in on-road emissions from implementation of the LCFS and comparison to the statewide on-road emissions sector, the LCFS is assumed to result in a 7.2 percent reduction compared to 2020 BAU conditions (CARB 2009e).

Energy efficiency and renewable energy measures from the Scoping Plan were also included in the gap analysis. The Renewable Portfolio Standard (rules) will require the renewable energy portion of the retail electricity portfolio to be 33 percent in 2020. For PG&E, the dominant electricity provider in the Basin, approximately 12

percent of their current portfolio qualifies under the RPS rules and thus the gain by 2020 would be approximately 21 percent. The Scoping Plan also estimates that energy efficiency gains with periodic improvement in building and appliance energy standards and incentives will reach 10 to 15 percent for natural gas and electricity respectively. The final state measure included in this gap analysis is the solar roof initiative, which is estimate to result in reduction of the overall electricity inventory of 1.5 percent.

Landfill emissions are excluded from this analysis. While land use development does generate waste related to both construction and operations, CIWMB has mandatory diversion requirements that will, in all probability, increase over time to promote waste reductions, reuse, and recycle. The Bay Area has relatively high levels of waste diversion and extensive recycling efforts. Further, ARB has established and proposes to increase methane capture requirements for all major landfills. Thus, at this time, landfill emissions associated with land use development waste generation is not included in the land use sector inventory used to develop this threshold approach.

Industrial stationary sources thresholds were developed separately from the land use threshold development using a market capture approach as described below. However, mobile source and area source emissions, as well as indirect electricity emissions that derive from industrial use are included in the land use inventory above as these particular activities fall within the influence of local land use authorities in terms of the influence on trip generation and energy efficiency.

It should be noted that the "gap approach" used for threshold development is a conservative approach focusing on a limited set of state mandates that appear to have greatest promise in reducing land use development GHG emissions at this time. BAAQMD will need to reconsider this gap approach over time as the effectiveness of state implementation of AB 32 (and SB 375) progresses to address the need for and extent of GHG reductions required from local land use development over and above that being addressed through both federal and state mandates.

Threshold Development

AB 32 mandates (reduction to 1990-equivalent GHG levels by 2020), with foreseeable emission reductions from State regulations and key Scoping Plan measures taken into account, were applied to the "land use-driven" emission sectors within the SFBAAB (i.e., those that are included in the quantification of emissions from a land use project pursuant to a CEQA analysis [on-road passenger vehicles, commercial and residential natural gas, commercial and residential electricity consumption, and domestic waste water treatment], as directed by OPR in the Technical Advisory: *Climate Change and CEQA* [OPR 2008]). This translates to 2.3 percent gap in necessary GHG emission reductions by 2020 from these sectors.

Applying a 2.3 percent reduction to these land use emissions sectors in the SFBAAB's GHG emissions inventory would result in an equivalent fair share of 1.6 million metric tons per year (MMT/yr) reductions in GHG emissions from new land use development. As additional regulations and legislation aimed at reducing GHG emissions from land use-related sectors become available in the future, the 1.6 MMT GHG emissions reduction goal may be revisited and recalculated by BAAQMD.

A projected development inventory for the next ten years in the SFBAAB was calculated in the same manner as described above under the *Operational-Related Criteria Air Pollutants and Precursors* section (see above and refer to Exhibit 1). CO_2e emissions were modeled for projected development in the SFBAAB and compiled to estimate the associated GHG emissions inventory. The GHG (i.e., CO_2e) CEQA threshold level was adjusted for projected land use development that would occur within BAAQMD's jurisdiction over the period from 2010 through 2020.

Option 1A: Quantitative Threshold (Bright Line)

Option 1A involves using a numeric mass emissions significance threshold. If project-generated GHG emissions would be greater than the mass emissions level, the impact would be significant and mitigation would be required.

If project-generated emissions were below the mass emissions level, no CEQA related mitigation measures would be required. This option is consistent with significance thresholds recommended by air districts throughout the State for criteria pollutants. Establishing a "bright line" to determine the significance of a project's GHG emission impact provides a level of certainty to lead agencies in determining if a project needs to reduce its GHG emissions through mitigation measures and when an EIR is required.

Projects with emissions greater than the threshold would be required to mitigate to the threshold level or reduce project emissions by a fixed percentage compared to a base year condition. The base year condition is defined by an equivalent size and character of project with annual emissions using the defaults in URBEMIS and the California Climate Action Registry's General Reporting Protocol for 2008. By this method, land use project mitigation subject to CEQA would help close the "gap" remaining after application of the key regulations and measures noted above supporting overall AB 32 goals.

The Sensitivity Analysis (Table 18) conducted for Option 1 demonstrates various mass emissions significance threshold levels (i.e., bright lines) that could be chosen based on the mitigation effectiveness and performance anticipated to be achieved per project to meet the aggregate emission reductions of 1.6 MMT needed in the SFBAAB by 2020. Choosing a 1,100 MT mass emissions (equivalent to approximately 60 single-family units), significance threshold level from Option 1 would result in about 59 percent of all projects being above the significance threshold and having to implement feasible mitigation measures to meet their CEQA obligations. These projects account for approximately 92 percent of all GHG emissions anticipated to occur between now and 2020 from new land use development.

Project applicants and lead agencies could use readily available computer models to estimate a project's GHG emissions, based on project specific attributes, to determine if they are above or below the bright line numeric threshold. With this threshold, projects that are above the threshold level would have to reduce their emissions to below the threshold.

Option 1B: Performance Standards-Only Threshold

Option 1B involves implementation of performance standards by all projects subject to CEQA that are not categorically or statutorily exempt that would achieve a minimum 26 percent emissions reduction from all projects. If the project would implement performance measures to achieve the minimum performance standard of 26 percent reduction in GHG emissions, the impact would be considered less than significant. The rationale for this approach is based on the analysis of the OPR identified land use-driven GHG emissions inventory sectors in ARB's statewide GHG emissions inventory that identified the total amount of emissions reduction needed statewide to meet AB32 goals.

The sensitivity analysis (Table 18) indicates, at least theoretically, that requiring all projects to achieve a 26 percent emissions reduction would result in the SFBAAB exceeding its fair share of the emission reductions needed to meet the statewide 2020 GHG emission reduction goal. However, it should be noted that all projects (100 percent) subject to CEQA would have to calculate their unmitigated GHG emissions, or baseline, and then identify mitigation measures to reduce 26 percent of those emissions. It could prove difficult for the smallest of projects to implement sufficient mitigation measures to reduce their GHG emissions by 26 percent, thereby requiring these smaller projects to prepare an EIR for no other impacts than GHG emissions and climate change. In addition, due to economies of scale, larger projects could more efficiently mitigate GHG emission reductions.

Table 18 - Operational GHG Threshold Option 1A/1B/1C Sensitivity Analysis								
Option	Mitigation Effectiveness Assumptions		Mass Emission Threshold Level (MT CO_2e/yr)	% of Projects Captured (>threshold)	% of Emissions Captured (> threshold)	Emissions Reduction per year (MT/yr)	Aggregate Emissions Reduction (MMT) at 2020	Threshold Project Size Equivalent (single family dwelling units)
	Performance Standards Applied to All Projects with Emissions < Threshold Level	Mitigation Effectiveness Applied to Emissions > Threshold Level						
1A	N/A	30%	975	60%	93%	201,664	2.0	53
1A	N/A	25%	110	96%	100%	200,108	2.0	66
1A	N/A	30%	1,225	21%	67%	159,276	1.6	67
1A	N/A	26%	1,100	59%	92%	159,877	1.6	60
1A	N/A	30%	2,000	14%	61%	143,418	1.4	109
1A	N/A	25%	1,200	58%	92%	136,907	1.4	66
1A	N/A	30%	3,000	10%	56%	127,427	1.3	164
1A	N/A	25%	1,500	20%	67%	127,303	1.3	82
1B	26%	N/A	N/A	100%	100%	208,594	2.1	N/A[1]
1C	5%	30%	1,900	15%	62%	160,073	1.6	104
1C	10%	25%	1,250	21%	67%	159,555	1.6	68
1C	5%	30%	3,000	10%	56%	145,261	1.5	164
1C	10%	25%	2,000	4%	61%	151,410	1.5	109
1C	10%	30%	10,000	2%	33%	125,271	1.3	547

Notes: MMT = million metric tons per year; MT CO_2e/yr = metric tons of carbon dioxide equivalent emissions per year; MT/yr = metric tons per year; N/A = not applicable.
[1] Any project subject to CEQA would trigger this threshold.
Please refer to Appendix E for detailed calculations.
Source: Data modeled by ICF Jones & Stokes.

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Option 1B would require provision of guidance to project applicants and lead agencies on how to calculate a project's unmitigated baseline GHG emissions and the amount of emission reductions that could be taken credit for with each separate mitigation measure proposed for implementation.

Option 1C: Combination of Performance Standards and Numeric Threshold

Option 1C involves using a combination of a minimum performance standard for all projects and a mass emissions threshold.

All projects that would result in GHG emissions would be required to reduce emissions by a minimum of 5 percent (compared to the base year condition) to be considered less than significant. The minimum amount of 5 percent was chosen because it is relatively easy to achieve 5 percent reduction in operational GHG emissions through implementation of relatively few performance measures. This amount would be achievable for projects not located along transit or bicycle infrastructure, which have historically achieved greater emission reductions. Sources of information cited in the report by the California Air Pollution Control Officers Association (CAPCOA) entitled CEQA and Climate Change indicate that there are measures and methods for quantification of mitigation effectiveness that can achieve the minimum 5 percent reduction in GHG emissions (CAPCOA 2008).

Projects that are above the mass emissions threshold would have to either reduce their emissions to below the threshold or by a minimum of 30 percent compared to the base year condition.

The results of the sensitivity analysis presented in Table 18 for Option 1C suggest that a mass emission CEQA threshold of <1,900 MT/yr (equivalent to approximately 104 single family dwelling units) combined with a mitigation effectiveness of 30 percent for projects over the threshold and 5 percent from all projects would be needed to achieve the requisite emissions capture to reach 1.6 MMT CO_2e of GHG emissions reduction by 2020.

Option 1D: GHG Efficiency Standard Approach

As discussed in Section 4.3.2 below, GHG efficiency metrics can also be utilized as thresholds to assess the GHG efficiency of a project on a per capita basis (residential only projects) or on a "service population" basis (the sum of the number of jobs and the number of residents provided by a project) . GHG efficiency metrics were developed in Section 4.3.2 for the emissions rates at the State level for the land use sector that would accommodate projected growth (as indicated by population and employment growth) under trend forecast conditions, and the emission rates needed to accommodate growth while allowing for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020). The resultant GHG efficiency metrics for this option would be 6.7 MT CO_2e/capita or 4.6 MT CO_2e/SP. A project with GHG emissions per capita or per service population less than these metrics would be considered less than significant. This approach would only apply to mixed use or residential only projects and would not apply to commercial or industrial projects.

4.2.3.4 Option 2: California Air Resources Board Tiered Threshold Approach

This option would involve implementation of the CEQA threshold(s) that have been conceptually developed by ARB in coordination with OPR, in response to SB 97 requirements.

Pursuant to SB 97, OPR was directed to develop CEQA mitigation guidelines for GHG emissions. OPR looked to ARB for technical expertise in the development, and evidence in support, of these thresholds. ARB released its draft interim CEQA thresholds concepts for industrial, commercial, and residential projects for public comment in October 2008.

ARB proposed a tiered approach as follows:

- Tier 1 - If the project is statutorily or categorically exempt from CEQA, it would be considered to result in a less-than-significant impact for GHG emissions.
- Tier 2 - If the project is consistent with an ARB-approved SCS developed pursuant to SB 375, it would be considered to result in a less-than-significant impact for GHG emissions.
- Tier 3A - For industrial projects (i.e., projects that would apply for air district permits), if the project would implement prescriptive performance standards related to construction and mobile-source operational GHG emissions, and meet a mass emissions threshold of 7,000 MT CO_2e/yr, it would be considered to result in a less-than-significant impact for GHG emissions.
- Tier 3B - For residential and commercial projects, if the project would implement a series of prescriptive performance measures addressing GHG emissions from construction, mobile sources, energy consumption, water consumption, and solid waste, and meet a mass emissions threshold (which is still under development and was not provided in the interim threshold draft) it would be considered to result in a less-than-significant impact for GHG emissions.

As of the time of writing, ARB is still accepting public comments on these draft options, and has not suggested a timeline for revision or adoption (ARB 2009b).

4.2.3.5 OPTION 3: BACT APPROACH

Quantitative evaluation of construction emissions would not be required for GHGs. Instead, all projects would be required to implement BACT to reduce GHGs. BACT would need to be developed by BAAQMD and would need to be updated periodically to reflect changes in technology, feasibility, and cost-effectiveness. Initial BACT standards could include, but need not be limited to the following: building energy efficiency, integration of renewable energy into project, waste minimization and reuse, water efficiency, alternative modes of travel. This approach would be labor intensive for BAAQMD staff and would involve the District in issues normally addressed by local land use authorities.

4.2.3.6 OPTION 4: TIERED THRESHOLD APPROACH

This option would be similar to Option 1A, except it would include two tiers of evaluation.

The first tier of evaluation would be whether the project is consistent with a qualified climate action plan or an adopted SCS/APS under SB 375 that addresses the project.

A qualified climate action plan must have the characteristics described below under Plan-Level GHG Thresholds.

A SCS (or APS) adopted pursuant to SB 375 must have the following characteristics:

- must meet the ARB identified reduction target;
- must have been adopted by the Metropolitan Transportation Organization (MPO); and
- certification of the EIR for the associated Regional Transportation Plan (RTP) must be completed.

If the project is consistent with a qualified Climate Action Plan, then the GHG emissions of the project would be less than significant. Projects that are found to not be consistent with an adopted Climate Action Plan would be reviewed against a quantitative threshold, as in Option 1A.

A project that is consistent with a SB 375 Sustainable Communities Strategy or Alternative Planning Strategy would be considered less than significant for transportation-related GHG emissions, but not necessarily for other GHG emissions. Review against the bright-line threshold, as in Option 1A, would still be required. Given that transportation emissions are often the largest source of GHG emissions for land use sector projects, it is expected that projects consistent with a SB 375 plan would more readily demonstrate compliance with the mitigation requirements in this threshold.

4.2.3.7 STATIONARY SOURCE GHG THRESHOLD

Two GHG threshold options were developed for stationary sources as discussed below using a "market-capture" approach.

Stationary Option 1: Natural Gas Only-Based Threshold Approach

Staff compiled reported annual natural gas consumption for 1,154 permitted facilities for 2007 and rank-ordered the facilities to estimate the 90th percentile of the cumulative natural gas usage for all permitted facilities. Figure 1 shows that approximately 4 percent of facilities evaluated comprise more than 90 percent of the total natural gas consumption. The threshold which would capture this 4 percent of facilities corresponds to 18,000 metric tons per year (tpy) of CO_2 emissions. If the screening threshold of 18,000 MT CO_2e/yr were implemented, based on the permitting activities for 2007, it would have resulted in 6 projects that would mandate a MNDs or EIR to be prepared by the BAAQMD as the lead agency unless another tier option is selected to demonstrate no significant impacts for GHG emissions[7]. It should be noted that this analysis did not include other possible GHG pollutants such as methane, N_2O; a life-cycle analysis; mobile sources; or indirect electricity consumption. Therefore, under an 18,000 MT CO_2e/yr screening level, a few more projects would be required to go through an MND or EIR environmental analysis than is currently the case. Furthermore, when the BAAQMD acts as a lead agency, the stationary source equipment employed as part of the proposed project typically must comply with BACT or other BAAQMD rules, regulations, programs that require reducing criteria pollutants or air toxics.

Stationary Option 2: All Combustion Emissions Threshold Approach

This approach is based on estimating the GHG emissions from combustion sources for all permit applications submitted to the Air District in 2005, 2006 and 2007. The analysis is based only on CO_2 emissions from stationary sources, as that would cover the vast majority of the GHG emissions due to stationary combustion sources in the SFBAAB. The estimated CO_2 emissions were calculated for the maximum permitted amount, i.e. emissions that would be emitted if the sources applying for a permit application operate at maximum permitted load and for the total permitted hours. All fuel types are included in the estimates. For boilers burning natural gas, diesel fuel is excluded since it is considered a backup fuel and is used only if natural gas is not available. Emission values are estimated before any offsets (i.e., Emission Reduction Credits) are applied. GHG emissions from mobile sources, electricity use and water delivery associated with the operation of the permitted sources are not included in the estimates.

It is projected that a threshold level of 10,000 metric tons of CO_2e per year would capture approximately 95% of all GHG emissions from stationary sources in the SFBAAB. That threshold level was calculated as an average of

[7] In 2005, three projects went through the CEQA process with BAAQMD as the lead.

the combined CO_2 emissions from all stationary source permit applications submitted to the Air District during the three year analysis period.

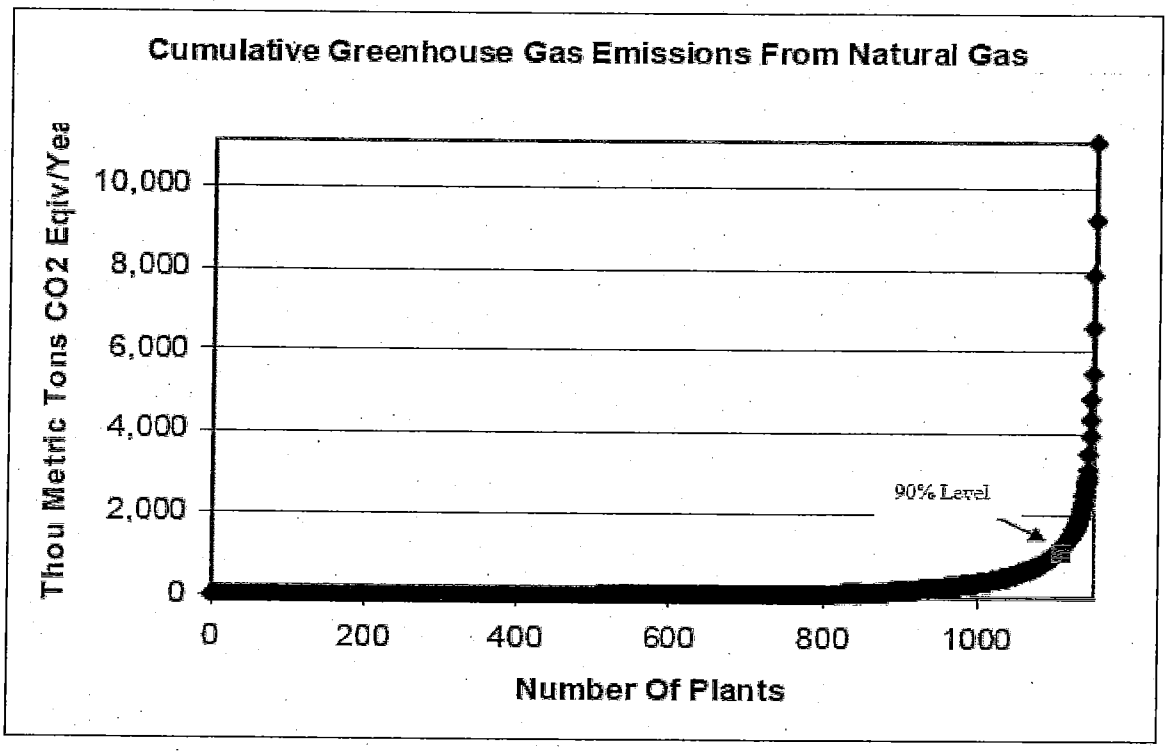


Figure 1: Natural Gas Combustion Emissions from Stationary Sources in the SFBAAB

4.2.3.8 STAFF RECOMMENDATIONS AND JUSTIFICATION

Land Use Sector Threshold Recommendation and Justification

As shown in Table 18 and described in text above, the analysis for this threshold evaluated several combinations of performance standards, mitigation effectiveness, and mass emissions levels. The percent of project and emission capture for each option is identified in Table 18 along with the aggregate emissions reduction, which ranges from 1.3 to 2.1 MMT in 2020. Although there is an inherent amount of uncertainty in these capture rates and the aggregate emission reductions, they are based on the best available data and assume a conservative approach to the amount of reductions from legislation in derivation of the goal (e.g., adopted only).

BAAQMD staff recommends a combination of Option 1A and Option 1D as an interim approach for determining the significance of a land-use project's greenhouse gas emissions until such time as Climate Action Plans and SCSs/APSs are adopted that can be used for this purpose. When the MTC RTP is completed in 2012, along with adoption of a SCS (and possibly an APS), municipalities throughout the Bay Area could analyze consistency with the SCS/APS as a significance threshold. As an interim threshold for use until a qualifying Climate Action Plan, SCS, and/or APS is adopted, staff recommends a bright-line numeric threshold of 1,100 MT CO_2e/yr as described in Option 1A as a numeric emissions level below which a project's contribution to global climate change would be less than "cumulatively considerable." This emissions rate is equivalent to a project size of approximately 60

single-family dwelling units, and approximately 59 percent of all future projects and 92 percent of all emissions from future projects would exceed this level. For projects that are above this bright-line cutoff level, emissions from these projects would still be less than cumulatively significant if the project as a whole would result in an efficiency of 6.7 MT CO_2e per capita or better for residential projects; or 4.6 MT CO_2e per service population or better for mixed-use projects. Projects with emissions above 1,100 MT CO_2e/yr would therefore still be less than significant if they achieved project efficiencies below these levels. If projects as proposed exceed these levels, they would be required to implement mitigation measures to bring them back below the 1,100 MT CO_2e/yr bright-line cutoff or within the 6.7 MT CO_2e per capita/4.6 MT CO_2e Service Population efficiency threshold. If mitigation did not bring a project back within the threshold requirements, the project would be cumulatively significant and could be approved only with a Statement of Overriding Considerations and a showing that all feasible mitigation measures have been implemented.

As explained in the preceding analyses of these options, the greenhouse gas emissions from land use projects expected between now and 2020 built in compliance with these thresholds would be approximately 26 percent below BAU 2020 conditions and thus would be consistent with achieving an AB 32 equivalent reduction. The 26 percent reduction from BAU 2020 from new projects built in conformance with these proposed thresholds would achieve an aggregate reduction of approximately 1.6 MMT CO_2e/yr, which is the "fair share" of emission reductions from Bay Area land use sources needed to meet the AB 32 goals, per ARB's Scoping Plan as discussed above.

Projects with greenhouse gas emissions in conformance with these proposed thresholds would therefore not be considered significant for purposes of CEQA. Although the emissions from such projects would add an incremental amount to the overall greenhouse gas emissions that cause global climate change impacts, emissions from projects consistent with these thresholds would not be a "cumulatively considerable" contribution under CEQA. Such projects would not be "cumulatively considerable" because they would be helping to solve the cumulative problem as a part of the AB 32 process. California's response to the problem of global climate change is to reduce greenhouse gas emissions to 1990 levels by 2020 under AB 32 as a near-term measure and ultimately to 80 percent below 1990 levels by 2050 as the long-term solution to stabilizing greenhouse gas concentrations in the atmosphere at a level that will not cause unacceptable climate change impacts. To implement this solution, the Air Resources Board has adopted a Scoping Plan and budgeted emissions reductions that will be needed from all sectors of society in order to reach the interim 2020 target. The land-use sector in the Bay Area needs to achieve aggregate emission reductions of approximately 1.6 MMT CO_2e/yr from new projects between now and 2020 to achieve this goal, as noted above, and each individual new project will need to achieve its own respective portion of this amount in order for the Bay Area land use sector as a whole to achieve its allocated emissions target. Building all of the new projects expected in the Bay Area between now and 2020 in accordance with the thresholds that District staff are proposing will achieve the overall "fair share" for the land use sector, and building each individual project in accordance with the proposed thresholds will achieve that individual project's respective portion of the emission reductions needed to implement the AB 32 solution. For these reasons, projects built in conformance with the proposed thresholds will be part of the solution to the cumulative problem, and not part of the continuing problem. They will allow the Bay Area's land use sector to achieve the emission reductions necessary from that sector for California to implement its solution to the cumulative problem of global climate change. As such, even though such projects will add an incremental amount of greenhouse gas emissions, their incremental contribution will be less than "cumulatively considerable" because they are helping to achieve the cumulative solution, not hindering it. Such projects will therefore not be "significant" for purposes of CEQA. (*See* CEQA Guidelines § 15064(h)(1).)

The conclusion that land use projects that comply with these proposed thresholds is also supported by CEQA Guidelines Section 15030(a)(3), which provides that a project's contribution to a cumulative problem can be less that cumulatively considerable "if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact." In the case of greenhouse gas emissions associated with land use projects, achieving the amount of emission reductions below BAU that will be required

to achieve the AB 32 goals is the project's "fair share" of the overall emission reductions needed under ARB's scoping plan to reach the overall statewide AB 32 emissions levels for 2020. If a project is designed to implement greenhouse gas mitigation measures that achieve a level of reductions consistent with what is required from all new land use projects to achieve the land use sector "budget" – *i.e.*, keeping overall project emissions below 1,100 MT CO_2e/yr or ensuring that project efficiency is better than 6.7 MT CO_2e per capita for residential projects or 4.6 MT CO_2e Service Population for mixed-use projects – then it will be implementing its "fair share" of the mitigation measures necessary to alleviate the cumulative impact, as shown in the analyses set forth above.

It is also worth noting that this "fair share" approach is flexible and will allow a project's significance to be determined by how well it is designed from a greenhouse-gas efficiency standpoint, and not just by the project's size. For example, a large high-density infill project located in an urban core nearby to public transit and other alternative transportation options, and built using state-of-the-art energy efficiency methods and improvements such as solar panels, as well as all other feasible mitigation measures, would not become significant for greenhouse gas purposes (and thus require a statement of overriding considerations in order to be approved) simply because it happened to be a large project. Projects such as this hypothetical development with low greenhouse-gas emissions per capita are what California will need in the future in order to do its part in achieving a solution to the problem of global climate change. The determination of significance under CEQA should therefore take these factors into account, and staff's proposed significance thresholds would achieve this important policy goal.

Stationary Source Threshold Recommendation and Justification

For stationary sources, staff recommends Stationary Option 2 as it would address a broad range of combustion sources and thus provide for a greater amount of GHG reductions to be captured and mitigated through the CEQA process. As documented in the Scoping Plan, in order to achieve statewide reduction targets, emissions reductions need to be obtained through a broad range of sources throughout the California economy and Stationary Option 2 would achieve this purpose better than the more limited Stationary Option 1.

This threshold would be considered an interim threshold and Air District staff will reevaluate the threshold as AB 32 Scoping Plan measures such as Cap and Trade are more fully developed at the state level.

4.2.4 LOCAL COMMUNITY RISK AND HAZARD IMPACTS

Phase 1 of the BAAQMD's Community Air Risk Evaluation (CARE) Program compiled and analyzed a regional emissions inventory of toxic air contaminants (TACs), including emissions from stationary sources, area sources, and on-road and off-road mobile sources. Phase 2 of the CARE Program conducted regional computer modeling of selected TAC species, species which collectively posed the greatest risk to Bay Area residents. In both Phases 1 and 2 demographic data were combined with estimates of TAC emissions and concentrations to identify communities that are disproportionally impacted from high concentrations of TACs.

The TAC modeling was performed on a regular grid with one kilometer resolution covering the Bay Area to identify areas that are cumulatively impacted from sources of TACs.

The modeling yielded estimates of annual concentrations of five key compounds—diesel particulate matter, benzene, 1,3-butadiene, formaldehyde, and acetaldehyde—for year 2005. These concentrations were multiplied by their respective unit cancer risk factors, as established by the State's Office of Environmental Health Hazard Assessment (OEHHA) to estimate the expected excess cancer risk per million people from these compounds.

The datasets compiled to identify impacted communities were determined as follows:

- **Exposure of sensitive populations:** Sensitive populations from the 2000 U.S. Census database were identified as youth (under 18) and seniors (over 64) and mapped to the same one kilometer grid used for the toxics modeling. Excess cancers from TAC exposure were determined by multiplying these sensitive populations by the model-estimated excess risk to establish a data set representing sensitive populations with high TAC exposures.

- **TAC emissions:** TAC emissions (year 2005) were mapped to the one kilometer grid and also scaled by their unit cancer risk factor to provide a data set representing source regions for TAC emissions.

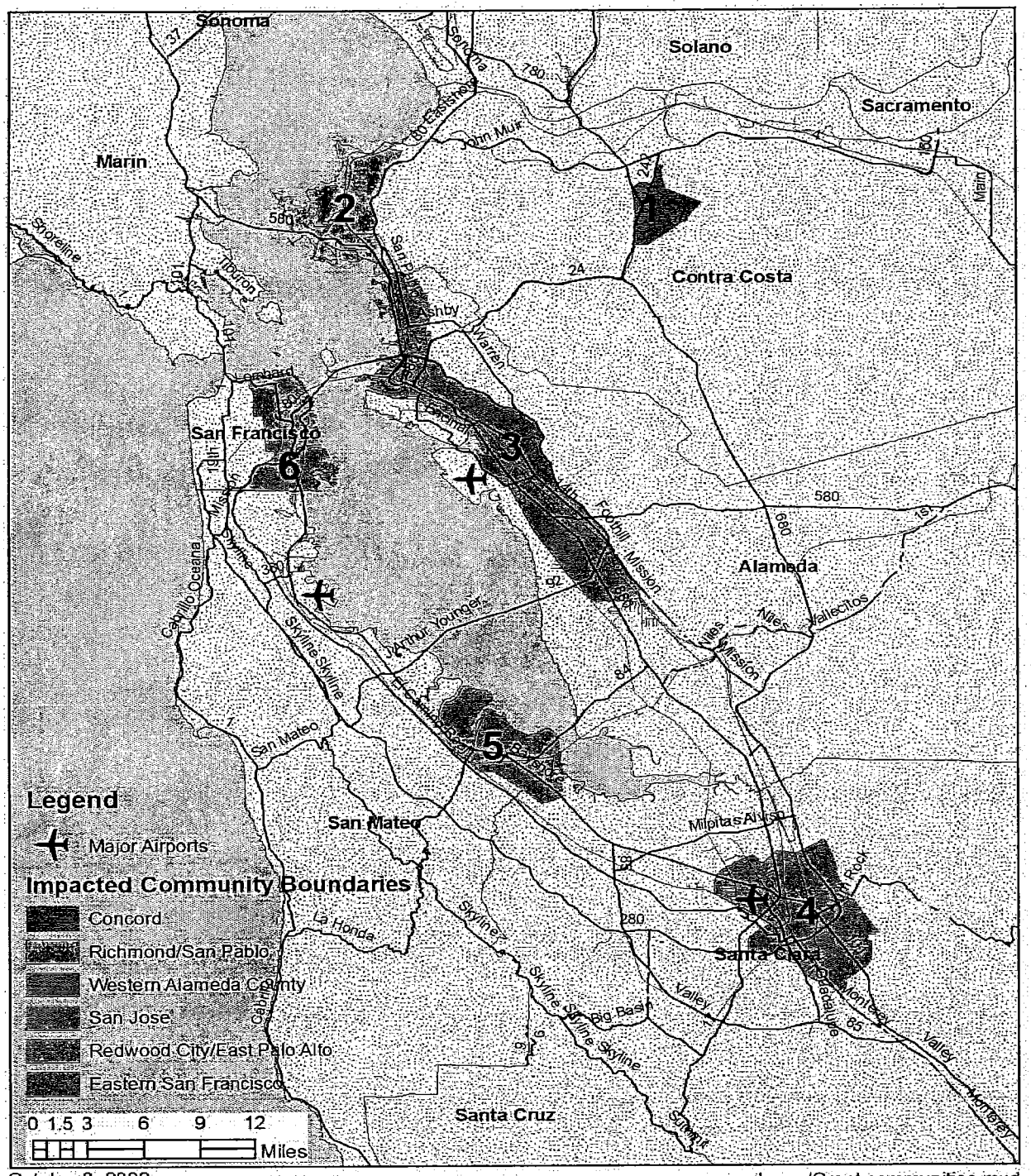
- **Poverty-level:** Block-group level household income data from the U.S. Census database were used to identify block groups with family incomes where more than 40 percent of the population was below 185 percent of the federal poverty level (FPL).

The impacted communities currently identified by the Air District's CARE program (Figure 2) are exemplary of the type of community where Community Risk Reduction Plans (CRRPs) discussed below are intended to be developed and implemented. Agencies are encouraged to contact the Air District to ensure that the most current CARE community designations are used for identifying areas in need of CRRPs. The Air District will also assist agencies to identify other impacted communities within their jurisdiction based on the above criteria.

According to the findings of the CARE Program, diesel PM—mostly from on and off-road mobile sources—accounts for about 80 percent of the inhalation cancer risk from TACs in the Bay Area. The highest diesel PM emissions occur in the urban core areas of Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose (BAAQMD 2006). The highest cancer risk levels from ambient TAC in the SFBAAB also tend to occur in the core urban areas, along major roadways and adjacent to freeways (Figure 3). Cancer risks in areas along these major freeways are estimated to range from 200 to over 500 excess cases in a million. Typical annual average ambient levels of diesel PM in the Bay Area are approximately 1.3 micrograms per cubic meter ($\mu g/m^3$), which equates to approximately 400 excess cancer cases in a million. By weighting the cancer risk by the number of sensitive receptors (i.e., people under the age of 18 and over the age of 64) living in each grid cell, areas with high risk and vulnerable populations can be identified.

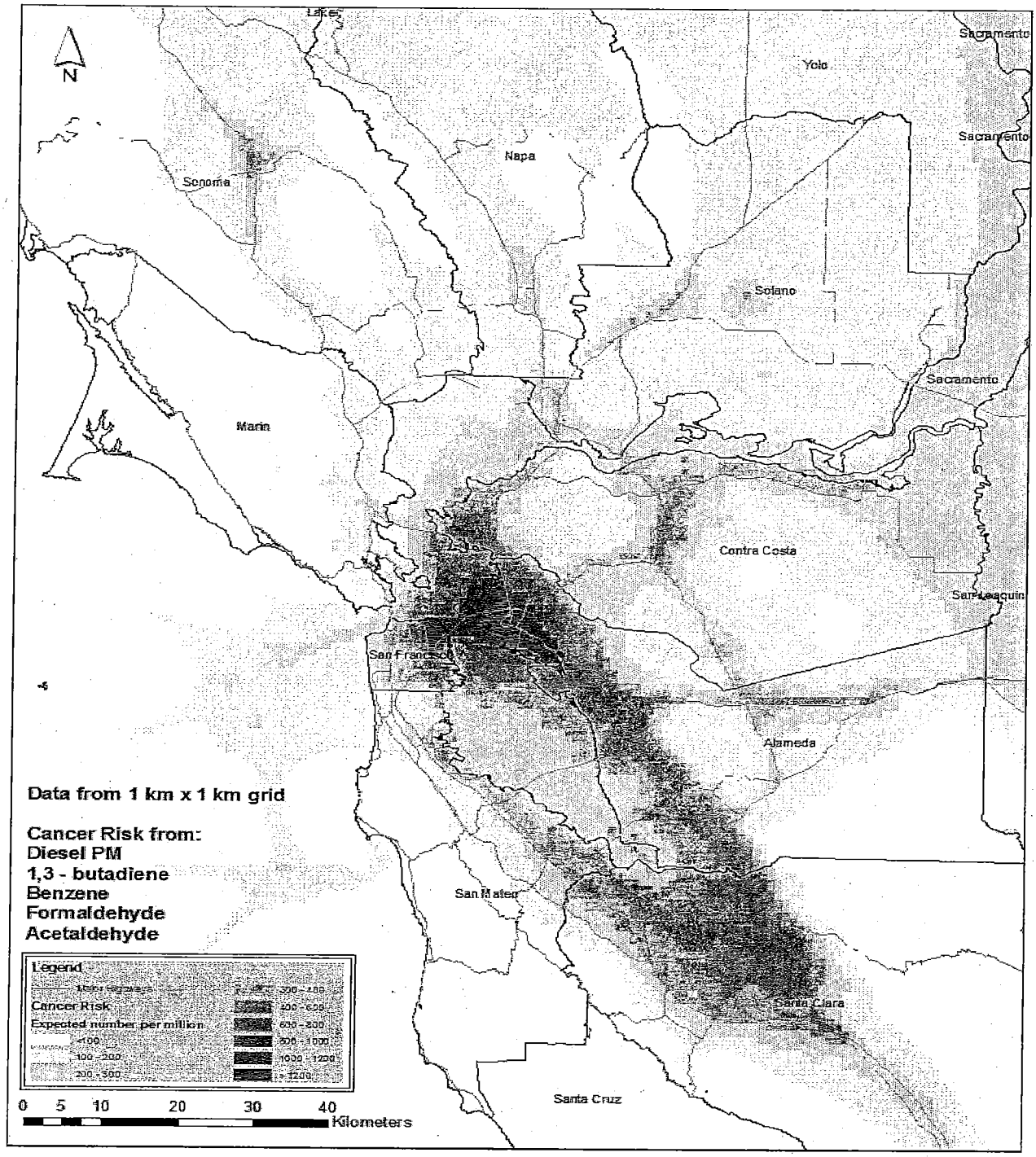
Analysis of the one kilometer resolution modeling predictions of TAC concentrations and risk reveals that 50 percent of the land area in the SFBAAB currently experiences background inhalation cancer risk levels of less than 152 excess cases per one million, with a standard deviation of 180. The frequency distribution of inhalation cancer risk in the SFBAAB is presented in Figure 4 and detailed in Appendix E.

The frequency distribution of risk changes when ambient risk levels are weighted by population. Fifty percent of BAAQMD's population is estimated to have an ambient background inhalation cancer risk of less than 500 cases in one million. Figure 5 presents a frequency distribution of population-weighted risk data. Table 19, using a similar data set, presents a summary of percentages of the population exposed to varying levels of cancer risk from ambient TACs. Approximately two percent of the SFBAAB population is exposed to background risk levels of less than 200 excess cases in one million. This is in contrast to the upper percentile ranges where 8 percent of the SFBAAB population is exposed to background risk levels of greater than 1,000 excess cases per one million.



Source: BAAQMD 2008.

Figure 2: Communities of High Concern

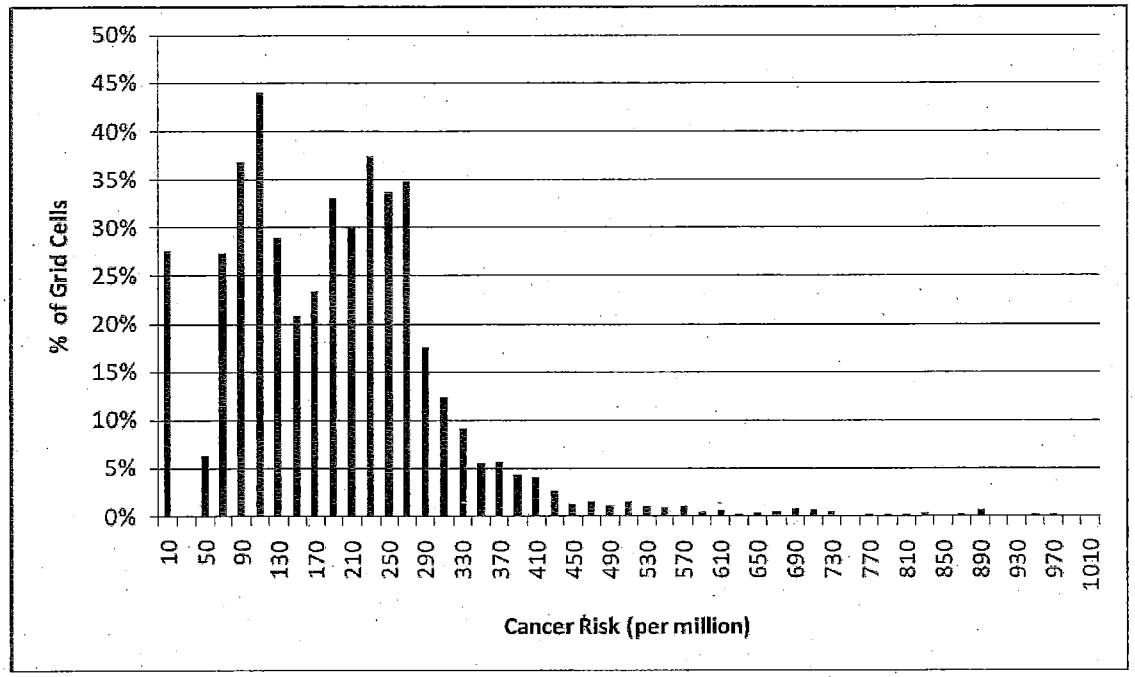


Notes: PM = particulate matter. Source: BAAQMD 2008. Based on Year 2005 emissions.

Figure 3: Modeled Inhalation Cancer Risk in the San Francisco Bay Area Air Basin

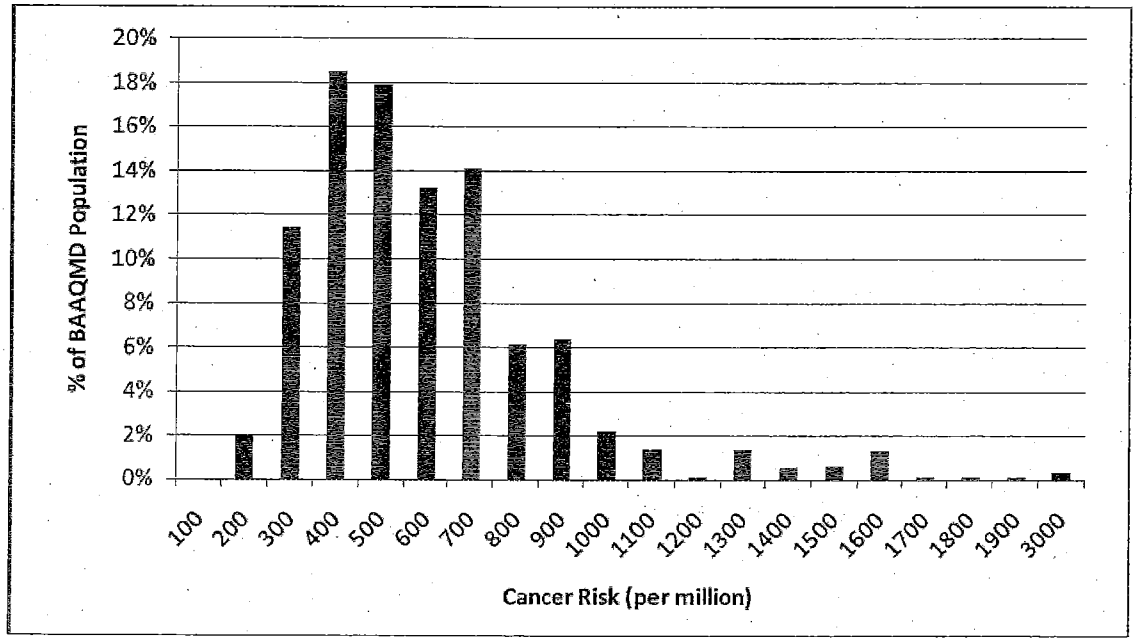
Table 19 - Statistical Summary of Population-Weighted Ambient Cancer Risk	
Percentage of Population (Percent below level of ambient risk)	Ambient Cancer Risk (inhalation cancer cases in one million)
92	1,000
90	900
83	800
77	700
63	600
50	500
32	400
13	300
2	200
0	100

Source: Data compiled by EDAW 2009.
See Appendix G for detailed calculations.



Source: BAAQMD 2009.

Figure 4: San Francisco Bay Area Air Basin Unweighted Inhalation Cancer Risk



Notes: BAAQMD = Bay Area Air Quality Management District.
Sources: EDAW 2009, BAAQMD 2009.

Figure 5: San Francisco Bay Area Air Basin Population-Weighted Inhalation Cancer Risk

4.2.4.1 SITING A NEW SOURCE

Option 1 - Current Approach

Chronic TAC Exposure

Any project with the potential to expose people (receptors) to substantial levels of TAC is currently deemed to have a significant impact. This applies to new receptors locating near existing sources of TACs, as well as sources of TAC locating near existing receptors. The current TAC threshold of significance applies to all projects, regardless of size, and requires mitigation for TAC impacts above the thresholds listed below.

Proposed development projects that have the potential to expose receptors to TAC in excess of the following thresholds from any source, mobile or stationary would be considered to have a significant air quality impact if the:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million.
- Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI.

Accidental Release of Acutely Hazardous Air Emissions

The BAAQMD currently recommends, at a minimum, that the lead agency, in consultation with the administering agency of the Risk Management Prevention Program (RMPP), find that any project resulting in receptors being within the Emergency Response Planning Guidelines (ERPG) exposure level 2 for a facility has a significant air

quality impact. ERPG exposure level 2 is defined as "the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action."

The current Accidental Release/Hazardous Air Emissions threshold of significance could affect all projects, regardless of size, and require mitigation for Accidental Release/Hazardous Air Emissions impacts.

Option 2: Stationary Source Permit Approach

This option would consist of applying the current stationary source permitting thresholds to project-generated stationary, area-, and mobile-source TAC emissions.

Stationary sources of emissions are subject to BAAQMD's permit process per adopted rules and regulations. The permitting process requires that all new or modified stationary sources that emit TACs perform modeling to determine what the concentration of TACs will be at the boundary of their property. This current permitting approach does not include area or mobile sources of emissions in the modeling or permitting assessment. If a proposed stationary source will have operational TAC concentrations from permitted equipment that result in an estimated 1 excess cancer risk in a million, the project is required to install Toxic Best Available Control Technology (TBACT) to minimize emissions of TACs. The TAC modeling must also demonstrate to BAAQMD that implementation of the proposed project would not result in additional incremental exposure of surrounding receptors to levels that exceed 10 in one million for excess cancer risk or a hazard index above one. The BAAQMD will not issue an authority to construct or permit to operate for any stationary source of TACs that would result in concentrations exceeding a 10 in one million threshold.

This approach would expand on the current approach by requiring the application of the one in a million requirement for stationary sources to install TBACT to projects that have TAC emissions from sources (primarily mobile) not currently required to obtain permits to operate. These non-stationary source type projects would be required to implement TBPs such as site and circulation design, setbacks from roadways, air conditioning, and vegetation buffers, if their modeled cancer risks are above the one in a million threshold. The BAAQMD would identify a list of TBPs for non-stationary sources to implement if they are above the one in a million threshold. The threshold of significant impact, thereby requiring implementation of all feasible onsite mitigation measures would remain at the current 10 in a million excess cancer risk and a HI of 1.0.

Stationary source permits to operate would still not be issued to stationary sources that could not reduce their risk on site below the 10 in a million excess cancer risk threshold or the HI of 1.0.

Option 3: Tiered Approach

This approach would involve application of a tiered (more stringent) CEQA threshold in impacted communities.

Proposed development projects that have the potential to expose sensitive receptors or the general public to TACs in excess of the following thresholds from any source, mobile, area or stationary would be considered to have a significant air quality impact in the following conditions:

- *Increase in Cancer Risk to Maximally Exposed Individual (MEI) in Excess of One in a Million* - Projects not requiring a BAAQMD permit to operate, but that would result in area or mobile sources of TACs would be required to implement TBPs if their modeled cancer risks are above a one in a million excess cancer risk threshold. The BAAQMD would identify a prescribed set of TBPs. Projects that could not feasibly implement prescribed TBPs would be considered to contribute considerably to cumulative cancer risk.

- *Increased Cancer Risk to MEI* - New sources of TACs locating in impacted communities, as identified by the BAAQMD's Community Air Risk Evaluation (CARE) Program, would have to install Toxics Best Available Control Technology (TBACT) and/or TBPs and would be subject to a significance threshold of 5 in one million (after consideration of TBACT and/or TBPs). New sources of TACs locating in a community other than an impacted community would be subject to a significance threshold of 10 in one million.

- *Increased Non-Cancer Risk to MEI* – Project TAC emissions would be considered significant where ground-level concentrations of non-carcinogenic TACs result in a chronic Hazard Index of greater than 0.5 and an acute Hazard Index greater than 1.0 within an impacted community, or greater than 1.0 in all other areas.

- *Increased Ambient Concentration of $PM_{2.5}$ of 0.3 $\mu g/m^3$* – This approach would also include a quantitative concentration threshold for the project-generated annual average increase in $PM_{2.5}$ emissions of 0.3 $\mu g/m^3$. This concentration is the U.S. EPA Significant Impact level (SIL) for $PM_{2.5}$. The SIL is a threshold applied to individual facilities that apply for a permit to emit a regulated pollutant in an area that meets the NAAQS. The state and EPA must determine if emissions from that facility will cause the air quality to worsen. If an individual facility projects an increase in emissions that result in ambient impacts greater than the established SIL, the permit applicant would be required to perform additional analyses to determine if those impacts will be more than the amount of the PSD increment. This analysis would combine the impact of the proposed facility when added on to all other sources in the area.

Option 4: No Net Increase Approach

Option 4 would proposes a no net increase inhalation cancer risk CEQA significance threshold for siting a new source of TACs in CARE priority communities identified as the urban core areas of Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose. Thresholds for other parts of the Bay Area would be the same as Option 1. This threshold would not define a "substantial change" (see definition of significant impact in section below), because any increase would be considered significant. The practical implications of essentially setting a zero threshold for TACs in these communities could be substantial. A no net increase or zero threshold could make it extremely difficult for a wide variety of businesses to locate in the CARE communities, businesses that are essential to daily lives. A large number of relatively small projects would need to prepare an EIR since any increase in TACs would be considered a significant impact. There are no adequate mitigation strategies or alternatives available to eliminate all TAC from even the smallest of sources.

4.2.4.2 SITING A NEW RECEPTOR

Impacts of the Existing Environment on a Proposed Project

In addressing the potential for impacts from existing sources of toxic exposure, Lead Agencies should take care to focus their analyses squarely on impacts arising from *changes* to the environment caused by the proposed project. (*See* CEQA § 21068, defining "significant effect on the environment" as "a substantial, or potentially substantial, adverse *change* in the environment" (emphasis added).) A Lead Agency can address a preexisting environmental condition – such as existing sources of toxics – under CEQA only if there is a nexus between the preexisting condition and some physical change arising from the project. For example, the mere existence of preexisting groundwater contamination underneath a property does not constitute a significant environmental impact from a project on the property that would not affect the contamination in any way, as the California Court of Appeal held in the case of *Baird v. County of Contra Costa* (1995) 32 Cal.App.4th 1464, 1468. But where a change caused by the project will implicate the preexisting contamination in some way, such as introducing people to an area with a preexisting hazard, the contamination does warrant consideration under CEQA. Thus, where a developer seeks to acquire contaminated property and the acquisition will require it to manage the contaminated soil, the preexisting contamination is subject to CEQA analysis, as the Court of Appeal held in *McQueen v. Mid-Peninsula Regional*

Open Space District (1988) 202 Cal.App.3d 1136, 1147, 249 Cal.Rptr. 439. In that case the project did entail a change implicating the preexisting contamination, which is the key distinction the court pointed to in *Baird*. (*See also City of Santa Monica v. City of Los Angeles*, 2007 Cal. App. Unpub. LEXIS 7409, *87-*89 n.22 (distinguishing *Baird* in noting that constructing buildings above subterranean methane contamination could concentrate the methane and constitute a physical change triggering CEQA analysis of the methane impacts).)

Lead agencies should, therefore, ensure that they focus on physical changes caused by the project that will implicate existing sources of toxic exposure. An example of such a change caused by the project would be if the project causes additional people to be attracted to the project location and thereby to be exposed to additional toxic risks. This approach to evaluating risks to new occupants of a project from existing sources of risk has been endorsed by the Resources Agency in Section 15126.2(a) of the CEQA Guidelines. Lead agencies using such an approach should specifically identify the changes being caused by the project in relation to existing sources of risk to minimize the chances of falling afoul of *Baird*.

Option 1: Statistical/Percentile Health Impact-Based Approach

This approach considers a method of determining whether a project would result in a significant impact if it would attract or locate new sensitive receptors into an area exposed to TAC concentrations exceeding the ambient median exposure for the entire SFBAAB.

Option 1 for siting new sensitive receptors in areas currently impacted from nearby sources of TACs would set a TBP threshold of 100 in a million excess cancer cases for all new residential projects. The 100 in a million TBP threshold is based on EPA guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level which considers a range of "acceptable" cancer risks from one in a million to one in ten thousand. In protecting public health with an ample margin of safety, EPA strives to provide maximum feasible protection against risks to health from Hazardous Air Pollutants (HAPs) by limiting to a no higher than approximately one in ten thousand (100 in a million) the estimated risk that a person living near a source would be exposed to the maximum pollutant concentrations for 70 years. This goal is described in the preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking (54 Federal Register 38044, September 14, 1989) and is incorporated by Congress for EPA's residual risk program under Clean Air Act (CAA) section 112(f). The 100 in a million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on the District's recent regional modeling analysis.

The threshold of significance for CEQA would be based on the median exposure to inhalation cancer risk now occurring in the SFBAAB, of 500 excess cancer cases in a million. This option would attempt to reconcile the issues associated with promoting high density infill transit oriented development, while, at the same time, trying to reduce the public's exposure to TACs. Many of the features that make transit oriented development favorable from a regional air quality perspective (e.g., being located along existing transportation, transit, and train corridors) can also expose sensitive receptors to high concentrations of TACs. At some point the benefits to regional air quality from development in these areas are superseded by the need to protect the public from moving into an area of high TACs. With this option, nearly all residential projects (or other projects that involve new receptors) would implement TBPs, but would not require preparation of an EIR unless those TBPs could not reduce the exposure to a cancer risk level of 500 in a million for those new receptors.

Further complicating this issue is ARB's diesel risk reduction plan, which estimates an 85 percent reduction in statewide diesel particulate matter (PM) emissions by 2020, and whether currently existing areas of high cancer risks from diesel PM will be at acceptable levels in 2020 due to implementation thereof. Since CEQA is concerned about the existing condition at the time the Notice of Preparation is prepared, BAAQMD staff believe it would be premature to assume ARB's plan would ensure significant impacts did not occur at this time.

However, as progress is made with the DRRP, a greater level of confidence may develop such that the future impact of implementation could be taken into consideration as reasonably foreseeable under CEQA.

Option 2: Source-Based Approach

This approach would focus on the cancer and non-cancer risk to new receptors that occur due to existing stationary and mobile sources located within 1,000 feet from the new receptor.

The 1,000 foot distance was selected based on several factors. A summary of research findings in CARB's Land Use Compatibility Handbook (CARB 2005) indicates that traffic-related pollutants were higher than regional levels within approximately 1,000 feet downwind and that differences in health-related effects (such as asthma, bronchitis, reduced lung function, and increased medical visits) could be attributed in part to the proximity to heavy vehicle and truck traffic within 300 to 1,000 feet of receptors. Although CARB has recommended avoiding siting sensitive land uses within 500 feet of a freeway or high-volume urban roads, this option uses 1,000 feet based on research that has indicated attributable increased health effects in some cases out to as far as 1,000 feet. In the same study, CARB recommended avoiding siting sensitive land uses within 1,000 feet of a distribution center and major rail yard, which supports the use of a 1,000 feet evaluation distance in case such sources may be relevant to a particular project setting. A second consideration is that studies have shown that the concentrations of particulate matter tends to be reduced substantially or can even be indistinguishable from upwind background concentrations a distance 1,000 feet downwind from sources such as freeways or large distribution centers (Zhu et al. 2002, CARB 2005). Finally, a 1,000 foot zone of influence is also supported by Health & Safety Code §42301.6 (Notice for Possible Source Near School).

Projects that proposed new receptors would be required to evaluate the potential cancer and non-cancer risks from mobile and stationary sources that are located within 1,000 feet. If the cancer risk from all sources within 1,000 feet exceeds 10 in a million or the non-cancer risk (chronic or acute) would be greater than a Hazard Index of 1.0, then the project TAC impacts would be considered significant.

Where new receptors are located in areas closer than 1,000 feet of major TAC sources such as freeways or high volume urban roadways, distribution centers, rail yards, ports or other TAC sources, it is probable that impacts may exceed the thresholds included in this option. Thus, proposed residential and other development with sensitive receptors (such as senior centers, health centers, and schools) in such areas would likely be identified as having significant impacts through application of this threshold and require CEQA evaluation through a Mitigated Negative Declaration (if mitigation available to reduce to below threshold levels) or an EIR (if feasible mitigation cannot be identified).

Option 3: San Francisco Department of Health Ambient Standard Approach for Roadway Exposure

The City and County of San Francisco Department of Public Health (SFDPH) has recommended a methodology for the analysis of impacts to new receptors relative to roadway exposure. The methodology includes a six step approach to avoid future land use air quality conflicts from busy roadways as follows (City and County of San Francisco Public Health Department 2008):

- *Hazard Identification* - Screening projects for exposure to high traffic volumes using data from Caltrans, local Public Works Departments, the California Environmental Health Tracking Program's (CEHTP) spatial linkage web service, or prior EIRs. In this approach a potential hazard exists if average daily traffic volume exceeds the following thresholds: 100,000 vehicles/day within a 150 meter radius; 50,000 vehicles/day within a 100 meter radius; or 10,000 vehicles /day within a 50 meter radius. The threshold of 100,000 vehicles with a 150 meter radius roughly corresponds to the CARB guidance avoiding sensitive uses. Thresholds for 100 meters and 50 meters are equivalent with regards to area traffic volume density.

- *Exposure Assessment* – If a potential hazard for a new residential project is identified through screening of traffic volumes, then an examination of air quality exposure is done on a project-level basis by estimating the concentration of $PM_{2.5}$ contributed by proximate roadway sources within a 150 meter radius of the project. This analysis can be done using physical based dispersion models using local data on vehicle volumes, vehicle types, emissions characteristics, meteorology. SFDPH recommends CAL3QHCR Line Source Dispersion Model with best available local meteorology. Other dispersion models may be appropriate as well.

- *Action Threshold for Mitigation* - Compare roadway contribution to annual average $PM_{2.5}$ concentration to an action threshold of 0.2 $\mu g/m^3$ of $PM_{2.5}$. SFDPH identified the rationale for this threshold as follows:

    - A threshold of 0.2 $\mu g/m^3$ represents about 8-10 percent of the intra-urban range of $PM_{2.5}$ ambient concentration based on available and reliable monitoring data in San Francisco.

    - A change in ambient concentration of $PM_{2.5}$ by 0.2 $\mu g/m^3$, independent of other vehicle pollutants would result in significant forecasted health impacts. Based on a study of intra-urban pollution in Los Angeles, a 0.2 $\mu g/m^3$ increase in $PM_{2.5}$ would result in a 0.28 percent increase in non-injury mortality or an increase of about twenty-one excess death per 1,000,000 population per year from non-injury causes in San Francisco (Jerrett 2005). Applying the health effects assessment methodology and Concentration Response Functions in the CARB Staff Report on AAQS for PM published in 2002. A 0.2 $\mu g/m^3$ increase in$PM_{2.5}$ affecting a population of 100,000 adults would result in about 20 extra premature deaths per year (CARB 2002). These effects are well above the one-in-a-million lifetime de minimus risk threshold for premature death considered insignificant by most regulatory agencies (Asante-Duah 2002). A 0.2 $\mu g/m^3$ increase in $PM_{2.5}$ would also result in ~160 days per year with respiratory symptoms, 108 days with work limitations, and 577 days with minor activity limitations in the same adult population.

- *Health Effects Analysis* - For sites with roadway contributions to $PM_{2.5}$ above the threshold concentration quantify potential effects of roadway-related exposures to criteria and non-criteria pollutants on health outcomes using established risk assessment principles. Comprehensive health effects analysis involving identifying sensitive (receptors) populations, estimating exposure, and calculating health risks.

- *Mitigation* –For sites with roadway contributions to $PM_{2.5}$ above the threshold concentration, prevent exposure or apply mitigations using the following hierarchy:

    1. Relocate project outside hazardous zones around roadway of concern

    2. Reroute or reduce traffic through circulation changes or traffic demand reduction.

    3. Provide mechanical ventilation systems with best available supply intake air location; with fresh air filtration and building designs; and with reduced infiltration to mitigate particulate exposure.

- *Disclosure* - Disclosure of exposure, health risks and included mitigations to future residents.

Based on modeling completed by SFDPH, the action threshold of 0.2 $\mu g/m^3$ of $PM_{2.5}$ is presently exceeded in areas along Highway 101, Highway 80 (approach to the Bay Bridge), and Highway 280, and along numerous major streets in San Francisco, particularly in the downtown area.

Option 4: Consistency with Community Risk Reduction Plan

This approach consists of evaluating whether a project is consistent with an adopted qualified Community Risk Reduction Plan. The goal of a Community Risk Reduction Plan would be to bring TAC and $PM_{2.5}$ concentrations

for the entire community covered by the Plan down to acceptable levels as identified by the local jurisdiction and approved by the Air District. This approach provides local agencies a proactive alternative to addressing communities with high levels of risk on a project-by-project approach. This approach is supported by CEQA Guidelines Section 15030(a)(3), which provides that a project's contribution to a cumulative problem can be less than cumulatively considerable "if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact." This approach is also further supported by CEQA Guidelines Section 15064(h)(3), which provides that a project's contribution to a cumulative effect is not considerable "if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem."

Qualified Community Risk Reduction Plans

A qualified Community Risk Reduction Plan adopted by a local jurisdiction should:

- Evaluate current and future emissions and concentrations of TACs and $PM_{2.5}$.
- Establish risk and exposure reduction targets for the community, including for subareas located near sources of air pollution.
- Identify measures to reduce exposures.
- Identify implementation measures to reduce exposures.
- Includes procedures for monitoring and updating the TAC inventory, modeling and reduction measures, in coordination with Air District staff.
- Include a certified CEQA document.

Staff Recommendation and Justification for Siting a New Source or New Receptor

Staff is recommending a threshold that combines elements of Siting a New Source Options 1 (Current Approach) and 3 (Tiered Approach), and Siting a New Receptor Option 4 (Consistency with Community Risk Reduction Plan). The recommended threshold would apply to both siting new sources and siting new receptors. Thus the staff-recommendation is a tiered approach to the consideration of community risk and hazard impacts.

Projects consistent with a qualified CRRP adopted by the local jurisdiction that includes enforceable measures to reduce the community risk to acceptable levels would be considered less than significant.

Proposed development projects that are not consistent with a CRRP that has been adopted for the area where the project is proposed to be located would be considered to have a significant impact.

Projects proposed in areas where a CRRP has not been adopted and the potential exits to expose sensitive receptors or the general public to emissions-related risk in excess of the following thresholds from any source would be considered to have a significant air quality impact:

- *Increased Cancer Risk to Maximally Exposed Individual (MEI)* - Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of carcinogenic TACs from any source result in an increased cancer risk greater than 10.0 in one million.

- *Increased Non-Cancer Risk to MEI* – Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of non-carcinogenic TACs result in an increased chronic or acute Hazard Index from any source greater than 1.0.

- *Increased Ambient Concentration of $PM_{2.5}$* – Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of $PM_{2.5}$ from any source would result in an average annual increase greater than 0.3 $\mu g/m^3$.

These thresholds would apply to stationary, area, and mobile sources of TAC emissions.

This combined approach would be protective of ambient air quality through the inclusion of a $PM_{2.5}$ threshold. Further, by providing an ambient threshold for $PM_{2.5}$, this approach would establish a bright line standard concerning particulate exposure that is consistent with EPA permitting requirements for stationary sources. The 10.0 cancer risk threshold is supported by EPA's guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level which considers a range of "acceptable" cancer risks from one in a million to one in ten thousand. The conclusion that land use projects that comply with qualified Community Risk Reduction Plans are less than significant is supported by CEQA Guidelines Sections 15030(a)(3) and 15064(h)(3), which provides that a project's contribution to a cumulative problem can be less that cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

Accidental Releases of Acutely Hazardous Air Emissions

Staff recommends continuing with the current threshold for the accidental release of hazardous air pollutants. Staff recommends that agencies consult with the California Emergency Management Agency for the most recent guidelines and regulations for the storage of hazardous materials. Staff recommends that projects using or storing acutely hazardous materials locating near existing receptors, and projects resulting in receptors locating near facilities using or storing acutely hazardous materials be considered significant.

4.2.4.3 Cumulative Toxic Air Contaminant Impacts

Cumulative Option 1 – Incremental Risk Approach

This approach would use the project-level thresholds as the threshold for evaluating a cumulative contribution of TAC emissions. Thus, if a project were determined to be less than significant under a project-level threshold (such as 10 in a million cancer risk for non-impacted communities using the threshold from Siting New Sources Option 1), then the project would also have a less than considerable contribution to cumulative significant TAC impacts. This approach is relatively common in use in assessment of cumulative TAC impacts in CEQA documents in the Bay Area today. The focus would be on assessing the incremental risk increase associated with the project. This approach would only apply to consideration of siting new sources as all of the thresholds for siting new receptors described above are in essence cumulative thresholds already as they consider the existing TAC risk related to the location of new development.

Cumulative Option 2 – Absolute Risk Approach

This approach is a hybrid approach that combines aspects of the health-based approach of Option 1 and the source-based approach of Option 2 described above for siting new receptors. Projects proposing a new TAC source would need to assess their impact within 1,000 feet taking into account cumulative sources (i.e. proposed project plus existing and foreseeable future projects). Projects proposing new receptors would need to assess the impact of cumulative sources located within 1,000 feet of the receptor. Cumulative sources are the combined total risk values of each individual source within the 1,000-foot evaluation zone. The significance threshold of

100 in a million increased excess cancer risk and Hazard Index of 1.0 would be applied to the cumulative emissions within the 1,000-foot evaluation zone. The 100 in a million threshold is based on EPA guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level. The guidance considers an "acceptable" range of cancer risks to be from one in a million to one in ten thousand. In protecting public health with an ample margin of safety, EPA strives to provide maximum feasible protection against risks to health from hazardous air pollutants (HAPs) by limiting risk to a level no higher than the one in ten thousand (100 in a million) estimated risk that a person living near a source would be exposed to at the maximum pollutant concentrations for 70 years. This goal is described in the preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking (54 Federal Register 38044, September 14, 1989) and is incorporated by Congress for EPA's residual risk program under Clean Air Act (CAA) section 112(f). The 100 in a million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on the District's recent regional modeling analysis.

In addition, this option would add an ambient standard for $PM_{2.5}$ of 0.8 $\mu g/m^3$ due to cumulative sources within the 1,000-foot evaluation zone. The $PM_{2.5}$ concentration level of 0.8 $\mu g/m^3$ is based on a proposed rule being evaluated by U.S. EPA in developing significant impacts levels (SILs) for prevention of significant deterioration for particulate matter less than 2.5 micrometers (Federal Register 40 CFR Parts 51 and 52, September 21, 2007). EPA is proposing a PSD threshold of 0.8 $\mu g/m^3$ as the cumulative threshold for all $PM_{2.5}$ sources. The 0.8 $\mu g/m^3$ standard was developed by scaling the PM_{10} SIL values by the ratio of direct $PM_{2.5}$ to direct PM_{10} emissions. The $PM_{2.5}/PM_{10}$ emissions ratio is based on the national average derived from the 2001 extrapolation of the EPA's 1999 National Emissions Inventory. The District believes that the 0.80 $\mu g/m^3$, which is based on direct PM emissions, is more representative of the mixture of PM sources in the Bay Area. In a recent PM study, the Air District found that direct emissions from wood burning and fossil fuel combustion contribute over one-half of annual $PM_{2.5}$ emissions. This threshold is also consistent with the estimated California background level and the estimated background level of the more remote areas of the Bay Area. The rationale for selecting 1,000 feet was explained in the discussion of Option 2 for siting new receptors above.

This threshold is also supported from several medical research studies that have linked near-road pollution exposure to a variety of adverse health outcomes impacting children and adults. One notable study conducted by Dr. Michael Kleinman and colleagues at the EPA-funded Southern California Particle Center studied the potential of roadway particles to aggravate allergic and immune responses in mice. Using mice that were not inherently susceptible, the researchers placed these mice at various distances downwind of State Road 60 and Interstate 5 freeways to test the effect these roadway particles have on their immune system. They found that within 5 meters of the roadway, there was a significant allergic response and elevated production of specific antibodies. At 150 meters (492 feet) and 500 meters (1,640 feet) downwind of the roadway, these effects were not statistically significant.

In another significant study, the University of Washington (Ven Hee et al, 2009) conducted a survey involving 3,827 participants that aimed to determine the effect of residential traffic exposure on two preclinical indicators of heart failure; left ventricular mass index (LVMI), measured by the cardiac magnetic resonance imaging (MRI), and ejection fraction. The studies classified participants based on the distance between their residence and the nearest interstate highway, state or local highway, or major arterial road. Four distance groups were defined: less than 50 meters (165 feet), 50-100 meters, 101-150 meters, and greater than 150 meters. After adjusting for demographics, behavioral, and clinical covariates, the study found that living within 50 meters of a major roadway was associated with a 1.4 g/m^2 higher LVMI than living more than 150 meters from one. This suggests an association between traffic-related air pollution and increased prevalence of a preclinical predictor of heart failure among people living near roadways.

To quantify the roadway concentrations that are contributing to the health impacts, the Air District modeled the scenario studied by Dr. Kleinman. In Dr. Kleinman's study emissions were estimated for Los Angeles using the EMFAC model. Annual average vehicle traffic data taken from Caltrans was used in the roadway model

(CAL3QHCR) to estimate the downwind $PM_{2.5}$ concentrations at 50 meters and 150 meters. Additionally, emissions were assumed to occur from 10:00 a.m. to 2:00 p.m. corresponding to the time in which the mice were exposed during the study. The results of the modeling indicate that at 150 meters, the downwind concentration is 0.78 $\mu g/m^3$, which is consistent with the EPA-recommended SIL of 0.8 $\mu g/m^3$.

Staff Recommendation and Justification

Staff is recommending a threshold that combines elements of Cumulative Option 2 (Absolute Risk Approach) and Siting a New Receptor Option 4 (Consistency with Community Risk Reduction Plan). Staff recommends this approach as the cumulative threshold for siting a new source or receptor. Projects consistent with a qualified CRRP adopted by the local jurisdiction that includes enforceable measures to reduce the community risk to acceptable levels would be considered less than significant. Proposed development projects that are not consistent with a CRRP that has been adopted for the area where the project is proposed to be located would be considered to have a significant impact. Projects proposed in areas where a CRRP has not been adopted and the potential to expose sensitive receptors or the general public to emissions-related risk in excess of the following thresholds from any source would be considered to have a significant air quality.

This approach would require evaluation of cancer and non-cancer risk from cumulative mobile and stationary sources within 1,000 feet of a new source or receptor, and the use of a 100 in a million cancer risk, a non-cancer (chronic or acute) Hazard Index of 1.0, and an ambient standard for $PM_{2.5}$ of 0.8 $\mu g/m^3$ as thresholds for cumulative risk from sources within the 1,000 foot evaluation area.

As noted above, the 1,000-foot evaluation distance is supported by research-based findings concerning dispersion from roadways and large sources showing that emissions diminish substantially between 500 and 1,000 feet from large emission sources. The 100 in a million threshold is supported by EPA air toxics analysis and risk management guidelines which consider the range of acceptable cancer risk to be from one in a million to one in ten thousand (100 in a million). EPA defines this level as the level necessary to protect public health from hazardous air pollutants with an ample margin of safety. The 0.8 $\mu g/m^3$ threshold is supported by EPA's proposed cumulative PSD threshold for all $PM_{2.5}$ sources and studies that examined the potential health impacts of roadway particles. These threshold levels are appropriate for promoting review of emissions sources to prevent deterioration of air quality. Using existing and EPA-proposed environmental standards in this way to establish CEQA thresholds of significance is an appropriate and effective means of promoting consistency in significance determinations and integrating CEQA environmental review activities with other areas of environmental regulation.

4.2.5 Odor Impacts

4.2.5.1 Current Approach

The BAAQMD considers a project locating near an existing source of odors as having a significant odor impact if it is proposed for a site that is closer to an existing odor source than any location where there has been:

- More than one confirmed complaint per year averaged over a three year period; or
- More than three unconfirmed complaints per year averaged over a three year period.

If the proposed project is located farther than the screening distance for the source of the odors identified in Table 19, the odor impacts are considered less than significant.

If a proposed project is determined to result in potential odor problems as defined by the criteria in District Regulation 7: Odorous Substances, and sensitive receptors are located closer than the screening distance in Table

20, the BAAQMD recommends that mitigation measures should be identified to reduce a potentially significant impact.

Table 20 - BAAQMD Screening Distances for Potential Odor Sources	
Type of Operation Project Screening	**Distance**
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Coffee Roaster	1 mile

The odor threshold of significance could affect all projects, regardless of size, and require mitigation for odor impacts.

4.2.5.2 SITING A NEW RECEPTOR OR SOURCE

Odors are generally considered a nuisance, but can result in a public health concern. Some land uses that are needed to provide services to the population of an area can result in offensive odors, such as filling portable propane tanks or recycling center operations. When a proposed project includes the siting of sensitive receptors in proximity to an existing odor source, or when siting a new source of potential odors, the following qualitative evaluation should be performed.

When determining whether potential for odor impacts exists, it is recommended that Lead Agencies consider the following factors and make a determination based on evidence in each qualitative analysis category:

- **Distance**: Use the screening-level distances in Table 20.
- **Wind Direction:** Consider whether sensitive receptors are located upwind or downwind from the source for the most of the year. If odor occurrences associated with the source are seasonal in nature, consider whether sensitive receptors are located downwind during the season in which odor emissions occur.
- **Complaint History:** Consider whether there is a history of complaints associated with the source. If there is no complaint history associated with a particular source (perhaps because sensitive receptors do not already exist in proximity to the source), consider complaint-history associated with other similar sources in

BAAQMD's jurisdiction with potential to emit the same or similar types of odorous chemicals or compounds, or that accommodate similar types of processes.

- **Character of Source:** Consider the character of the odor source, for example, the type of odor events according to duration of exposure or averaging time (e.g., continuous release, frequent release events, or infrequent events).

- **Exposure:** Consider whether the project would result in the exposure of a substantial number of people to odorous emissions.

4.2.5.3 STAFF RECOMMENDATION AND JUSTIFICATION

BAAQMD staff recommends continuing the current CEQA significance threshold for odors (based on complaint history) and incorporation of the qualitative approach described above, in order to better assist lead agencies with the screening-level analysis. The current approach has proven adaptable to different projects and locations and thus continuation of the current approach with more qualitative guidance is considered an appropriate approach to CEQA evaluation.

4.3 PLAN-LEVEL IMPACT THRESHOLDS

4.3.1 PLAN-LEVEL CRITERIA POLLUTANTS AND OZONE PRECURSORS

4.3.1.1 OPTION 1 – CURRENT APPROACH

General Plans of cities and counties must show consistency with regional plans and policies affecting air quality to claim a less than significant impact on air quality. General plan amendments, redevelopment plans, specific area plans, annexations of lands and services, and similar planning activities should receive the same scrutiny as general plans with respect to consistency with regional air quality plans. For a proposed local plan to be consistent with the regional air quality plan it must be consistent with the most recently adopted AQP, which are updated approximately every three years.

All of the following criteria must be satisfied for a proposed plan to be determined to be consistent with the AQP, and therefore, result in a less than significant impact on air quality.

Determining Local Plan Consistency

Proposed Plans must show over the planning period of the plan that:

- Population growth for the jurisdiction will not exceed the values included in the current AQP, and
- The rate of increase in VMT for the jurisdiction is equal to or lower than the rate of increase in population.

Determining Local Plan Consistency with Clean Air Plan Transportation Control Measures

Determining consistency of local plans with the AQP also involves assessing whether AQP transportation control measures (TCMs) for which local governments are implementing agencies are indeed being implemented and are effective in reducing vehicle travel. The AQP identifies implementing agencies/entities for each of the TCMs included in the AQP. Local plans that do not demonstrate reasonable efforts to implement TCMs in the AQP would be considered to be inconsistent with the regional air quality plan and therefore have a significant air quality impact.

4.3.1.2 OPTION 2 – MODIFIED CURRENT APPROACH

Over the years staff has received comments on the difficulties inherent in the current approach regarding the consistency tests for population and VMT growth. First, the population growth estimates used in the most recent AQP can be up to several years older than growth estimates used in a recent plan update, creating an inconsistency in this analysis. Staff recommends that this test of consistency be eliminated because the Air District and local jurisdictions all use regional population growth estimates that are disaggregated to local cities and counties. In addition, the impact to air quality is not necessarily growth but where that growth is located. The second test, rate of increase in vehicle use compared to growth rate, will determine if planned growth will impact air quality. Compact infill develop inherently has less vehicle travel and more transit opportunities than suburban sprawl.

Second, the consistency test of comparing the rate of increase in VMT to the rate of increase in population has been problematic at times for practitioners because VMT is not always available with the project analysis. Staff recommends that either the rate of increase in VMT or vehicle trips be compared to the rate of increase in population. Staff also recommends that the growth estimates used in this analysis be for the years covered by the plan. Staff also recommends that the growth estimates be obtained from the Association of Bay Area Governments since the Air District uses ABAG growth estimates for air quality planning purposes.

4.3.1.3 STAFF RECOMMENDATION

Staff recommends Option 2. This approach achieves the same goals as the Air District's current approach while alleviating the existing analytical difficulties and the inconsistency of comparing a plan update with AQP growth projections that may be up to several years old. Eliminating the analytical inconsistency provides better nexus and proportionality for evaluating air quality impacts for plans.

4.3.2 PLAN-LEVEL GHG THRESHOLD OPTIONS

4.3.2.1 OPTION 1: GHG EFFICIENCY APPROACH

Option 1 proposes the development of a GHG-efficiency metric (e.g., GHG emissions per unit) which would enable comparison of a proposed general plan to its alternatives and to determine if the proposed general plan meets AB 32 emission reduction goals.

AB 32 identifies local governments as essential partners in achieving California's goal to reduce GHG emissions. Local governments have primary authority to plan, zone, approve, and permit how and where land is developed to accommodate population growth and the changing needs of their jurisdiction. ARB has developed the Local Government Operations Protocol and is developing a protocol to estimate community-wide GHG emissions. ARB encourages local governments to use these protocols to track progress in reducing GHG emissions. ARB encourages local governments to institutionalize the community's strategy for reducing its carbon footprint in its general plan. SB 375 creates a process for regional integration of land development patterns and transportation infrastructure planning with the primary goal of reducing GHG emissions from the largest sector of the GHG emission inventory, light duty vehicles.

If the statewide AB 32 GHG emissions reduction context is established, GHG efficiency can be viewed independently from the jurisdiction in which the plan is located. Normalizing projected 2020 mass of emissions from land use-related emissions sectors by comparison to a demographic unit (e.g., population and employment) provides evaluation of the GHG efficiency of a project and the opportunity to evaluate the project's consistency with AB 32 targets.

Two approaches are considered for efficiency metrics. Option 1A would consider efficiency in terms of the GHG emissions compared to the sum of the number of jobs and the number of residents at a point in time, which is referred to as the "service population" (SP). Option 1B would consider efficiency in terms of GHG emissions per capita. GHG efficiency metrics were developed (see Table 20) for the emissions rates at the State level that would accommodate projected growth (as indicated by population and employment growth) under trend forecast conditions, and the emission rates needed to accommodate growth while allowing for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020).

If a general plan demonstrates, through dividing the emissions inventory projections (MT CO_2e) by the amount of growth that would be accommodated in 2020, that it could meet the GHG efficiency metrics proposed in this section (either 6.7 MT CO_2e/capita or 4.6 MT CO_2e/SP as noted in Table 21), then the amount of GHG emissions associated with the general plan would be considered less than significant, regardless of its size (and magnitude of GHG emissions). In other words, the general plan would accommodate growth in a manner that would not hinder the State's ability to achieve AB 32 goals, and thus, would be less than significant for GHG emissions and their contribution to climate change.

Table 21 - California GHG Emissions, Population Projections and GHG Efficiency Thresholds

	1990	2002-2004 Average	2020
Population	29,758,213	36,199,342	44,135,923
Employment	14,294,100	16,413,400	20,194,661
California Service Population (Population + Employment)	44,052,313	52,612,742	64,330,584
Projected GHG emissions (metric tons CO_2e)/capita[1]	9.93	8.92	9.07
Projected GHG emissions (metric tons CO_2e)/SP[1]	6.71	6.14	6.22
AB 32 Goal GHG emissions (metric tons CO_2e)/capita[1]			**6.70**
AB 32 Goal GHG emissions (metric tons CO_2e)/SP[1]			**4.59**

Notes: AB = Assembly Bill; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; SP = service population.
[1] Greenhouse gas efficiency levels were calculated using only the "land use-related" sectors of ARB's emissions inventory. Please refer to Appendix D for detailed calculations.
Sources: Data compiled by EDAW 2009, ARB 2009a, DOF 2009, EDD 2009, ICF Jones & Stokes 2009.

Both efficiency metrics would not penalize well-planned communities that propose a large amount of development. Instead, GHG efficiency metrics act to encourage the types of development that BAAQMD and OPR support (i.e., infill and transit-oriented development) because they tend to reduce GHG and other air pollutant emissions overall, rather than discourage large developments for being accompanied by a large mass of GHG emissions. Plans that are more GHG efficient would have no or limited mitigation requirements which would help them complete the CEQA process for General Plans and other plans more readily than plans that promote GHG inefficiencies which will require detailed design of mitigation during the CEQA process and could subject a plan to potential challenge as to whether all feasible mitigation was identified and adopted. This type of threshold can shed light on a well-planned general plan that accommodates a large amount of growth in a GHG-efficient way.

However, there are distinct and different advantages to the two sub options for this threshold.

The per-capita approach follows a long history of expressing planning goals on a per person basis. Further per-capita approaches are broadly understood by the public in general and thus use of such an approach for GHG would be readily comprehensible by lead agencies, staff, developers, stakeholders, and local residents. In order to accurately apply a per-capita approach, the transportation emissions of land use development must not be limited

to the jurisdiction itself and must consider regional travel both inbound and outbound from the jurisdiction to get a full picture of the GHG emissions for that jurisdiction. This can be done by running regional travel demand models during General Plan Development and splitting emissions between origins and destinations.

The Service Population metric could allow decision makers to compare GHG efficiency of general plan alternatives that vary residential and non-residential development totals, encourages GHG efficiency through improving jobs/housing balance. This approach would not give preference to communities that accommodate more residential (population-driven) land uses than non-residential (employment driven) land uses which could occur with the per capita approach A potential challenge for the Service Population metric is that within metropolitan areas there is great variation in the balance of land uses within different jurisdictions. Just because a particular jurisdiction or plan area may be heavily residential does not inherently mean that it is necessarily inefficient for GHG transportation emissions; one must consider the geographic placement of that jurisdiction relative to transit and job centers. Further, although a particular jurisdiction may be relatively balanced between residential use and employment, if the employment profile does not match the residential occupational profiles, there could still be substantial inbound and outbound trips that might not be captured by the Service Population metric depending on how the transportation analysis is done. However, similar to that noted above for a per capita approach, if a full regional accounting of transportation emissions from both residential and non-residential land use is conducted then comparative use of the service population metric could be valid.

When analyzing long-range plans, such as general plans, it is important to note that the planning horizon will often surpass the 2020 timeframe for implementation of AB 32. Executive Order S-3-05 establishes a more aggressive emissions reduction goal for the year 2050 of 80 percent below 1990 emissions levels. The year 2020 should be viewed as a milestone year, and the general plan should not preclude the community from a trajectory toward the 2050 goal. However, the 2020 timeframe is examined in this threshold evaluation because doing so for the 2050 timeframe (with respect to population, employment, and GHG emissions projections) would be too speculative. Advances in technology and policy decisions at the state level will be needed to meet the aggressive 2050 goals. It is beyond the scope of the analysis tools available at this time to examine reasonable emissions reductions that can be achieved through CEQA analysis in the year 2050. As the 2020 timeframe draws nearer, BAAQMD will need to reevaluate the threshold to better represent progress toward 2050 goals.

4.3.2.2 OPTION 2: CURRENT APPROACH PLUS CLIMATE ACTION PLAN-FOCUSED APPROACH

This approach would also build on the current approach to evaluating the significance of proposed plans on local and regional air quality by extending it to, and including GHG emissions. Local jurisdictions that may not initiate a general plan update for a number of years, or may decide to address GHG emissions in a stand-alone Climate Action Plan.

Option 2 would require an analysis demonstrating that the Climate Action Plan (or similar adopted policies, ordinances and programs) is consistent with all of the AB 32 Scoping Plan measures and goals. The Climate Action Plan should identify a land use design, transportation network, goals, policies and implementation measures that would achieve a 26.2 percent reduction in GHG emissions relative to 2020 emissions levels as discussed in the section above and calculated in Appendix C. As discussed previously, 26.2 percent was calculated relative to 2020 emissions projections from the "land use-related" GHG emissions sectors only (e.g., the sectors over which local government would have financial, operational, or discretionary control through land use entitlement authority; see Appendix C).

Qualified Climate Action Plans

A qualified Climate Action Plan adopted by a local jurisdiction should include the following:

- GHG Inventory for Current Year and Forecast for 2020 (and for 1990 if the reduction goal is based on 1990 emission levels).
- An adopted GHG Reduction Goal for 2020 for the jurisdiction from all sources (existing and future) which is at least one of the following: 1990 GHG emission levels, 15 percent below 2008 emission levels, or 28 percent below BAU Forecasts for 2020 (if including non-land use sector emissions in the local inventory; otherwise can use 26.2 percent if only including land use sector emissions).
- Identification of feasible reduction measures to reduce GHG emissions for 2020 to the identified target.
- Application of relevant reduction measures included in the AB 32 Scoping Plan that are within the jurisdiction of the local land use authority (such as building energy efficiency, etc.).
- Quantification of the reduction effectiveness of each of the feasible measures identified including disclosure of calculation method and assumptions.
- Identification of implementation steps and financing mechanisms to achieve the identified goal by 2020.
- Procedures for monitoring and updating the GHG inventory and reduction Measures at least twice before 2020 or at least every five years.
- Identification of responsible parties for Implementation.
- Schedule of implementation.
- Certified CEQA document.

Local Climate Action Policies, Ordinances and Programs

Air District staff recognize that many communities in the Bay Area have been proactive in planning for climate change but have not yet developed a stand-alone Climate Action Plan that meets the above criteria. Many cities and counties have adopted climate action policies, ordinances and program that may in fact achieve the goals of a qualified climate action plan. Staff recommends that if a local jurisdiction can demonstrate that its collective set of climate action policies, ordinances and other programs is consistent with AB 32, includes requirements or feasible measures to reduce GHG emissions and achieves one of the following GHG emission reduction goals, the AB 32 consistency demonstration should be considered equivalent to a qualified climate action plan:

- 1990 GHG emission levels,
- 15 percent below 2008 emission levels, or
- 28 percent below BAU Forecasts for 2020 (if including non-land use sector emissions in the local inventory; otherwise can use 26.2 percent if only including land use sector emissions).

4.3.2.3 STAFF RECOMMENDATION AND JUSTIFICATION

Staff's recommendation is to combine Options 1A, 1B and 2. At this time, staff believe that all three are valid approaches to plan evaluation, are tied to the AB 32 reduction goals, would promote reductions on a plan level without impeding the implementation of GHG–efficient development, and would recognize the initiative of many Bay Area communities who have already developed or are in the process of developing a GHG reduction plan. The details required above for a qualified Climate Action Plan (or similar adopted policies, ordinances and

programs) would provide the evidentiary basis for making CEQA findings that development consistent with the plan would result in feasible, measureable, and verifiable GHG reductions consistent with broad state goals such that projects approved under qualified Climate Action Plans or equivalent demonstrations would achieve their fair share of GHG emission reductions. .

4.3.3 Local Plan Impacts Associated with Risks and Hazards

4.3.3.1 Option 1: Overlay Zones Based on Quantitative Exposure Level

With this approach, for local plans to have a less-than-significant impact with respect to potential TACs, overlay zones would have to be established around existing and proposed land uses that would emit these air pollutants. Overlay zones to avoid toxic impacts should be reflected in local plan policies, land use map(s), and implementing ordinances (e.g., zoning ordinance). The overlay zones around existing and future TAC sources would be delineated using the quantitative approaches described above for project-level review and the resultant TAC buffers would be included in the General Plan (or the EIR for the General Plan) to assist in site planning. BAAQMD will provide guidance as to the methods used to establish the TAC buffers and what standards to be applied for acceptable exposure level in the updated CEQA Guidelines document. Special overlay zones of at least 500 feet on each side of all freeways and high volume roadways would be included in this threshold option.

The threshold of significance for plan impacts could affect all plan adoptions and amendments and require mitigation for a plan's air quality impacts. Where sensitive receptors would be exposed above the acceptable exposure level, the plan impacts would be considered significant and mitigation would be required to be imposed either at the plan level (through policy) or at the project level (through project level requirements).

4.3.3.2 Option 2: Quantitative Thresholds For Siting New Sources and New Receptors

With this approach, quantitative thresholds like those discussed above for siting new receptors and/or new sources would be included in General Plan policies. This approach would be the same as the quantitative approaches to plan compliance but would ensure that local policies matched project-level thresholds.

4.3.3.3 Staff Recommendation and Justification

Staff's recommends Option 1 – Buffer Zones. By designating overlay zones in land use plans, local land use jurisdictions can take preemptive action before project-level review to reduce the potential for significant exposures to TAC emissions. While this will require more up-front work at the general plan level, in the long-run this approach is a more feasible approach consistent with District and CARB guidance about siting sources and sensitive receptors that is more effective than project by project consideration of effects that often has more limited mitigation opportunities. This approach would also promote more robust cumulative consideration of effects of both existing and future development for the plan-level CEQA analysis as well as subsequent project-level analysis.

4.3.4 Local Plan Impacts Associated with Odors

For local plans to have a less-than-significant impact with respect to potential odors, overlay zones would have to be established around existing and proposed land uses that would emit nuisance odors. Overlay zones to avoid odors should be reflected in local plan policies, land use map(s), and implementing ordinances (e.g., zoning ordinance).The threshold of significance for plan impacts could affect all plan adoptions and amendments and require mitigation for a plan's air quality impacts. The justification for establishing overlay zone in general plans

is the same as that articulated above for overlay zone for TAC emission sources. Guidance on appropriate buffer zones will be provided in the updated CEQA Guidelines document.

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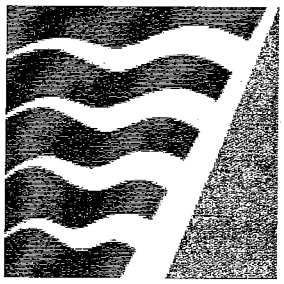
EXHIBIT 5



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

California Environmental Quality Act Guidelines Update

Proposed Thresholds of Significance

May 3, 2010

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Bay Area Air Quality Management District

Proposed Air Quality CEQA Thresholds of Significance

1 INTRODUCTION

Bay Area Air Quality Management District (BAAQMD or Air District) staff analyzed various options for California Environmental Quality Act (CEQA) air quality thresholds of significance for use within BAAQMD's jurisdiction. The analysis and evaluation undertaken by Air District staff is documented in the *Revised Draft Options and Justification Report – California Environmental Quality Act Thresholds of Significance* (Draft Options Report) (BAAQMD October 2009).

Air District staff hosted public workshops in February, April, September and October 2009, and April 2010 at several locations around the Bay Area. Air District staff also hosted additional workshops in each of the nine Bay Area counties specifically designed for, and to solicit input from, local agency staff. In addition, Air District staff met with regional stakeholder groups to discuss and receive input on the threshold options being evaluated. Throughout the course of the public workshops and stakeholder meetings Air District staff received many comments on the various options under consideration. Based on comments received and additional staff analysis, the threshold options and staff-recommended thresholds were further refined. The culmination of this nearly year and a half-long effort was presented in the Proposed Thresholds of Significance Report published on November 2, 2009 as the Air District staff's proposed air quality thresholds of significance.

The Air District Board of Directors (Board) held public hearings on November 18 and December 2, 2009 and January 6, 2010, to receive comments on staff's Proposed Thresholds of Significance (November 2, 2009; revised December 7, 2009). After public testimony and Board deliberations, the Board requested staff to present additional options for risk and hazard thresholds for Board consideration. This Report includes risks and hazards threshold options, as requested by the Board, in addition to staff's previously recommended thresholds of significance. The proposed thresholds presented herein, upon adoption by the Air District Board of Directors, are intended to replace all of the Air District's currently recommended thresholds. The proposed air quality thresholds of significance, and Board-requested risk and hazard threshold options, are provided in Table 1 at the end of this introduction.

1.1 BAAQMD/CEQA REGULATORY AUTHORITY

The BAAQMD has direct and indirect regulatory authority over sources of air pollution in the San Francisco Bay Area Air Basin (SFBAAB). CEQA requires that public agencies consider the potential adverse environmental impacts of any project that a public agency proposes to carry out, fund or approve. CEQA requires that a lead agency prepare an Environmental Impact Report (EIR) whenever it can be fairly argued (the "fair argument"

standard), based on substantial evidence,[1] that a project may have a significant effect[2] on the environment, even if there is substantial evidence to the contrary (CEQA Guidelines §15064). CEQA requires that the lead agency review not only a project's direct effects on the environment, but also the cumulative impacts of a project and other projects causing related impacts. When the incremental effect of a project is cumulatively considerable, the lead agency must discuss the cumulative impacts in an EIR. (CEQA Guidelines §15064).

The "fair argument" standard refers to whether a fair argument can be made that a project may have a significant effect on the environment (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84). The fair argument standard is generally considered a low threshold requirement for preparation of an EIR. The legal standards reflect a preference for requiring preparation of an EIR and for "resolving doubts in favor of environmental review." *Meija v. City of Los Angeles* (2005) 130 Cal. App. 4th 322, 332. "The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data." (CEQA Guidelines §15064(b).

In determining whether a project may have a significant effect on the environment, CEQA Guidelines Section 15064.7 provides that lead agencies may adopt and/or apply "thresholds of significance." A threshold of significance is "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant" (CEQA Guidelines §15064.7).

While thresholds of significance give rise to a presumption of insignificance, thresholds are not conclusive, and do not excuse a public agency of the duty to consider evidence that a significant effect may occur under the fair argument standard. *Meija*, 130 Cal. App. 4th at 342. "A public agency cannot apply a threshold of significance or regulatory standard 'in a way that forecloses the consideration of any other substantial evidence showing there may be a significant effect.'" *Id.* This means that if a public agency is presented with factual information or other substantial evidence establishing a fair argument that a project may have a significant effect on the environment, the agency must prepare an EIR to study those impacts even if the project's impacts fall below the applicable threshold of significance.

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1 "Substantial evidence" includes facts, reasonable assumptions predicated upon facts, or expert opinions supported by facts, but does not include argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly inaccurate or erroneous, or evidence of social or economic impacts that do not contribute to, or are not caused by, physical impacts on the environment. Cal. Pub. Res. C. §21080(c); *see also* CEQA Guidelines §15384.

2 A "significant effect" on the environment is defined as a "substantial, or potentially substantial, adverse change in the environment." Cal. Pub. Res. C. §21068; *see also* CEQA Guidelines §15382.

Thresholds of significance must be supported by substantial evidence. This Report provides the substantial evidence in support of the thresholds of significance developed by the BAAQMD. If adopted by the BAAQMD Board of Directors, the Air District will recommend that lead agencies within the nine counties of the BAAQMD's jurisdiction use the thresholds of significance in this Report when considering the air quality impacts of projects under their consideration.

1.2 JUSTIFICATION FOR UPDATING CEQA THRESHOLDS

Any analysis of environmental impacts under CEQA includes an assessment of the nature and extent of each impact expected to result from the project to determine whether the impact will be treated as significant or less than significant. CEQA gives lead agencies discretion whether to classify a particular environmental impact as significant. Ultimately, formulation of a standard of significance requires the lead agency to make a policy judgment about where the line should be drawn distinguishing adverse impacts it considers significant from those that are not deemed significant. This judgment must, however, be based on scientific information and other factual data to the extent possible (CEQA Guidelines §15064(b)).

In the sense that advances in science provide new or refined factual data, combined with advances in technology and the gradual improvement or degradation of an environmental resource, the point where an environmental effect is considered significant is fluid over time. Other factors influencing this fluidity include new or revised regulations and standards, and emerging, new areas of concern.

In the ten years since BAAQMD last reviewed its recommended CEQA thresholds of significance for air quality, there have been tremendous changes that affect the quality and management of the air resources in the Bay Area. Traditional criteria air pollutant ambient air quality standards, at both the state and federal levels, have become increasingly more stringent. A new criteria air pollutant standard for fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) has been added to federal and state ambient air quality standards. We have found, through technical advances in impact assessment, that toxic air contaminants are not only worse than previously thought from a health perspective, but that certain communities experience high levels of toxic air contaminants, giving rise to new regulations and programs to reduce the significantly elevated levels of ambient toxic air contaminant concentrations in the Bay Area.

In response to the elevated levels of toxic air contaminants in some Bay Area communities, the Air District created the Community Air Risk Evaluation (CARE) Program. Phase 1 of the BAAQMD's CARE program compiled and analyzed a regional emissions inventory of toxic air contaminants (TACs), including emissions from stationary sources, area sources, and on-road and off-road mobile sources. Phase 2 of the CARE Program conducted regional computer modeling of selected TAC species, species which collectively posed the greatest risk to Bay Area residents. In both Phases 1 and 2, demographic data were combined with estimates of TAC emissions or concentrations to identify communities that are disproportionally impacted from high concentrations of TACs. Bay Area Public Health Officers, in discussions with Air District staff and in comments

to the Air District's Advisory Council (February 11, 2009, Advisory Council Meeting on Air Quality and Public Health), have recommended that $PM_{2.5}$, in addition to TACs, be considered in assessments of community-scale impacts of air pollution.

Another significant issue that affects the quality of life for Bay Area residents is the growing concern with global climate change. In just the past few years, estimates of the global atmospheric temperature and greenhouse gas concentration limits needed to stabilize climate change have been adjusted downward and the impacts of greenhouse gas emissions considered more dire. Previous scientific assessments assumed that limiting global temperature rise to 2-3°C above pre-industrial levels would stabilize greenhouse gas concentrations in the range of 450-550 parts per million (ppm) of carbon dioxide-equivalent (CO_2e). Now the science indicates that a temperature rise of 2°C would not prevent dangerous interference with the climate system. Recent scientific assessments suggest that global temperature rise should be kept below 2°C by stabilizing greenhouse gas concentrations below 350 ppm CO_2e, a significant reduction from the current level of 385 ppm CO_2e.

For the reasons stated above, and to further the goals of other District programs such as encouraging transit-oriented and infill development, BAAQMD has undertaken an effort to review all of its currently-recommended CEQA thresholds, revise them as appropriate, and develop new thresholds where appropriate. The overall goal of this effort is to develop CEQA significance criteria that ensure new development implements appropriate and feasible emission reduction measures to mitigate significant air quality impacts. The Air District's recommended CEQA significance thresholds have been vetted through a public review process and will be presented to the BAAQMD Board of Directors for adoption.

Table 1 – Proposed Air Quality CEQA Thresholds of Significance

Pollutant	**Construction-Related**	**Operational-Related**	
Project-Level			
Criteria Air Pollutants and Precursors (Regional)	**Average Daily Emissions (lb/day)**	**Average Daily Emissions (lb/day)**	**Maximum Annual Emissions (tpy)**
ROG	54	54	10
NO_X	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	

Table 1 – Proposed Air Quality CEQA Thresholds of Significance		
Pollutant	**Construction-Related**	**Operational-Related**
GHGs **Projects other than Stationary Sources**	None	Compliance with Qualified Greenhouse Gas Reduction Strategy OR 1,100 MT of CO_2e/yr OR 4.6 MT CO_2e/SP/yr (residents + employees)
GHGs **Stationary Sources**	None	10,000 MT/yr
Risks and Hazards – New Source (All Areas) (Individual Project) **Staff Proposal**	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 $\mu g/m^3$ annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor
Risks and Hazards – New Receptor (All Areas) (Individual Project) **Staff Proposal**	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 $\mu g/m^3$ annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor
Risks and Hazards (Individual Project) **Tiered Thresholds Option**	Same as Operational Thresholds*	**Impacted Communities:** Siting a New Source Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >5.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.2 $\mu g/m^3$ annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor

Table 1 – Proposed Air Quality CEQA Thresholds of Significance		
Pollutant	**Construction-Related**	**Operational-Related**
Risks and Hazards (Individual Project) **Tiered Thresholds Option** (Continued)	Same as Operational Thresholds*	**Impacted Communities:** Siting a New Receptor **All Other Areas:** Siting a New Source or Receptor Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 $\mu g/m^3$ annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor
Risks and Hazards – New Source (All Areas) (Cumulative Thresholds)	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) $PM_{2.5}$: > 0.8 $\mu g/m^3$ annual average (from all local sources) Zone of Influence: 1,000-foot radius from fence line of source or receptor
Risks and Hazards – New Receptor (All Areas) (Cumulative Thresholds)	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) $PM_{2.5}$: > 0.8 $\mu g/m^3$ annual average (from all local sources) Zone of Influence: 1,000-foot radius from fence line of source or receptor
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous materials locating near receptors or receptors locating near stored or used acutely hazardous materials considered significant
Odors	None	Complaint History—Five confirmed complaints per year averaged over three years

Table 1 – Proposed Air Quality CEQA Thresholds of Significance		
Pollutant	**Construction-Related**	**Operational-Related**
Plan-Level		
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase
GHGs	None	Compliance with Qualified Greenhouse Gas Reduction Strategy (or similar criteria included in a General Plan) OR 6.6 MT CO2e/ SP/yr (residents + employees)
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) 2. Overlay zones of at least 500 feet (or Air District-approved modeled distance) from all freeways and high volume roadways
Odors	None	Identify the location of existing and planned sources of odors
Accidental Release of Acutely Hazardous Air Pollutants	None	None
Regional Plans (Transportation and Air Quality Plans)		
GHGs, Criteria Air Pollutants and Precursors, and Toxic Air Contaminants	None	No net increase in emissions

Notes: CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO_X = oxides of nitrogen; $PM_{2.5}$= fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SO_2 = sulfur dioxide; SP = service population; TACs = toxic air contaminants; TBP = toxic best practices; tons/day = tons per day; tpy = tons per year; yr= year.

* Note: The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

2 GREENHOUSE GAS THRESHOLDS

BAAQMD does not currently have an adopted threshold of significance for GHG emissions. BAAQMD currently recommends that lead agencies quantify GHG emissions resulting from new development and apply all feasible mitigation measures to lessen the potentially significant adverse impacts. One of the primary objectives in updating the current CEQA Guidelines is to identify a GHG significance threshold, analytical

methodologies, and mitigation measures to ensure new land use development meets its fair share of the emission reductions needed to address the cumulative environmental impact from GHG emissions. GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. As reviewed herein, climate change impacts include an increase in extreme heat days, higher ambient concentrations of air pollutants, sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts. No single land use project could generate enough GHG emissions to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts.

2.2 PROPOSED THRESHOLDS OF SIGNIFICANCE

Project Type	Proposed Thresholds
Projects other than Stationary Sources	Compliance with Qualified Greenhouse Gas Reduction Strategy OR 1,100 MT of CO_2e/yr OR 4.6 MT CO_2e/SP/yr (residents + employees)
Stationary Sources	10,000 MT of CO_2e/yr
Plans	Compliance with Qualified Greenhouse Gas Reduction Strategy (or similar criteria included in a General Plan) OR 6.6 MT CO_2e/SP/yr (residents + employees)
Regional Plans (Transportation and Air Quality Plans)	No net increase in GHG emissions

2.3 JUSTIFICATION AND SUBSTANTIAL EVIDENCE SUPPORTING THRESHOLDS

BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant. If mitigation can be applied to lessen the emissions such that the project meets its share of emission reductions needed to address the cumulative impact, the project would normally be considered less than significant.

As explained in the District's *Revised Draft Options and Justifications Report* (BAAQMD 2009), there are several types of thresholds that may be supported by

substantial evidence and be consistent with existing California legislation and policy to reduce statewide GHG emissions. In determining which thresholds to recommend, Staff studied numerous options, relying on reasonable, environmentally conservative assumptions on growth in the land use sector, predicted emissions reductions from statewide regulatory measures and resulting emissions inventories, and the efficacies of GHG mitigation measures. The thresholds recommended herein were chosen based on the substantial evidence that such thresholds represent quantitative and/or qualitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. Compliance with such thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the state's ability to meet its goals of reduced statewide GHG emissions. Staff notes that it does not believe there is only one threshold for GHG emissions that can be supported by substantial evidence.

GHG CEQA significance thresholds recommended herein are intended to serve as interim levels during the implementation of the AB 32 Scoping Plan and SB 375, which will occur over time. Until AB 32 has been fully implemented in terms of adopted regulations, incentives, and programs and until SB 375 required plans have been fully adopted, or the California Air Resources Board (ARB) adopts a recommended threshold, the BAAQMD recommends that local agencies in the Bay Area apply the GHG thresholds recommended herein.

If left unchecked, GHG emissions from new land use development in California will result in a cumulatively considerable amount of GHG emissions and a substantial conflict with the State's ability to meet the goals within AB 32. Thus, BAAQMD proposes to adopt interim GHG thresholds for CEQA analysis, which can be used by lead agencies within the Bay Area. This would help lead agencies navigate this dynamic regulatory and technological environment where the field of analysis has remained wide open and inconsistent. BAAQMD's framework for developing a GHG threshold for land development projects that is based on policy and substantial evidence follows.

2.3.1 Scientific and Regulatory Justification

Climate Science Overview

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, chlorofluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is *extremely unlikely* that global climate change of the past 50 years can be explained without the contribution from human activities (IPCC 2007a).

According to Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC), "Avoiding Dangerous Climate Change" means: *"stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."* Dangerous climate change defined

in the UNFCCC is based on several key indicators including the potential for severe degradation of coral reef systems, disintegration of the West Antarctic Ice Sheet, and shut down of the large-scale, salinity- and thermally-driven circulation of the oceans. (UNFCCC 2009). The global atmospheric concentration of carbon dioxide has increased from a pre-industrial value of about 280 ppm to 379 ppm in 2005 (IPCC 2007a). "Avoiding dangerous climate change" is generally understood to be achieved by stabilizing global average temperatures between 2 and 2.4°C above pre-industrial levels. In order to limit temperature increases to this level, ambient global CO_2 concentrations must stabilize between 350 and 400 ppm (IPCC 2007b).

Executive Order S-3-05

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total GHG emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill 32, the California Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. AB 32 finds and declares that "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020, and establishes regulatory, reporting, voluntary, and market mechanisms to achieve quantifiable reductions in GHG emissions to meet the statewide goal.

In December of 2008, ARB adopted its *Climate Change Scoping Plan* (*Scoping Plan*), which is the State's plan to achieve GHG reductions in California, as required by AB 32 (ARB 2008). The Scoping Plan contains strategies California will implement to achieve a reduction of 169 MMT CO_2e emissions, or approximately 28 percent from the state's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT of CO_2e, or almost 10 percent, from 2002-2004 average emissions), so that the state can return to 1990 emission levels, as required by AB 32.

While the Scoping Plan establishes the policy intent to control numerous GHG sources through regulatory, incentive, and market means, given the early phase of implementation and the level of control that local CEQA lead agencies have over numerous GHG sources, CEQA is an important and supporting tool in achieving GHG reductions overall in compliance with AB 32. In this spirit, BAAQMD is considering the adoption of thresholds of significance for GHG emissions for stationary source and land use development projects.

Senate Bill 375

Senate Bill (SB) 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), which will prescribe land use allocation in that MPO's Regional Transportation Plan (RTP). ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years, but can be updated every four years if advancements in emission technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects would not be eligible for State funding programmed after January 1, 2012. New provisions of CEQA incentivize qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

The revised District CEQA Guidelines includes methodology consistent with the recently updated State CEQA Guidelines, which provides that certain residential and mixed use projects, and transit priority projects consistent with an applicable SCS or APS need not analyze GHG impacts from cars and light duty trucks (CEQA Guidelines §15183.5(c)).

2.3.2 PROJECT-LEVEL GHG THRESHOLDS

Staff recommends setting GHG significance thresholds based on AB 32 GHG emission reduction goals while taking into consideration emission reduction strategies outlined in ARB's Scoping Plan. Staff proposes two quantitative thresholds for land use projects: a bright line threshold based on a "gap" analysis and an efficiency threshold based on emission levels required to be met in order to achieve AB 32 goals.

Staff also proposes one qualitative threshold for land use projects: if a project complies with a Qualified Greenhouse Gas Reduction Strategy (as defined in Section 2.3.4 below) that addresses the project it would be considered less than significant. As explained in detail in Section 2.3.4 below, compliance with a Qualified Greenhouse Gas Reduction Strategy (or similar adopted policies, ordinances and programs), would provide the evidentiary basis for making CEQA findings that development consistent with the plan would result in feasible, measureable, and verifiable GHG reductions consistent with broad state goals such that projects approved under qualified Greenhouse Gas Reduction Strategies or equivalent demonstrations would achieve their fair share of GHG emission reductions.

2.3.2.1 LAND USE PROJECTS "GAP-BASED" THRESHOLD

Staff took eight steps in developing this threshold approach, which are summarized here and detailed in the sections that follow. It should be noted that the "gap-based approach" used for threshold development is a conservative approach that focuses on a limited set of state mandates that appear to have the greatest potential to reduce land use development-

related GHG emissions at the time of this writing. It is also important to note that over time, as the effectiveness of the State's implementation of AB 32 (and SB 375) progresses, BAAQMD will need to reconsider the extent of GHG reductions needed over and above those from the implementation thereof for the discretionary approval of land use development projects. Although there is an inherent amount of uncertainty in the estimated capture rates (i.e., frequency at which project-generated emissions would exceed a threshold and would be subject to mitigation under CEQA) and the aggregate emission reductions used in the gap analysis, they are based on BAAQMD's expertise, the best available data, and use conservative assumptions for the amount of emission reductions from legislation in derivation of the gap (e.g., only adopted legislation was relied upon). This approach is intended to attribute an appropriate share of GHG emission reductions necessary to reach AB 32 goals to new land use development projects in BAAQMD's jurisdiction that are evaluated pursuant to CEQA.

Step 1 Estimate from ARB's statewide GHG emissions inventory the growth in emissions between 1990 and 2020 attributable to "land use-driven" sectors of the emission inventory as defined by OPR's guidance document (*CEQA and Climate Change*). Land use-driven emission sectors include Transportation (On-Road Passenger Vehicles; On-Road Heavy Duty), Electric Power (Electricity; Cogeneration), Commercial and Residential (Residential Fuel Use; Commercial Fuel Use) and Recycling and Waste (Domestic Waste Water Treatment).

Result: 1990 GHG emissions were 295.53 MMT CO_2e/yr and projected 2020 business-as-usual GHG emissions would be 400.22 MMT CO_2e/yr; thus a 26.2 percent reduction from statewide land use-driven GHG emissions would be necessary to meet the AB 32 goal of returning to 1990 emission levels by 2020. (See Table 2)

Step 2 Estimate the anticipated GHG emission reductions affecting the same land use-driven emissions inventory sectors associated with adopted statewide regulations identified in the AB 32 Scoping Plan.

Result: Estimated a 23.9 percent reduction can be expected in the land use-driven GHG emissions inventory from adopted Scoping Plan regulations, including AB 1493 (Pavley), LCFS, Heavy/Medium Duty Efficiency, Passenger Vehicle Efficiency, Energy-Efficiency Measures, Renewable Portfolio Standard, and Solar Roofs. (See Table 3)

Step 3 Determine any short fall or "gap" between the 2020 statewide emission inventory estimates and the anticipated emission reductions from adopted Scoping Plan regulations. This "gap" represents additional GHG emission reductions needed statewide from the land use-driven emissions inventory sectors, which represents new land use development's share of the emission reductions needed to meet statewide GHG emission reduction goals.

Result: With the 23.9 percent reductions from AB 32 Scoping Measures, there is a "gap" of 2.3 percent in necessary additional GHG emissions reductions to meet AB 32 goals of a 26.2 percent reduction from statewide land use-driven GHG emissions to return to 1990 levels in 2020. (See Table 2)

Step 4 Determine the percent reduction this "gap" represents in the "land use-driven" emissions inventory sectors from BAAQMD's 2020 GHG emissions inventory. Identify the mass of emission reductions needed in the SFBAAB from land use-driven emissions inventory sectors.

Result: Estimated that a 2.3 percent reduction in BAAQMD's projected 2020 emissions projections requires emissions reductions of 1.6 MMT CO_2e/yr from the land use-driven sectors. (See Table 4)

Step 5 Assess BAAQMD's historical CEQA database (2001-2008) to determine the frequency distribution trend of project sizes and types that have been subject to CEQA over the past several years.

Result: Determined historical patterns of residential, commercial and industrial development by ranges of average sizes of each development type. Results were used in Step 6 below to distribute anticipated Bay Area growth among different future project types and sizes.

Step 6 Forecast new land use development for the Bay Area using DOF/EDD population and employment projections and distribute the anticipated growth into appropriate land use types and sizes needed to accommodate the anticipated growth (based on the trend analysis in Step 5 above). Translate the land use development projections into land use categories consistent with those contained in the Urban Emissions Model (URBEMIS).

Result: Based on population and employment projections and the trend analysis from Step 5 above, forecasted approximately 4,000 new development projects, averaging about 400 projects per year through 2020 in the Bay Area.

Step 7 Estimate the amount of GHG emissions from each land use development project type and size using URBEMIS and post-model manual calculation methods (for emissions not included in URBEMIS). Determine the amount of GHG emissions that can reasonably and feasibly be reduced through currently available mitigation measures ("mitigation effectiveness") for future land use development projects subject to CEQA (based on land use development projections and frequency distribution from Step 6 above).

Result: Based on the information available and on sample URBEMIS calculations, found that mitigation effectiveness of between 25 and 30 percent is feasible.

Step 8 Conduct a sensitivity analysis of the numeric GHG mass emissions threshold needed to achieve the desired emissions reduction (i.e., "gap") determined in Step 4. This mass emission GHG threshold is that which would be needed to achieve the emission reductions necessary by 2020 to meet the Bay Area's share of the statewide "gap" needed from the land use-driven emissions inventory sectors.

Result: The results of the sensitivity analysis conducted in Step 8 found that reductions between about 125,000 MT/yr (an aggregate of 1.3 MMT in 2020) and over 200,000 MT/yr (an aggregate of over 2.0 MMT in 2020) were achievable and feasible. A mass emissions threshold of 1,100 MT of CO_2e/yr would result in approximately 59 percent of all projects being above the significance threshold (e.g., this is approximately the operational GHG emissions that would be associated with a 60 residential unit subdivision) and must implement feasible mitigation measures to meet CEQA requirements. With an estimated 26 percent mitigation effectiveness, the 1,100 MT threshold would achieve 1.6 MMT CO_2e/yr in GHG emissions reductions.

2.3.2.2 Detailed Basis and Analysis

Derivation of Greenhouse Gas Reduction Goal

To meet the target emissions limit established in AB 32 (equivalent to levels in 1990), total GHG emissions would need to be reduced by approximately 28 percent from projected 2020 forecasts (ARB 2009a). The AB 32 Scoping Plan is ARB's plan for meeting this mandate (ARB 2008). While the Scoping Plan does not specifically identify GHG emission reductions from the CEQA process for meeting AB 32 derived emission limits, the scoping plan acknowledges that "other strategies to mitigate climate change . . . should also be explored." The Scoping Plan also acknowledges that "Some of the measures in the plan may deliver more emission reductions than we expect; others less . . . and new ideas and strategies will emerge." In addition, climate change is considered a significant environmental issue and, therefore, warrants consideration under CEQA. SB 97 represents the State Legislature's confirmation of this fact, and it directed the Governor's Office of Planning and Research (OPR) to develop CEQA Guidelines for evaluation of GHG emissions impacts and recommend mitigation strategies. In response, OPR released the *Technical Advisory: CEQA and Climate Change* (OPR 2008), and proposed revisions to the State CEQA guidelines (April 14, 2009) for consideration of GHG emissions. The California Natural Resources Agency adopted the proposed State CEQA Guidelines revisions on December 30, 2009 and the revisions were effective beginning March 18, 2010. It is known that new land use development must also do its fair share toward achieving AB 32 goals (or, at a minimum, should not hinder the State's progress toward the mandated emission reductions).

Foreseeable Scoping Plan Measures Emission Reductions and Remaining "Gap"

Step 1 of the Gap Analysis entailed estimating from ARB's statewide GHG inventory the growth in emissions between 1990 and 2020 attributable to land use driven sectors of the emissions inventory. As stated above, to meet the requirements set forth in AB 32 (i.e., achieve California's 1990-equivalent GHG emissions levels by 2020) California would need to achieve an approximate 28 percent reduction in emissions across all sectors of the GHG emissions inventory compared with 2020 projections. However, to meet the AB 32 reduction goals in the emissions sectors that are related to land use development (e.g., on-road passenger and heavy-duty motor vehicles, commercial and residential area sources [i.e., natural gas], electricity generation/consumption, wastewater treatment, and water distribution/consumption), staff determined that California would need to achieve an approximate 26 percent reduction in GHG emissions from these land use-driven sectors (ARB 2009a) by 2020 to return to 1990 land use emission levels.

Next, in Step 2 of the Gap Analysis, Staff determined the GHG emission reductions within the land use-driven sectors that are anticipated to occur from implementation of the Scoping Plan measures statewide, which are summarized in Table 2 and described below. Since the GHG emission reductions anticipated with the Scoping Plan were not accounted for in ARB's or BAAQMD's 2020 GHG emissions inventory forecasts (i.e., business as usual), an adjustment was made to include (i.e., give credit for) GHG emission reductions associated with key Scoping Plans measures, such as the Renewable Portfolio Standard, improvements in energy efficiency through periodic updates to Title 24, AB 1493 (Pavley) (which recently received a federal waiver to allow it to be enacted in law), the Low Carbon Fuel Standard (LCFS), and other measures. With reductions from these State regulations (Scoping Plan measures) taken into consideration and accounting for an estimated 23.9 percent reduction in GHG emissions, in Step 3 of the Gap Analysis Staff determined that the Bay Area would still need to achieve an additional 2.3 percent reduction from projected 2020 GHG emissions to meet the 1990 GHG emissions goal from the land-use driven sectors. This necessary 2.3 percent reduction in projected GHG emissions from the land use sector is the "gap" the Bay Area needs to fill to do its share to meet the AB 32 goals. Refer to the following explanation and Tables 2 through 4 for data used in this analysis.

Because the transportation sector is the largest emissions sector of the state's GHG emissions inventory, it is aggressively targeted in early actions and other priority actions in the Scoping Plan including measures concerning gas mileage (Pavley), fuel carbon intensity (LCFS) and vehicle efficiency measures.

Table 2 – California 1990, 2002-2004, and 2020 Land Use Sector GHG[1] (MMT CO_2e/yr)				
Sector	**1990 Emissions**	**2002-2004 Average**	**2020 BAU Emissions Projections**	**% of 2020 Total**
Transportation	**137.98**	**168.66**	**209.06**	**52%**
On-Road Passenger Vehicles	108.95	133.95	160.78	40%
On-Road Heavy Duty	29.03	34.69	48.28	12%
Electric Power	**110.63**	**110.04**	**140.24**	**35%**
Electricity	95.39	88.97	107.40	27%
Cogeneration[2]	15.24	21.07	32.84	8%
Commercial and Residential	**44.09**	**40.96**	**46.79**	**12%**
Residential Fuel Use	29.66	28.52	32.10	8%
Commercial Fuel Use	14.43	12.45	14.63	4%
Recycling and Waste[1]	**2.83**	**3.39**	**4.19**	**1%**
Domestic Wastewater Treatment	2.83	3.39	4.19	1%
TOTAL GROSS EMISSIONS	**295.53**	**323.05**	**400.22**	
% Reduction Goal from Statewide land use driven sectors (from 2020 levels to reach 1990 levels in these emission inventory sectors)			26.2%	
% Reduction from AB32 Scoping Plan measures applied to land use sectors (see Table 3)			-23.9%	
% Reduction needed statewide beyond Scoping Plan measures (Gap)			2.3%	
Notes: MMT CO_2e /yr = million metric tons of carbon dioxide equivalent emissions per year. [1] Landfills not included. See text. [2] Cogeneration included due to many different applications for electricity, in some cases provides substantial power for grid use, and because electricity use served by cogeneration is often amenable to efficiency requirements of local land use authorities. Sources: Data compiled by EDAW and ICF Jones & Stokes from ARB data.				

Pavley Regulations. The AB 32 Scoping Plan assigns an approximate 20 percent reduction in emissions from passenger vehicles associated with the implementation of AB 1493. The AB 32 Scoping Plan also notes that "AB 32 specifically states that if the Pavley regulations do not remain in effect, ARB shall implement alternative regulations to control mobile sources to achieve equivalent or greater reductions of greenhouse gas emissions (HSC §38590)." Thus, it is reasonable to assume full implementation of AB 1493 standards, or equivalent programs that would be implemented by ARB. Furthermore, on April 1, 2010, U.S. EPA and the Department of Transportation's National Highway Safety Administration (NHTSA) announced a joint final rule establishing a national program that will dramatically reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States after 2011. Under this national program, automobile manufacturers will be able to build a single light-duty national fleet that satisfies all requirements under both the national program and the standards of California and other states. Nonetheless, BAAQMD may need to revisit this methodology as the federal standards come on line to ensure that vehicle standards are as aggressive as contemplated in development of this threshold.

Table 3 – 2020 Land Use Sector GHG Emission Reductions from State Regulations and AB 32 Measures

Affected Emissions Source	California Legislation	% Reduction from 2020 GHG inventory	End Use Sector (% of Bay Area LU Inventory)	Scaled % Emissions Reduction (credit)
Mobile	AB 1493 (Pavley)	19.7%	On road passenger/light truck transportation (45%)	8.9%
	LCFS	7.2%	On road passenger/light truck transportation (45%)	3.2%
	LCFS	7.2%	On road Heavy/Medium Duty Transportation (5%)	0.4%
	Heavy/Medium Duty Efficiency	2.9%	On road Heavy/Medium Duty Transportation (5%)	0.2%
	Passenger Vehicle Efficiency	2.8%	On road passenger/light truck transportation (45%)	1.3%
Area	Energy-Efficiency Measures	9.5%	Natural gas (Residential, 10%)	1.0%
			Natural gas (Non-residential,13%)	1.2%
Indirect	Renewable Portfolio Standard	21.0%	Electricity (excluding cogen) (17%)	3.5%
	Energy-Efficiency Measures	15.7%	Electricity (26%)	4.0%
	Solar Roofs	1.5%	Electricity (excluding cogen) (17%)	0.2%
Total credits given to land use-driven emission inventory sectors from Scoping Plan measures				**23.9%**

Notes: AB = Assembly Bill; LCFS = Low Carbon Fuel Standard; SB = Senate Bill; RPS = Renewable Portfolio Standard
Please refer to Appendix D for detailed calculations. Sources: Data compiled by ICF Jones & Stokes.

LCFS. According to the adopted LCFS rule (CARB, April 2009), the LCFS is expected to result in approximately 10 percent reduction in the carbon intensity of transportation fuels. However, a portion of the emission reductions required from the LCFS would be achieved over the life cycle of transportation fuel production rather than from mobile-source emission factors. Based on CARB's estimate of nearly 16 MMT reductions in on-road emissions from implementation of the LCFS and comparison to the statewide on-road emissions sector, the LCFS is assumed to result in a 7.2 percent reduction compared to 2020 BAU conditions (CARB 2009e).

Table 4 – SFBAAB 1990, 2007, and 2020 Land Use Sector GHG Emissions Inventories and Projections (MMT CO_2e/yr)				
Sector	**1990 Emissions**	**2007 Emissions**	**2020 Emissions Projections**	**% of 2020 Total[2]**
Transportation	**26.1**	**30.8**	**35.7**	**50%**
On-Road Passenger Vehicles	23.0	27.5	32.0	
On-Road Heavy Duty	3.1	3.3	3.7	
Electric Power	**25.1**	**15.2**	**18.2**	**26%**
Electricity	16.5	9.9	11.8	
Cogeneration	8.6	5.3	6.4	
Commercial and Residential	**8.9**	**15.0**	**16.8**	**24%**
Residential Fuel Use	5.8	7.0	7.5	
Commercial Fuel Use	3.1	8.0	9.3	
Recycling and Waste[1]	**0.2**	**0.4**	**0.4**	**1%**
Domestic Waste Water Treatment	0.2	0.4	0.4	
TOTAL GROSS EMISSIONS	**60.3**	**61.4**	**71.1**	
SFBAAB's "Fair Share" % Reduction (from 2020 levels to reach 1990 levels) with AB-32 Reductions (from Table 3)			2.3%	
SFBAAB's Equivalent Mass Emissions Land Use Reduction Target at 2020 (MMT CO2e/yr)			1.6	

Notes: MMT CO_2e /yr = million metric tons of carbon dioxide equivalent emissions per year; SFBAAB = San Francisco Bay Area Air Basin.
[1] Landfills not included.
[2] Percentages do not sum exactly to 100% in table due to rounding.
Please refer to Appendix D for detailed calculations.
Sources: Data compiled by EDAW 2009, ICF Jones & Stokes 2009, BAAQMD 2008.

Renewable Portfolio Standard, Energy Efficiency and Solar Roofs. Energy efficiency and renewable energy measures from the Scoping Plan were also included in the gap analysis. The Renewable Portfolio Standard (rules) will require the renewable energy portion of the retail electricity portfolio to be 33 percent in 2020. For PG&E, the dominant electricity provider in the Basin, approximately 12 percent of their current portfolio qualifies under the RPS rules and thus the gain by 2020 would be approximately 21 percent. The Scoping Plan also estimates that energy efficiency gains with periodic improvement in building and appliance energy standards and incentives will reach 10 to 15 percent for natural gas and electricity respectively. The final state measure included in this gap analysis is the solar roof initiative, which is estimated to result in reduction of the overall electricity inventory of 1.5 percent.

Landfill emissions are excluded from this analysis. While land use development does generate waste related to both construction and operations, the California Integrated Waste Management Board (CIWMB) has mandatory diversion requirements that will, in all probability, increase over time to promote waste reductions, reuse, and recycle. The Bay Area has relatively high levels of waste diversion and extensive recycling efforts. Further, ARB has established and proposes to increase methane capture requirements for all major landfills. Thus, at this time, landfill emissions associated with land use

development waste generation is not included in the land use sector inventory used to develop this threshold approach.

Industrial stationary sources thresholds were developed separately from the land use threshold development using a market capture approach as described below. However, mobile source and area source emissions, as well as indirect electricity emissions that derive from industrial use are included in the land use inventory above as these particular activities fall within the influence of local land use authorities in terms of the affect on trip generation and energy efficiency.

AB 32 mandates reduction to 1990-equivalent GHG levels by 2020, with foreseeable emission reductions from State regulations and key Scoping Plan measures taken into account, were applied to the land use-driven emission sectors within the SFBAAB (i.e., those that are included in the quantification of emissions from a land use project pursuant to a CEQA analysis [on-road passenger vehicles, commercial and residential natural gas, commercial and residential electricity consumption, and domestic waste water treatment], as directed by OPR in the Technical Advisory: *Climate Change and CEQA* [OPR 2008]). This translates to a 2.3 percent gap in necessary GHG emission reductions by 2020 from these sectors.

2.3.2.3 Land Use Projects Bright Line Threshold

In Steps 4 and 5 of the gap analysis, Staff determined that applying a 2.3 percent reduction to these land use emissions sectors in the SFBAAB's GHG emissions inventory would result in an equivalent fair share of 1.6 million metric tons per year (MMT/yr) reductions in GHG emissions from new land use development. As additional regulations and legislation aimed at reducing GHG emissions from land use-related sectors become available in the future, the 1.6 MMT GHG emissions reduction goal may be revisited and recalculated by BAAQMD.

In order to derive the 1.6 MMT "gap," a projected development inventory for the next ten years in the SFBAAB was calculated. (See Table 4 and *Revised Draft Options and Justifications Report* (BAAQMD 2009).) CO_2e emissions were modeled for projected development in the SFBAAB and compiled to estimate the associated GHG emissions inventory. The GHG (i.e., CO_2e) CEQA threshold level was adjusted for projected land use development that would occur within BAAQMD's jurisdiction over the period from 2010 through 2020.

Projects with emissions greater than the threshold would be required to mitigate to the threshold level or reduce project emissions by a percentage (mitigation effectiveness) deemed feasible by the Lead Agency under CEQA compared to a base year condition. The base year condition is defined by an equivalent size and character of project with annual emissions using the defaults in URBEMIS and the California Climate Action Registry's General Reporting Protocol for 2008. By this method, land use project mitigation subject to CEQA would help close the "gap" remaining after application of the key regulations and measures noted above supporting overall AB 32 goals.

This threshold takes into account Steps 1-8 of the gap analysis described above to arrive at a numerical mass emissions threshold. Various mass emissions significance threshold levels (i.e., bright lines) could be chosen based on the mitigation effectiveness and performance anticipated to be achieved per project to meet the aggregate emission reductions of 1.6 MMT needed in the SFBAAB by 2020. (See Table 5 and *Revised Draft Options and Justifications Report* (BAAQMD 2009).) Staff recommends a 1,100 MT CO_2e per year threshold. Choosing a 1,100 MT mass emissions significance threshold level (equivalent to approximately 60 single-family units), would result in about 59 percent of all projects being above the significance threshold and having to implement feasible mitigation measures to meet their CEQA obligations. These projects account for approximately 92 percent of all GHG emissions anticipated to occur between now and 2020 from new land use development in the SFBAAB.

Project applicants and lead agencies could use readily available computer models to estimate a project's GHG emissions, based on project specific attributes, to determine if they are above or below the bright line numeric threshold. With this threshold, projects that are above the threshold level, after consideration of emission-reducing characteristics of the project as proposed, would have to reduce their emissions to below the threshold to be considered less than significant.

Establishing a "bright line" to determine the significance of a project's GHG emissions impact provides a level of certainty to lead agencies in determining if a project needs to reduce its GHG emissions through mitigation measures and when an EIR is required.

Table 5 – Operational GHG Threshold Sensitivity Analysis

Option	Mitigation Effectiveness Assumptions		Mass Emission Threshold Level (MT CO_2e/yr)	% of Projects Captured (>threshold)	% of Emissions Captured (> threshold)	Emissions Reduction per year (MT/yr)	Aggregate Emissions Reduction (MMT) at 2020	Threshold Project Size Equivalent (single family dwelling units)
	Performance Standards Applied to All Projects with Emissions < Threshold Level	Mitigation Effectiveness Applied to Emissions > Threshold Level						
1A	N/A	30%	975	60%	93%	201,664	2.0	53
1A	N/A	25%	110	96%	100%	200,108	2.0	66
1A	N/A	30%	1,225	21%	67%	159,276	1.6	67
1A	N/A	26%	1,100	59%	92%	159,877	1.6	60
1A	N/A	30%	2,000	14%	61%	143,418	1.4	109
1A	N/A	25%	1,200	58%	92%	136,907	1.4	66
1A	N/A	30%	3,000	10%	56%	127,427	1.3	164
1A	N/A	25%	1,500	20%	67%	127,303	1.3	82
1B	26%	N/A	N/A	100%	100%	208,594	2.1	N/A[1]
1C	5%	30%	1,900	15%	62%	160,073	1.6	104
1C	10%	25%	1,250	21%	67%	159,555	1.6	68
1C	5%	30%	3,000	10%	56%	145,261	1.5	164
1C	10%	25%	2,000	4%	61%	151,410	1.5	109
1C	10%	30%	10,000	2%	33%	125,271	1.3	547

Notes: MMT = million metric tons per year; MT CO_2e/yr = metric tons of carbon dioxide equivalent emissions per year; MT/yr = metric tons per year; N/A = not applicable.

[1] Any project subject to CEQA would trigger this threshold.

Please refer to Appendix E for detailed calculations.

Source: Data modeled by ICF Jones & Stokes.

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2.3.2.4 LAND USE PROJECTS EFFICIENCY-BASED THRESHOLD

GHG efficiency metrics can also be utilized as thresholds to assess the GHG efficiency of a project on a per capita basis (residential only projects) or on a "service population" basis (the sum of the number of jobs and the number of residents provided by a project) such that the project will allow for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020). GHG efficiency thresholds can be determined by dividing the GHG emissions inventory goal (allowable emissions), by the estimated 2020 population and employment. This method allows highly efficient projects with higher mass emissions to meet the overall reduction goals of AB 32. Staff believes it is more appropriate to base the land use efficiency threshold on the service population metric for the land use-driven emission inventory. This approach is appropriate because the threshold can be applied evenly to all project types (residential or commercial/retail only and mixed use) and uses only the land use emissions inventory that is comprised of all land use projects. Staff will provide the methodology to calculate a project's GHG emissions in the revised CEQA Guidelines, such as allowing infill projects up to a 50 percent or more reduction in daily vehicle trips if the reduction can be supported by close proximity to transit and support services, or a traffic study prepared for the project.

Table 6 – California 2020 GHG Emissions, Population Projections and GHG Efficiency Thresholds - Land Use Inventory Sectors

Land Use Sectors Greenhouse Gas Emissions Target	295,530,000
Population	44,135,923
Employment	20,194,661
California Service Population (Population + Employment)	64,330,584
AB 32 Goal GHG emissions (metric tons CO_2e)/SP[1]	**4.6**

Notes: AB = Assembly Bill; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; SP = service population.
[1] Greenhouse gas efficiency levels were calculated using only the "land use-related" sectors of ARB's emissions inventory.
Please refer to Appendix D for detailed calculations.
Sources: Data compiled by EDAW 2009, ARB 2009a, DOF 2009, EDD 2009, ICF Jones & Stokes 2009.

Staff proposes a project-level efficiency threshold of 4.6 MT CO_2e/SP, the derivation of which is shown Table 6. This efficiency-based threshold reflects very GHG-efficient projects. As stated previously and below, staff anticipates that significance thresholds (rebuttable presumptions of significance at the project level) will function on an interim basis only until adequate programmatic approaches are in place at the city, county, and regional level that will allow the CEQA streamlining of individual projects. (See State CEQA Guidelines §15183.5 ["Tiering and Streamlining the Analysis of Greenhouse Gas Emissions"]).

2.3.3 PLAN-LEVEL GHG THRESHOLDS

Staff proposes using a two step process for determining the significance of proposed plans and plan amendments for GHG. As a first step in assessing plan-level impacts, Staff

is proposing that agencies that have adopted a qualified Greenhouse Gas Reduction Strategy (or have incorporated similar criteria in their general plan) and the general plan is consistent with the Greenhouse Gas Reduction Strategy, the general plan would be considered less than significant. In addition, as discussed above for project-level GHG impacts, Staff is proposing an efficiency threshold to assess plan-level impacts. Staff believes a programmatic approach to limiting GHG emissions is appropriate at the plan-level. Thus, as projects consistent with the Greenhouse Gas Reduction Strategy are proposed, they may be able to tier off the plan and its environmental analysis.

2.3.3.1 GHG Efficiency Metrics for Plans

For local land use plans, a GHG-efficiency metric (e.g., GHG emissions per unit) would enable comparison of a proposed general plan to its alternatives and to determine if the proposed general plan meets AB 32 emission reduction goals.

AB 32 identifies local governments as essential partners in achieving California's goal to reduce GHG emissions. Local governments have primary authority to plan, zone, approve, and permit how and where land is developed to accommodate population growth and the changing needs of their jurisdiction. ARB has developed the Local Government Operations Protocol and is developing a protocol to estimate community-wide GHG emissions. ARB encourages local governments to use these protocols to track progress in reducing GHG emissions. ARB encourages local governments to institutionalize the community's strategy for reducing its carbon footprint in its general plan. SB 375 creates a process for regional integration of land development patterns and transportation infrastructure planning with the primary goal of reducing GHG emissions from the largest sector of the GHG emission inventory, light duty vehicles.

If the statewide AB 32 GHG emissions reduction context is established, GHG efficiency can be viewed independently from the jurisdiction in which the plan is located. Expressing projected 2020 mass of emissions from land use-related emissions sectors by comparison to a demographic unit (e.g., population and employment) provides evaluation of the GHG efficiency of a project in terms of what emissions are allowable while meeting AB 32 targets.

Two approaches were considered for efficiency metrics. The "service population" (SP) approach would consider efficiency in terms of the GHG emissions compared to the sum of the number of jobs and the number of residents at a point in time. The per capita option would consider efficiency in terms of GHG emissions per resident only. Staff recommends that the efficiency threshold for plans be based on all emission inventory sectors because, unlike land use projects, general plans comprise more than just land use related emissions (e.g. industrial). Further, Staff recommends that the plan threshold be based on the service population metric as general plans include a mix of residents and employees. The Service Population metric would allow decision makers to compare GHG efficiency of general plan alternatives that vary residential and non-residential development totals, encouraging GHG efficiency through improving jobs/housing balance. This approach would not give preference to communities that accommodate more residential (population-driven) land

uses than non-residential (employment driven) land uses which could occur with the per capita approach.

A SP-based GHG efficiency metric (see Table 7) was derived from the emission rates at the State level that would accommodate projected population and employment growth under trend forecast conditions, and the emission rates needed to accommodate growth while allowing for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020).

Table 7 – California 2020 GHG Emissions, Population Projections and GHG Efficiency Thresholds - All Inventory Sectors

All Inventory Sectors Greenhouse Gas Emissions Target	426,500,000
Population	44,135,923
Employment	20,194,661
California Service Population (Population + Employment)	64,330,584
AB 32 Goal GHG emissions (metric tons CO_2e)/SP[1]	**6.6**

Notes: AB = Assembly Bill; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; SP = service population.
[1] Greenhouse gas efficiency levels were calculated using only the "land use-related" sectors of ARB's emissions inventory.
Please refer to Appendix D for detailed calculations.
Sources: Data compiled by EDAW 2009, ARB 2009a, DOF 2009, EDD 2009, ICF Jones & Stokes 2009.

If a general plan demonstrates, through dividing the emissions inventory projections (MT CO_2e) by the amount of growth that would be accommodated in 2020, that it could meet the GHG efficiency metrics proposed in this section (6.6 MT CO_2e/SP from all emission sectors, as noted in Table 7), then the amount of GHG emissions associated with the general plan would be considered less than significant, regardless of its size (and magnitude of GHG emissions). In other words, the general plan would accommodate growth in a manner that would not hinder the State's ability to achieve AB 32 goals, and thus, would be less than significant for GHG emissions and their contribution to climate change. The efficiency metric would not penalize well-planned communities that propose a large amount of development. Instead, the SP-based GHG efficiency metric acts to encourage the types of development that BAAQMD and OPR support (i.e., infill and transit-oriented development) because it tends to reduce GHG and other air pollutant emissions overall, rather than discourage large developments for being accompanied by a large mass of GHG emissions. Plans that are more GHG efficient would have no or limited mitigation requirements to help them complete the CEQA process more readily than plans that promote GHG inefficiencies, which will require detailed design of mitigation during the CEQA process and could subject a plan to potential challenge as to whether all feasible mitigation was identified and adopted. This type of threshold can shed light on a well-planned general plan that accommodates a large amount of growth in a GHG-efficient way.

When analyzing long-range plans, such as general plans, it is important to note that the planning horizon will often surpass the 2020 timeframe for implementation of AB 32. Executive Order S-3-05 establishes a more aggressive emissions reduction goal for the year 2050 of 80 percent below 1990 emissions levels. The year 2020 should be viewed as a milestone year, and the general plan should not preclude the community from a trajectory toward the 2050 goal. However, the 2020 timeframe is examined in this threshold evaluation because doing so for the 2050 timeframe (with respect to population, employment, and GHG emissions projections) would be too speculative. Advances in technology and policy decisions at the state level will be needed to meet the aggressive 2050 goals. It is beyond the scope of the analysis tools available at this time to examine reasonable emissions reductions that can be achieved through CEQA analysis in the year 2050. As the 2020 timeframe draws nearer, BAAQMD will need to reevaluate the threshold to better represent progress toward 2050 goals.

2.3.4 GREENHOUSE GAS REDUCTION STRATEGIES

Finally, many local agencies have already undergone or plan to undergo efforts to create general or other plans that are consistent with AB 32 goals. The Air District encourages such planning efforts and recognizes that careful upfront planning by local agencies is invaluable to achieving the state's GHG reduction goals. If a project is consistent with an adopted Qualified Greenhouse Gas Reduction Strategy that addresses the project's GHG emissions, it can be presumed that the project will not have significant GHG emission impacts. This approach is consistent with CEQA Guidelines Sections 15064(h)(3) and 15183.5(b), which provides that a "lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem."

A qualified Greenhouse Gas Reduction Strategy (or similar adopted policies, ordinances and programs) is one that is consistent with all of the AB 32 Scoping Plan measures and goals. The Greenhouse Gas Reduction Strategy should identify a land use design, transportation network, goals, policies and implementation measures that would achieve AB 32 goals. Strategies with horizon years beyond 2020 should consider continuing the downward reduction path set by AB 32 and move toward climate stabilization goals established in Executive Order S-3-05.

Qualified Greenhouse Gas Reduction Strategy

A qualified Greenhouse Gas Reduction Strategy adopted by a local jurisdiction should include the following elements as described in the State CEQA Guidelines Section 15183.5. The District's revised CEQA Guidelines provides the methodology to determine if a Greenhouse Gas Reduction Strategy meets these requirements.

(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

(B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;

(F) Be adopted in a public process following environmental review.

Local Climate Action Policies, Ordinances and Programs

Air District staff recognizes that many communities in the Bay Area have been proactive in planning for climate change but have not yet developed a stand-alone Greenhouse Gas Reduction Strategy that meets the above criteria. Many cities and counties have adopted climate action policies, ordinances and program that may in fact achieve the goals of AB 32 and a qualified Greenhouse Gas Reduction Strategy. Staff recommends that if a local jurisdiction can demonstrate that its collective set of climate action policies, ordinances and other programs is consistent with AB 32 and State CEQA Guidelines Section 15183.5, includes requirements or feasible measures to reduce GHG emissions and achieves one of the following GHG emission reduction goals,[3] the AB 32 consistency demonstration should be considered equivalent to a qualified Greenhouse Gas Reduction Strategy:

- 1990 GHG emission levels,
- 15 percent below 2008 emission levels, or

Qualified Greenhouse Gas Reduction Strategies that are tied to the AB 32 reduction goals would promote reductions on a plan level without impeding the implementation of GHG-efficient development, and would recognize the initiative of many Bay Area communities who have already developed or are in the process of developing a GHG reduction plan. The details required above for a qualified Greenhouse Gas Reduction Strategy (or similar adopted policies, ordinances and programs) would provide the evidentiary basis for making CEQA findings that development consistent with the plan would result in feasible, measureable, and verifiable GHG reductions consistent with broad state goals

[3] Lead agencies using consistency with their jurisdiction's climate action policies, ordinances and programs as a measure of significance under CEQA Guidelines section 15064(h)(3) and 15183.5(b) should ensure that the policies, ordinances and programs satisfy all of the requirements of that subsection before relying on them in a CEQA analysis.

such that projects approved under qualified Greenhouse Gas Reduction Strategies or equivalent demonstrations would achieve their fair share of GHG emission reductions.

2.3.4.1 GHG THRESHOLDS FOR REGIONAL PLANS

Regional plans include the Regional Transportation Plan prepared by the Metropolitan Transportation Commission (MTC) and air quality plans prepared by the Air District.

The Regional Transportation Plan (RTP), also called a Metropolitan Transportation Plan (MTP) or Long-Range Transportation Plan is the mechanism used in California by both Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) to conduct long-range (minimum of 20 years) planning in their regions. MTC functions as both the regional transportation planning agency, a state designation, and, for federal purposes, as the region's metropolitan planning organization (MPO). As such, it is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of the Bay Area's transportation system that includes mass transit, highway, airport, seaport, railroad, bicycle and pedestrian facilities. The performance of this system affects such public policy concerns as air quality, environmental resource consumption, social equity, "smart growth," economic development, safety, and security. Transportation planning recognizes the critical links between transportation and other societal goals. The planning process requires developing strategies for operating, managing, maintaining, and financing the area's transportation system in such a way as to advance the area's long-term goals.

The Air District periodically prepares and updates plans to achieve the goal of healthy air. Typically, a plan will analyze emissions inventories (estimates of current and future emissions from industry, motor vehicles, and other sources) and combine that information with air monitoring data (used to assess progress in improving air quality) and computer modeling simulations to test future strategies to reduce emissions in order to achieve air quality standards. Air quality plans usually include measures to reduce air pollutant emissions from industrial facilities, commercial processes, motor vehicles, and other sources. Bay Area air quality plans are prepared with the cooperation of MTC, the Association of Bay Area Governments (ABAG) and the Bay Conservation and Development Commission (BCDC).

The proposed threshold of significance for regional plans is no net increase in emissions including greenhouse gas emissions. This threshold serves to answer the State CEQA Guidelines Appendix G sample question: "Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?"

2.3.5 STATIONARY SOURCE GHG THRESHOLD

Staff's recommended threshold for stationary source GHG emissions is based on estimating the GHG emissions from combustion sources for all permit applications submitted to the Air District in 2005, 2006 and 2007. The analysis is based only on CO_2

emissions from stationary sources, as that would cover the vast majority of the GHG emissions due to stationary combustion sources in the SFBAAB. The estimated CO_2 emissions were calculated for the maximum permitted amount, i.e. emissions that would be emitted if the sources applying for a permit application operate at maximum permitted load and for the total permitted hours. All fuel types are included in the estimates. For boilers burning natural gas, diesel fuel is excluded since it is backup fuel and is used only if natural gas is not available. Emission values are estimated before any offsets (i.e., Emission Reduction Credits) are applied. GHG emissions from mobile sources, electricity use and water delivery associated with the operation of the permitted sources are not included in the estimates.

It is projected that a threshold level of 10,000 metric tons of CO_2e per year would capture approximately 95 percent of all GHG emissions from new permit applications from stationary sources in the SFBAAB. That threshold level was calculated as an average of the combined CO_2 emissions from all stationary source permit applications submitted to the Air District during the three year analysis period.

Staff recommends this 10,000 MT of CO_2/yr as it would address a broad range of combustion sources and thus provide for a greater amount of GHG reductions to be captured and mitigated through the CEQA process. As documented in the Scoping Plan, in order to achieve statewide reduction targets, emissions reductions need to be obtained through a broad range of sources throughout the California economy and this threshold would achieve this purpose. While this threshold would capture 95 percent of the GHG emissions from new permit applications, the threshold would do so by capturing only the large, significant projects. Permit applications with emissions above the 10,000 MT of CO_2/yr threshold account for less than 10 percent of stationary source permit applications which represent 95 percent of GHG emissions from new permits analyzed during the three year analysis period.

This threshold would be considered an interim threshold and Air District staff will reevaluate the threshold as AB 32 Scoping Plan measures such as cap and trade are more fully developed and implemented at the state level.

2.3.6 Summary of Justification for GHG Thresholds

The bright-line numeric threshold of 1,100 MT CO_2e/yr is a numeric emissions level below which a project's contribution to global climate change would be less than "cumulatively considerable." This emissions rate is equivalent to a project size of approximately 60 single-family dwelling units, and approximately 59 percent of all future projects and 92 percent of all emissions from future projects would exceed this level. For projects that are above this bright-line cutoff level, emissions from these projects would still be less than cumulatively significant if the project as a whole would result in an efficiency of 4.6 MT CO_2e per service population or better for mixed-use projects. Projects with emissions above 1,100 MT CO_2e/yr would therefore still be less than significant if they achieved project efficiencies below these levels. If projects as proposed exceed these levels, they would be required to implement mitigation measures to bring

them back below the 1,100 MT CO_2e/yr bright-line cutoff or within the 4.6 MT CO_2e Service Population efficiency threshold. If mitigation did not bring a project back within the threshold requirements, the project would be cumulatively significant and could be approved only with a Statement of Overriding Considerations and a showing that all feasible mitigation measures have been implemented. Projects' GHG emissions would also be less than significant if they comply with a Qualified Greenhouse Gas Reduction Strategy.

As explained in the preceding analyses of these thresholds, the greenhouse gas emissions from land use projects expected between now and 2020 built in compliance with these thresholds would be approximately 26 percent below BAU 2020 conditions and thus would be consistent with achieving an AB 32 equivalent reduction. The 26 percent reduction from BAU 2020 from new projects built in conformance with these proposed thresholds would achieve an aggregate reduction of approximately 1.6 MMT CO_2e/yr, which is the level of emission reductions from new Bay Area land use sources needed to meet the AB 32 goals, per ARB's Scoping Plan as discussed above.

Projects with greenhouse gas emissions in conformance with these proposed thresholds would therefore not be considered significant for purposes of CEQA. Although the emissions from such projects would add an incremental amount to the overall greenhouse gas emissions that cause global climate change impacts, emissions from projects consistent with these thresholds would not be a "cumulatively considerable" contribution under CEQA. Such projects would not be "cumulatively considerable" because they would be helping to solve the cumulative problem as a part of the AB 32 process.

California's response to the problem of global climate change is to reduce greenhouse gas emissions to 1990 levels by 2020 under AB 32 as a near-term measure and ultimately to 80 percent below 1990 levels by 2050 as the long-term solution to stabilizing greenhouse gas concentrations in the atmosphere at a level that will not cause unacceptable climate change impacts. To implement this solution, the Air Resources Board has adopted a Scoping Plan and budgeted emissions reductions that will be needed from all sectors of society in order to reach the interim 2020 target.

The land-use sector in the Bay Area needs to achieve aggregate emission reductions of approximately 1.6 MMT CO_2e/yr from new projects between now and 2020 to achieve this goal, as noted above, and each individual new project will need to achieve its own respective portion of this amount in order for the Bay Area land use sector as a whole to achieve its allocated emissions target. Building all of the new projects expected in the Bay Area between now and 2020 in accordance with the thresholds that District staff are proposing will achieve the overall appropriate share for the land use sector, and building each individual project in accordance with the proposed thresholds will achieve that individual project's respective portion of the emission reductions needed to implement the AB 32 solution. For these reasons, projects built in conformance with the proposed thresholds will be part of the solution to the cumulative problem, and not part of the continuing problem. They will allow the Bay Area's land use sector to achieve the emission reductions necessary from that sector for California to implement its solution to the cumulative problem of global climate change. As such, even though such projects

will add an incremental amount of greenhouse gas emissions, their incremental contribution will be less than "cumulatively considerable" because they are helping to achieve the cumulative solution, not hindering it. Such projects will therefore not be "significant" for purposes of CEQA. (*See* CEQA Guidelines §15064(h)(1).)

The conclusion that land use projects that comply with these proposed thresholds is also supported by CEQA Guidelines Section 15030(a)(3), which provides that a project's contribution to a cumulative problem can be less that cumulatively considerable "if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact." In the case of greenhouse gas emissions associated with land use projects, achieving the amount of emission reductions below BAU that will be required to achieve the AB 32 goals is the project's "fair share" of the overall emission reductions needed under ARB's scoping plan to reach the overall statewide AB 32 emissions levels for 2020. If a project is designed to implement greenhouse gas mitigation measures that achieve a level of reductions consistent with what is required from all new land use projects to achieve the land use sector "budget" – *i.e.*, keeping overall project emissions below 1,100 MT CO_2e/yr or ensuring that project efficiency is better than 4.6 MT CO_2e/service population – then it will be implementing its share of the mitigation measures necessary to alleviate the cumulative impact, as shown in the analyses set forth above.

It is also worth noting that this "fair share" approach is flexible and will allow a project's significance to be determined by how well it is designed from a greenhouse gas efficiency standpoint, and not just by the project's size. For example, a large high-density infill project located in an urban core nearby to public transit and other alternative transportation options, and built using state-of-the-art energy efficiency methods and improvements such as solar panels, as well as all other feasible mitigation measures, would not become significant for greenhouse gas purposes (and thus require a Statement of Overriding Considerations in order to be approved) simply because it happened to be a large project. Projects such as this hypothetical development with low greenhouse gas emissions per service population are what California will need in the future in order to do its part in achieving a solution to the problem of global climate change. The determination of significance under CEQA should therefore take these factors into account, and staff's proposed significance thresholds would achieve this important policy goal. In all, land use sector projects that comply with the GHG thresholds would not be "cumulatively considerable" because they would be helping to solve the cumulative problem as a part of the AB 32 process.

Likewise, new Air District permit applications for stationary sources that comply with the quantitative threshold of 10,000 MT CO_2e/yr would not be "cumulatively considerable" because they also would not hinder the state's ability to solve the cumulative greenhouse gas emissions problem pursuant to AB 32. Unlike the land use sector, the AB 32 Scoping Plan measures, including the cap-and-trade program, provide for necessary emissions reductions from the stationary source sector to achieve AB 32 2020 goals.

While stationary source projects will need to comply with the cap-and-trade program once it is enacted and reduce their emissions accordingly, the program will be phased in over time starting in 2012 and at first will only apply to the very largest sources of GHG emissions. In the mean time, certain stationary source projects, particularly those with large GHG emissions, still will have a cumulatively considerable impact on climate change. The 10,000 MT CO_2e/yr threshold will capture 95 percent of the stationary source sector GHG emissions in the Bay Area. The five percent of emissions that are from stationary source projects below the 10,000 MT CO_2e/yr threshold account for a small portion of the Bay Area's total GHG emissions from stationary sources and these emissions come from very small projects. Such small stationary source projects will not significantly add to the global problem of climate change, and they will not hinder the Bay Area's ability to reach the AB 32 goal in any significant way, even when considered cumulatively. In Air District's staff's judgment, the potential environmental benefits from requiring EIRs and mitigation for these projects would be insignificant. In all, based on staff's expertise, stationary source projects with emissions below 10,000 MT CO_2e/yr will not provide a cumulatively considerable contribution to the cumulative impact of climate change.

3 COMMUNITY RISK AND HAZARD THRESHOLDS

To address community risk from air toxics, the Air District initiated the Community Air Risk Evaluation (CARE) program in 2004 to identify locations with high levels of risk from ambient toxic air contaminants (TAC) co-located with sensitive populations and use the information to help focus mitigation measures. Through the CARE program, the Air District developed an inventory of TAC emissions for 2005 and compiled demographic and heath indicator data. According to the findings of the CARE Program, diesel PM—mostly from on and off-road mobile sources—accounts for over 80 percent of the inhalation cancer risk from TACs in the Bay Area (BAAQMD 2006).

The Air District applied a regional air quality model using the 2005 emission inventory data to estimate excess cancer risk from ambient concentrations of important TAC species, including diesel PM, 1,3-butadiene, benzene, formaldehyde and acetaldehyde. The highest cancer risk levels from ambient TAC in the Bay Area tend to occur in the core urban areas, along major roadways and adjacent to freeways and port activity. Cancer risks in areas along these major freeways are estimated to range from 200 to over 500 excess cases in a million for a lifetime of exposure. Priority communities within the Bay Area – defined as having higher emitting sources, highest air concentrations, and nearby low income and sensitive populations – include the urban core areas of Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose.

Fifty percent of BAAQMD's population was estimated to have an ambient background inhalation cancer risk of less than 500 cases in one million, based on emission levels in 2005. Table 8 presents a summary of percentages of the population exposed to varying levels of cancer risk from ambient TACs. Approximately two percent of the SFBAAB

population is exposed to background risk levels of less than 200 excess cases in one million. This is in contrast to the upper percentile ranges where eight percent of the SFBAAB population is exposed to background risk levels of greater than 1,000 excess cases per one million. To identify and reduce risks from TAC, this chapter presents thresholds of significance for both cancer risk and non-cancer health hazards.

Table 8 – Statistical Summary of Estimated Population-Weighted Ambient Cancer Risk in 2005

Percentage of Population (Percent below level of ambient risk)	Ambient Cancer Risk (inhalation cancer cases in one million)
92	1,000
90	900
83	800
77	700
63	600
50	500
32	400
13	300
2	200
<1	100

Source: Data compiled by EDAW 2009.

Many scientific studies have linked fine particulate matter and traffic-related air pollution to respiratory illness (Hiltermann et al. 1997, Schikowski et al 2005, Vineis et al. 2007) and premature mortality (Dockery 1993, Pope et al. 1995, Jerrett et al. 2005). Traffic-related air pollution is a complex mix of chemical compounds (Schauer et al. 2006), often spatially correlated with other stressors, such as noise and poverty (Wheeler and Ben-Shlomo 2005). While such correlations can be difficult to disentangle, strong evidence for adverse health effects of fine particulate matter ($PM_{2.5}$) has been developed for regulatory applications in a study by the U.S, EPA. This study found that a 10 percent increase in $PM_{2.5}$ concentrations increased the non-injury death rate by 10 percent (U.S. EPA 2006).

Public Health Officers for four counties in the San Francisco Bay Area in 2009 provided testimony to the Air District's Advisory Council (February 11, 2009, Advisory Council Meeting on Air Quality and Public Health). Among the recommendations made, was that $PM_{2.5}$, in addition to TACs, be considered in assessments of community-scale impacts of air pollution. In consideration of the scientific studies and recommendations by the Bay Area Health Directors, it is apparent that, in addition to the significance thresholds for local-scale TAC, thresholds of significance are required for near-source, local-scale concentrations of $PM_{2.5}$.

3.2 PROPOSED THRESHOLDS OF SIGNIFICANCE

Proposed thresholds of significance and Board-requested options are presented in this section:

- The **Staff Proposal** includes thresholds for cancer risk, non-cancer health hazards, and fine particulate matter.
- **Tiered Thresholds Option** includes tiered thresholds for new sources in impacted communities. Thresholds for receptors and cumulative impacts are the same as the Staff Proposal.

Proposal/Option	Construction-Related	Operational-Related
Project-Level – Individual Project		
Risks and Hazards – New Source (All Areas) (Individual Project) **Staff Proposal**	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 $\mu g/m^3$ annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor
Risks and Hazards – New Receptor (All Areas) (Individual Project) **Staff Proposal**	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 $\mu g/m^3$ annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor

Proposal/Option	Construction-Related	Operational-Related
Risks and Hazards (Individual Project) **Tiered Thresholds Option**	Same as Operational Thresholds*	**Impacted Communities:** Siting a New Source Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >5.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.2 µg/m^3 annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor
	Same as Operational Thresholds*	**Impacted Communities:** Siting a New Receptor **All Other Areas:** Siting a New Source or Receptor Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 µg/m^3 annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous materials locating near receptors or receptors locating near stored or used acutely hazardous materials considered significant
Project-Level – Cumulative		
Risks and Hazards – New Source (All Areas) (Cumulative Thresholds)	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) $PM_{2.5}$: > 0.8 µg/m^3 annual average (from all local sources) Zone of Influence: 1,000-foot radius from fence line of source or receptor

Proposal/Option	Construction-Related	Operational-Related
Risks and Hazards – New Receptor (All Areas) (Cumulative Thresholds)	Same as Operational Thresholds*	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) $PM_{2.5}$: > 0.8 $\mu g/m^3$ annual average (from all local sources) Zone of Influence: 1,000-foot radius from fence line of source or receptor
Plan-Level		
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas). 2. Overlay zones of at least 500 feet (or Air District-approved modeled distance) from all freeways and high volume roadways.
Accidental Release of Acutely Hazardous Air Pollutants	None	None
Regional Plans (Transportation and Air Quality Plans)		
Risks and Hazards	None	No net increase in toxic air contaminants

* Note: The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

3.3 JUSTIFICATION AND SUBSTANTIAL EVIDENCE SUPPORTING THRESHOLDS

The goal of the proposed thresholds is to ensure that no source creates, or receptor endures, a significant adverse impact from any individual project, and that the total of all nearby directly emitted risk and hazard emissions is also not significantly adverse. The thresholds for local risks and hazards from TAC and $PM_{2.5}$ are intended to apply to all sources of emissions, including both permitted stationary sources and on- and off-road mobile sources, such as sources related to construction, busy roadways, or freight movement.

Thresholds for an individual new source are designed to ensure that the source does not contribute to a cumulatively significant impact. Cumulative thresholds for sources recognize that some areas are already near or at levels of significant impact. If within such an area there are receptors, or it can reasonably be foreseen that there will be

receptors, then a cumulative significance threshold sets a level beyond which any additional risk is significant.

For new receptors – sensitive populations or the general public – thresholds of significance are designed to identify levels of contributed risk or hazards from existing local sources that pose a significant risk to the receptors. Single-source thresholds for receptors are provided to recognize that within the area defined there can be variations in risk levels that may be significant. Single-source thresholds assist in the identification of significant risks, hazards, or concentrations in a subarea, within the area defined by the selected radius. Cumulative thresholds for receptors are designed to account for the effects of all sources within the defined area.

Cumulative thresholds, for both sources and receptors, must consider the size of the source area, defined by a radius from the proposed project. To determine cumulative impacts from a prescribed zone of influence requires the use of modeling. The larger the radius, the greater the number of sources considered that may contribute to the modeled risk and, until the radius approaches a regional length scale, the greater the expected modeled risk increment. If the area of impact considered were grown to the scale of a city, the modeled risk increment would approach the risk level present in the ambient air.

3.3.1 SCIENTIFIC AND REGULATORY JUSTIFICATION

Regulatory Framework for TACs

Prior to 1990, the Clean Air Act required EPA to list air toxics it deemed hazardous and to establish control standards which would restrict concentrations of hazardous air pollutants (HAP) to a level that would prevent any adverse effects "with an ample margin of safety." By 1990, EPA had regulated only seven such pollutants and it was widely acknowledged by that time that the original Clean Air Act had failed to address toxic air emissions in any meaningful way. As a result, Congress changed the focus of regulation in 1990 from a risk-based approach to technology-based standards. Title III, Section 112(b) of the 1990 Clean Air Act Amendment established this new regulatory approach. Under this framework, prescribed pollution control technologies based upon maximum achievable control technology (MACT) were installed without the a priori estimation of the health or environmental risk associated with each individual source. The law listed 188 HAPs that would be subject to the MACT standards. EPA issued 53 standards for 89 different types of major industrial sources of air toxics and eight categories of smaller sources such as dry cleaners. These requirements took effect between 1996 and 2002. Under the federal Title V Air Operating Permit Program, a facility with the potential to emit 10 tons of any toxic air pollutant, or 25 tons per year of any combination of toxic air pollutants, is defined as a major source HAPs. Title V permits include requirements for these facilities to limit toxic air pollutant emissions.

Several state and local agencies adopted programs to address gaps in EPA's program prior to the overhaul of the national program in 1990. California's program to reduce exposure to air toxics was established in 1983 by the Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner 1983) and the Air Toxics "Hot Spots"

Information and Assessment Act (AB 2588, Connelly 1987). Under AB 1807, ARB and the Office of Environmental Health Hazard Assessment (OEHHA) determines if a substance should be formally identified as a toxic air contaminant (TAC) in California. OEHHA also establishes associated risk factors and safe concentrations of exposure.

AB 1807 was amended in 1993 by AB 2728, which required ARB to identify the 189 federal hazardous air pollutants as TACs. AB 2588 (Connelly, 1987) supplements the AB 1807 program, by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. In September 1992, the "Hot Spots" Act was amended by Senate Bill 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Cancer Risk

Cancer risk from TACs is typically expressed in numbers of excess cancer cases per million persons exposed over a defined period of exposure, for example, over an assumed 70 year lifetime. The Air District is not aware of any agency that has established an acceptable level of cancer risk for TACs. However, a range of what constitutes a significant increment of cancer risk from any compound has been established by the U.S. EPA. EPA's guidance for conducting air toxics analyses and making risk management decisions at the facility- and community-scale level considers a range of acceptable cancer risks from one in a million to one in ten thousand (100 in a million). The guidance considers an acceptable range of cancer risk increments to be from one in a million to one in ten thousand. In protecting public health with an ample margin of safety, EPA strives to provide maximum feasible protection against risks to health from HAPs by limiting additional risk to a level no higher than the one in ten thousand estimated risk that a person living near a source would be exposed to at the maximum pollutant concentrations for 70 years. This goal is described in the preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking (54 Federal Register 38044, September 14, 1989) and is incorporated by Congress for EPA's residual risk program under Clean Air Act section 112(f).

Regulation 2, Rule 5 of the Air District specifies permit requirements for new and modified stationary sources of TAC. The Project Risk Requirement (2-5-302.1) states that the Air Pollution Control Officer shall deny an Authority to Construct or Permit to Operate for any new or modified source of TACs if the project cancer risk exceeds 10.0 in one million.

Hazard Index for Non-cancer Health Effects

Non-cancer health hazards for chronic and acute diseases are expressed in terms of a hazard index (HI), a ratio of TAC concentration to a reference exposure level (REL), below which no adverse health effects are expected, even for sensitive individuals. As such, OEHHA has defined acceptable concentration levels, and also significant concentration increments, for compounds that pose non-cancer health hazards. If the HI for a compound is less than one, non-cancer chronic and acute health impacts have been determined to be less than significant.

State and Federal Ambient Air Quality Standards for $PM_{2.5}$

The Children's Environmental Health Protection Act (Senate Bill 25), passed by the California state legislature in 1999, requires ARB, in consultation with OEHHA, to "review all existing health-based ambient air quality standards to determine whether, based on public health, scientific literature and exposure pattern data, these standards adequately protect the public, including infants and children, with an adequate margin of safety." As a result of the review requirement, in 2002 ARB adopted an annual average California Ambient Air Quality Standard (CAAQS) for $PM_{2.5}$ of 12 ug/m^3 that is not to be exceeded (California Code of Regulations, Title 17 § 70200, Table of Standards.) The National Ambient Air Quality Standard (NAAQS) established an annual standard for $PM_{2.5}$ (15 ug/m^3) that is less stringent that the CAAQS, but also set a 24-hour average standard (35 ug/m^3), which is not included in the CAAQS (Code of Federal Regulations, Title 40, Part 50.7).

Significant Impact Levels for $PM_{2.5}$

EPA recently proposed and documented alternative options for $PM_{2.5}$ Significant Impact Levels (SILs) (Federal Register 40 CFR Parts 51 and 52, September 21, 2007). The EPA is proposing to facilitate implementation of a $PM_{2.5}$ Prevention of Significant Deterioration (PSD) program in areas attaining the $PM_{2.5}$ NAAQS by developing $PM_{2.5}$ increments, or SILs. These "increments" are maximum increases in ambient $PM_{2.5}$ concentrations ($PM_{2.5}$ increments) allowed in an area above the baseline concentration.

The SIL is a threshold that would be applied to individual facilities that apply for a permit to emit a regulated pollutant in an area that meets the NAAQS. The State and EPA must determine if emissions from that facility will cause the air quality to worsen. If an individual facility projects an increase in emissions that result in ambient impacts greater than the established SIL, the permit applicant would be required to perform additional analyses to determine if those impacts will be more than the amount of the PSD increment. This analysis would combine the impact of the proposed facility when added to all other sources in the area.

The EPA is proposing such values for $PM_{2.5}$ that will be used as screening tools by a major source subject to PSD to determine the subsequent level of analysis and data gathering required for a PSD permit application for emissions of $PM_{2.5}$. The SIL is one element of the EPA program to prevent deterioration in regional air quality and is utilized in the new source review (NSR) process. New source review is required under Section 165 of the Clean Air Act, whereby a permit applicant must demonstrate that emissions from the proposed construction and operation of a facility "will not cause, or contribute to, air pollution in excess of any maximum allowable increase or maximum allowable concentration for any pollutant." The purpose of the SIL is to provide a screening level that triggers further analysis in the permit application process.

For the purpose of NSR, SILs are set for three types of areas: Class I areas where especially clean air is most desirable, including national parks and wilderness areas; Class II areas where there is not expected to be substantial industrial growth; and Class III areas where the highest relative level of industrial development is expected. In Class II

and Class III areas, a $PM_{2.5}$ concentration of 0.3, 0.8, and 1 $\mu g/m^3$ has been proposed as a SIL. To arrive at the SIL $PM_{2.5}$ option of 0.8 $\mu g/m^3$, EPA scaled an established PM_{10} SILs of 1.0 $\mu g/m^3$ by the ratio of emissions of $PM_{2.5}$ to PM_{10} using the EPA's 1999 National Emissions Inventory. To arrive at the SIL option of 0.3 $\mu g/m^3$, EPA scaled the PM_{10} SIL of 1.0 $\mu g/m^3$ by the ratio of the current Federal ambient air quality standards for $PM_{2.5}$ and PM_{10} (15/50). These options represent what EPA currently considers as a range of appropriate SIL values.

EPA interprets the SIL to be the level of $PM_{2.5}$ increment that represents a "significant contribution" to regional non-attainment. While SIL options were not designed to be thresholds for assessing community risk and hazards, they are being considered to protect public health at a regional level by helping an area maintain the NAAQS. Furthermore, since it is the goal of the Air District to achieve and maintain the NAAQS and CAAQS at both regional and local scales, the SILs may be reasonably be considered as thresholds of significance under CEQA for local-scale increments of $PM_{2.5}$.

Roadway Proximity Health Studies

Several medical research studies have linked near-road pollution exposure to a variety of adverse health outcomes impacting children and adults. Kleinman et al. (2007) studied the potential of roadway particles to aggravate allergic and immune responses in mice. Using mice that were not inherently susceptible, the researchers placed these mice at various distances downwind of State Road 60 and Interstate 5 freeways in Los Angeles to test the effect these roadway particles have on their immune system. They found that within five meters of the roadway, there was a significant allergic response and elevated production of specific antibodies. At 150 meters (492 feet) and 500 meters (1,640 feet) downwind of the roadway, these effects were not statistically significant.

Another significant study (Ven Hee et al. 2009) conducted a survey involving 3,827 participants that aimed to determine the effect of residential traffic exposure on two preclinical indicators of heart failure; left ventricular mass index (LVMI), measured by the cardiac magnetic resonance imaging (MRI), and ejection fraction. The studies classified participants based on the distance between their residence and the nearest interstate highway, state or local highway, or major arterial road. Four distance groups were defined: less than 50 meters (165 feet), 50-100 meters, 101-150 meters, and greater than 150 meters. After adjusting for demographics, behavioral, and clinical covariates, the study found that living within 50 meters of a major roadway was associated with a 1.4 g/m^2 higher LVMI than living more than 150 meters from one. This suggests an association between traffic-related air pollution and increased prevalence of a preclinical predictor of heart failure among people living near roadways.

To quantify the roadway concentrations of $PM_{2.5}$ that contributed to the health impacts reported by Kleinman et al (2007), the Air District modeled the emissions and associated particulate matter concentrations for the roadways studied. To perform the modeling, emissions were estimated for Los Angeles using the EMFAC model and annual average vehicle traffic data taken from Caltrans was used in the roadway model (CAL3QHCR) to estimate the downwind $PM_{2.5}$ concentrations at 50 meters and 150 meters. Additionally,

emissions were assumed to occur from 10:00 a.m. to 2:00 p.m. corresponding to the time in which the mice were exposed during the study. The results of the modeling indicate that at 150 meters, where no significant health effects were found, the downwind concentration of $PM_{2.5}$ was 0.78 $\mu g/m^3$, consistent with the proposed EPA SIL option of 0.8 $\mu g/m^3$.

Concentration-Response Function for $PM_{2.5}$

The U.S. EPA reevaluated the relative risk of premature death associated with $PM_{2.5}$ exposure and developed a new relative risk factor (U.S. EPA 2006). This expert elicitation was prepared in support of the characterization of uncertainty in EPA's benefits analyses associated with reductions in exposure to particulate matter pollution. As recommended by the National Academy of Sciences, EPA used expert judgment to better describe the uncertainties inherent in their benefits analysis. . Twelve experts participated in the study and provided not just a point estimate of the health effects of PM2.5, but a probability distribution representing the range where they expected the true effect would be. Among the experts who directly incorporated their views on the likelihood of a causal relationship into their distributions, the central (median) estimates of the percent change in all-cause mortality in the adult U.S. population that would result from a permanent 1 μg/m3 drop in annual average PM2.5 concentrations ranged from 0.7 to 1.6 percent. The median of their estimates was 1.0 (% increase per 1 μg/m3 increase in PM2.5), with a 90% confidence interval of 0.3 to 2.0 (medians of their 5th and 95th percentiles, respectively) (BAAQMD 2010).Subsequent to the EPA elicitation, Schwartz et al. (2008) examined the linearity of the concentration-response function of $PM_{2.5}$-mortality and showed that the response function was linear, with health effects clearly continuing below the current U.S. standard of 15 $\mu g/m^3$, and that the effects of changes in exposure on mortality were seen within two years.

San Francisco Ordinance on Roadway Proximity Health Effects

In 2008, the City and County of San Francisco adopted an ordinance (San Francisco Health Code, Article 38 - Air Quality Assessment and Ventilation Requirement for Urban Infill Residential Development, Ord. 281-08, File No. 080934, December 5, 2008) requiring that public agencies in San Francisco take regulatory action to prevent future air quality health impacts from new sensitive uses proposed near busy roadways (SFDPH 2008). The regulation requires that developers screen sensitive use projects for proximity to traffic and calculate the concentration of $PM_{2.5}$ from traffic sources where traffic volumes suggest a potential hazard. If modeled levels of traffic-attributable $PM_{2.5}$ at a project site exceed an action level (currently set at 0.2 $\mu g/m^3$) developers would be required to incorporate ventilation systems to remove 80 percent of $PM_{2.5}$ from outdoor air. The regulation does not place any requirements on proposed sensitive uses if modeled air pollutant levels fall below the action threshold. This ordinance only considers impacts from on-road motor vehicles, not impacts related to construction equipment or stationary sources.

A report with supporting documentation for the ordinance (SFPHD 2008) provided a threshold to trigger action or mitigation of 0.2 $\mu g/m^3$ of $PM_{2.5}$ annual average exposure from roadway vehicles within a 150 meter (492 feet) maximum radius of a sensitive

receptor. The report applied the concentration-response function from Jerrett et al. (2005) that attributed 14 percent increase in mortality to a 10 $\mu g/m^3$ increase in $PM_{2.5}$ to estimate an increase in non-injury mortality in San Francisco of about 21 excess deaths per million population per year from a 0.2 $\mu g/m^3$ increment of annual average $PM_{2.5}$.

Distance for Significant Impact

The distance used for the radius around the project boundary should reflect the zone or area over which sources may have a significant influence. For cumulative thresholds, for both sources and receptors, this distance also determines the size of the source area, defined. To determine cumulative impacts from a prescribed zone of influence requires the use of modeling. The larger the radius, the greater the number of sources considered that may contribute to the risk and the greater the expected modeled risk increment. If the area of impact considered were grown to approach the scale of a city, the modeled risk increment would approach the risk level present in the ambient air.

A summary of research findings in ARB's Land Use Compatibility Handbook (ARB 2005) indicates that traffic-related pollutants were higher than regional levels within approximately 1,000 feet downwind and that differences in health-related effects (such as asthma, bronchitis, reduced lung function, and increased medical visits) could be attributed in part to the proximity to heavy vehicle and truck traffic within 300 to 1,000 feet of receptors. In the same summary report, ARB recommended avoiding siting sensitive land uses within 1,000 feet of a distribution center and major rail yard, which supports the use of a 1,000 feet evaluation distance in case such sources may be relevant to a particular project setting. A 1,000 foot zone of influence is also supported by Health & Safety Code §42301.6 (Notice for Possible Source Near School).

Some studies have shown that the concentrations of particulate matter tend to be reduced substantially or can even be indistinguishable from upwind background concentrations at a distance 1,000 feet downwind from sources such as freeways or large distribution centers. Zhu et al. (2002) conducted a systematic ultrafine particle study near Interstate 710, one of the busiest freeways in the Los Angeles Basin. Particle number concentration and size distribution were measured as a function of distances upwind and downwind of the I-710 freeway. Approximately 25 percent of the 12,180 vehicles per hour are heavy duty diesel trucks based on video counts conducted as part of the research. Measurements were taken at 13 feet, 23 feet, 55 feet, 252 feet, 449 feet, and 941 feet downwind and 613 feet upwind from the edge of the freeway. The particle number and supporting measurements of carbon monoxide and black carbon decreased exponentially and all constituents simultaneously tracked with each other as one moves away from the freeway. Ultrafine particle size distribution changed markedly and its number concentrations dropped dramatically with increasing distance. The study found that ultrafine particle concentrations measured 941 feet downwind of I-710 were indistinguishable from the upwind background concentration.

Impacted Communities

Starting in 2006, the Air District's CARE program developed gridded TAC emissions inventories and compiled demographic information that were used to identify

communities that were particularly impacted by toxic air pollution for the purposes of distributing grant and incentive funding. In 2009, the District completed regional modeling of TAC on a one kilometer by one kilometer grid system. This modeling was used to estimate cancer risk and TAC population exposures for the entire District. The information derived from the modeling was then used to update and refine the identification of impacted communities. One kilometer modeling yielded estimates of annual concentrations of five key compounds – diesel particulate matter, benzene, 1,3-butadiene, formaldehyde, and acetaldehyde – for year 2005. These concentrations were multiplied by their respective unit cancer risk factors, as established by OEHHA, to estimate the expected excess cancer risk per million people from these compounds.

Sensitive populations from the 2000 U.S. Census database were identified as youth (under 18) and seniors (over 64) and mapped to the same one kilometer grid used for the toxics modeling. Excess cancers from TAC exposure were determined by multiplying these sensitive populations by the model-estimated excess risk to establish a data set representing sensitive populations with high TAC exposures. TAC emissions (year 2005) were mapped to the one kilometer grid and also scaled by their unit cancer risk factor to provide a data set representing source regions for TAC emissions. Block-group level household income data from the U.S. Census database were used to identify block groups with family incomes where more than 40 percent of the population was below 185 percent of the federal poverty level (FPL). Poverty-level polygons that intersect high (top 50 percent) exposure cells and are within one grid cell of a high emissions cell (top 25 percent) were used to identify impacted areas. Boundaries were constructed along major roads or highways that encompass nearby high emission cells and low income areas. This method identified the following six areas as priority communities: (1) portions of the City of Concord; (2) Western Contra Costa County (including portions of the Cities of Richmond and San Pablo); (3) Western Alameda County along the Interstate-880 corridor (including portions of the Cities of Berkeley, Oakland, San Leandro, San Lorenzo, Hayward; (4) Portions of the City of San Jose. (5) Eastern San Mateo County (including portions of the Cities of Redwood City and East Palo Alto); and (6) Eastern portions of the City of San Francisco.

3.3.2 Construction, Land Use and Stationary Source Risk and Hazard Thresholds

The proposed options for local risk and hazards thresholds of significance are based on U.S. EPA guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level. The thresholds consider reviews of recent health effects studies that link increased concentrations of fine particulate matter to increased mortality. The proposed thresholds would apply to both siting new sources and siting new receptors.

For new sources of TACs, thresholds of significance for a single source are designed to ensure that emissions do not raise the risk of cancer or non-cancer health impacts to cumulatively significant levels. For new sources of $PM_{2.5}$, thresholds are designed to ensure that $PM_{2.5}$ concentrations are maintained below state and federal standards in all

areas where sensitive receptors or members of the general public live or may foreseeably live, even if at the local- or community-scale where sources of TACs and PM may be nearby.

Project Radius for Assessing Impacts

For a project proposing a new source or receptor it is recommended to assess impacts within 1,000 feet, taking into account both its individual and nearby cumulative sources (i.e. proposed project plus existing and foreseeable future projects). Cumulative sources are the combined total risk values of each individual source within the 1,000-foot evaluation zone. A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a proposed project is beyond the recommended radius.

The 1,000 foot radius is consistent with findings in ARB's Land Use Compatibility Handbook (ARB 2005), the Health & Safety Code §42301.6 (Notice for Possible Source Near School), and studies such as that of Zhu et al (2002) which found that concentrations of particulate matter tend to be reduced substantially at a distance 1,000 feet downwind from sources such as freeways or large distribution centers.

Qualified Community Risk Reduction Plan

Within the framework of these thresholds, proposed projects would be considered to be less than significant if they are consistent with a qualified Community Risk Reduction Plan (CRRP) adopted by the local jurisdiction with enforceable measures to reduce the community risk.

Project proposed in areas where a CRRP has been adopted that are not consistent with the CRRP would be considered to have a significant impact.

Projects proposed in areas where a CRRP has not been adopted and that have the potential to expose sensitive receptors or the general public to emissions-related risk in excess of the thresholds below from any source would be considered to have a significant air quality impact.

The conclusion that land use projects that comply with qualified Community Risk Reduction Plans are less than significant is supported by CEQA Guidelines Sections 15030(a)(3) and 15064(h)(3), which provides that a project's contribution to a cumulative problem can be less that cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

Increased Cancer Risk to Maximally Exposed Individual (MEI)

Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of carcinogenic TACs from any source result in an increased cancer risk greater than 10.0 in one million, assuming a 70 year lifetime exposure. Under Board Option 1, within Impacted Communities as defined

through the CARE program, the significance level for cancer would be reduced to 5.0 in one million for new sources.

The 10.0 in one million cancer risk threshold for a single source is supported by EPA's guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level. It is also the level set by the Project Risk Requirement in the Air District's Regulation 2, Rule 5 new and modified stationary sources of TAC, which states that the Air Pollution Control Officer shall deny an Authority to Construct or Permit to Operate for any new or modified source of TACs if the project risk exceeds a cancer risk of 10.0 in one million.

This threshold for an individual new source is designed to ensure that the source does not contribute a cumulatively significant impact. The justification for the Tiered Thresholds Option threshold of 5.0 in one million for new sources in an impacted community is that in these areas the cancer risk burden is higher than in other parts of the Bay Area; the threshold at which an individual source becomes significant is lower for an area that is already at or near unhealthy levels. However, even without a tiered approach, the recommended thresholds already address the burden of impacted communities via the cumulative thresholds: specifically, if an area has many existing TAC sources near receptors, then the cumulative threshold will be reached sooner than it would in another area with fewer TAC sources.

The single-source threshold for receptors is provided to address the possibility that within the area defined by the 1,000 foot radius there can be variations in risk levels that may be significant, below the corresponding cumulative threshold. Single-source thresholds assist in the identification of significant risks, hazards, or concentrations in a subarea, within the 1,000 foot radius.

Increased Non-Cancer Risk to MEI

Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of non-carcinogenic TACs result in an increased chronic or acute Hazard Index (HI) from any source greater than 1.0. This threshold is unchanged under Tiered Thresholds Option.

A HI less than 1.0 represents a TAC concentration, as determined by OEHHA that is at a health protective level. While some TACs pose non-carcinogenic, chronic and acute health hazards, if the TAC concentrations result in a HI less than one, those concentrations have been determined to be less than significant.

Increased Ambient Concentration of $PM_{2.5}$

Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of $PM_{2.5}$ from any source would result in an average annual increase greater than 0.3 $\mu g/m^3$. Under Tiered Thresholds Option, within Impacted Communities as defined through the CARE program, the significance level for a $PM_{2.5}$ increment is 0.2 $\mu g/m^3$.

If one applies the concentration-response of the median of the EPA consensus review (EPA 2005, BAAQMD 2010) and attributes a 1 percent increase in mortality to a 1 $\mu g/m^3$ increase in $PM_{2.5}$, one finds an increase in non-injury mortality in the Bay Area of about 20 excess deaths per million per year from a 0.3 $\mu g/m^3$ increment of $PM_{2.5}$. This is consistent with the impacts reported and considered significant by SFDPH (2008) using an earlier study (Jerrett et al. 2005) to estimate the increase in mortality from a 0.2 $\mu g/m^3$ $PM_{2.5}$ increment.

The SFDPH recommended a lower threshold of significance for multiple sources but only considered roadway emissions within a 492 foot radius. This recommendation applies to a single source but considers all types of emissions within 1,000 feet. On balance, the Air District estimates that the SFDPH threshold and this proposed one, in combination with the cumulative threshold for $PM_{2.5}$, will afford similar levels of health protection.

The proposed $PM_{2.5}$ threshold represents the lower range of an EPA proposed Significant Impact Level (SIL). EPA interprets the SIL to be the level of ambient impact that is considered to represent a "significant contribution" to regional non-attainment. While this threshold was not designed to be a threshold for assessing community risk and hazards, it was designed to protect public health at a regional level by helping an area maintain the NAAQS. Since achieving and maintaining state and federal AAQS is a reasonable goal at the local scale, the SIL provides a useful reference for comparison.

This threshold for an individual new source is designed to ensure that the source does not contribute a cumulatively significant impact. The justification for the Tiered Thresholds Option threshold of 0.2 $\mu g/m^3$ for new sources in an impacted community is that these areas have higher levels of diesel particulate matter than do other parts of the Bay Area; the threshold at which an individual source becomes significant is lower for an area that is already at or near unhealthy levels. However, even without a tiered approach, the recommended thresholds already address the burden of impacted communities via the cumulative thresholds: specifically, if an area has many existing $PM_{2.5}$ sources near receptors, then the cumulative threshold will be reached sooner than it would in another area with fewer $PM_{2.5}$ sources.

The single-source threshold for receptors is provided to address the possibility that within the area defined by the 1,000 foot radius there can be variations in risk levels that may be significant, below the corresponding cumulative threshold. Single-source thresholds assist in the identification of significant risks, hazards, or concentrations in a subarea, within the 1,000 foot radius.

3.3.2.1 Accidental Release of Acutely Hazardous Air Emissions

The BAAQMD currently recommends, at a minimum, that the lead agency, in consultation with the administering agency of the Risk Management Prevention Program (RMPP), find that any project resulting in receptors being within the Emergency Response Planning Guidelines (ERPG) exposure level 2 for a facility has a significant air quality impact. ERPG exposure level 2 is defined as "the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for

up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action."

Staff proposes continuing with the current threshold for the accidental release of hazardous air pollutants. Staff recommends that agencies consult with the California Emergency Management Agency for the most recent guidelines and regulations for the storage of hazardous materials. Staff proposes that projects using or storing acutely hazardous materials locating near existing receptors, and projects resulting in receptors locating near facilities using or storing acutely hazardous materials be considered significant.

The current Accidental Release/Hazardous Air Emissions threshold of significance could affect all projects, regardless of size, and require mitigation for Accidental Release/Hazardous Air Emissions impacts.

3.3.3 Cumulative Risk and Hazard Thresholds

Qualified Community Risk Reduction Plan

Proposed projects would be considered to be less than significant if they are consistent with a qualified Community Risk Reduction Plan (CRRP) adopted by the local jurisdiction with enforceable measures to reduce the community risk.

Project proposed in areas where a CRRP has been adopted that are not consistent with the CRRP would be considered to have a significant impact.

Projects proposed in areas where a CRRP has not been adopted and that have the potential to expose sensitive receptors or the general public to emissions-related risk in excess of the following thresholds from the aggregate of cumulative sources would be considered to have a significant air quality impact.

The conclusion that land use projects that comply with qualified Community Risk Reduction Plans are less than significant is supported by CEQA Guidelines Sections 15030(a)(3) and 15064(h)(3), which provides that a project's contribution to a cumulative problem can be less that cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

Increased Cancer Risk to Maximally Exposed Individual (MEI)

Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of carcinogenic TACs from any source result in an increased cancer risk greater than 100.0 in one million.

The significance threshold of 100 in a million increased excess cancer risk would be applied to the cumulative emissions. The 100 in a million threshold is based on EPA guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level. In protecting public health with an ample margin of

safety, EPA strives to provide maximum feasible protection against risks to health from hazardous air pollutants (HAPs) by limiting risk to a level no higher than the one in ten thousand (100 in a million) estimated risk that a person living near a source would be exposed to at the maximum pollutant concentrations for 70 years (NESHAP 54 Federal Register 38044, September 14, 1989; CAA section 112(f)). One hundred in a million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on the District's recent regional modeling analysis.

Increased Non-Cancer Risk to MEI

Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of non-carcinogenic TACs result in an increased chronic Hazard Index from any source greater than 10.0.

The Air District has developed an Air Toxics Hot Spots (ATHS) program that provides guidance for implementing the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Connelly, 1987: chaptered in the California Health and Safety Code § 44300, et. al.). The ATHS provides that if the health risks resulting from the facility's emissions exceed significance levels established by the air district, the facility is required to conduct an airborne toxic risk reduction audit and develop a plan to implement measures that will reduce emissions from the facility to a level below the significance level. The Air District has established a non-cancer Hazard Index of ten (10.0) as ATHS mandatory risk reduction levels. The proposed cumulative chronic non-cancer Hazard Index threshold is consistent with the Air District's ATHS program.

Increased Ambient Concentration of $PM_{2.5}$

Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of $PM_{2.5}$ from any source would result in an average annual increase greater than 0.8 $\mu g/m^3$.

If one applies the concentration-response function from the U.S, EPA assessment (U.S. EPA 2006) and attributes a 10 percent increase in mortality to a 10 $\mu g/m^3$ increase in $PM_{2.5}$, one finds an increase in non-injury mortality in the Bay Area of about 50 excess deaths per year from a 0.8 $\mu g/m^3$ increment of $PM_{2.5}$. This is greater the impacts reported and considered significant by SFDPH (2008) using an earlier study (Jerrett et al. 2005) to estimate the increase in mortality from a 0.2 $\mu g/m^3$ $PM_{2.5}$ increment (SFDPH reported 21 excess deaths per year). However, SFDPH only considered roadway emissions within a 492 foot radius. This proposed threshold applies to all types of emissions within 1,000 feet. In modeling applications for proposed projects, a larger radius results in a greater number of sources considered and higher modeled concentrations. On balance, the Air District estimates that the SFDPH threshold and this proposed one, in combination with the individual source threshold for $PM_{2.5}$, will afford similar levels of health protection.

The proposed cumulative $PM_{2.5}$ threshold represents the middle range of an EPA proposed Significant Impact Level (SIL). EPA interprets the SIL to be the level of ambient impact that is considered to represent a "significant contribution" to regional non-attainment. While this threshold was not designed to be a threshold for assessing

community risk and hazards, it was designed to protect public health at a regional level by helping an area maintain the NAAQS. Since achieving and maintaining state and federal AAQS is a reasonable goal at the local scale, the SIL provides a useful reference for comparison. Furthermore, the 0.8 $\mu g/m^3$ threshold is consistent with studies (Kleinman et al 2007) that examined the potential health impacts of roadway particles.

3.3.4 Plan-Level Risk and Hazard Thresholds

Staff proposes plan-level thresholds that will encourage a programmatic approach to addressing the overall adverse conditions resulting from risks and hazards that many Bay Area communities experience. By designating overlay zones in land use plans, local land use jurisdictions can take preemptive action before project-level review to reduce the potential for significant exposures to risk and hazard emissions. While this will require more up-front work at the general plan level, in the long-run this approach is a more feasible approach consistent with Air District and CARB guidance about siting sources and sensitive receptors that is more effective than project by project consideration of effects that often has more limited mitigation opportunities. This approach would also promote more robust cumulative consideration of effects of both existing and future development for the plan-level CEQA analysis as well as subsequent project-level analysis.

For local plans to have a less-than-significant impact with respect to potential risks and hazards, overlay zones would have to be established around existing and proposed land uses that would emit these air pollutants. Overlay zones to avoid risk impacts should be reflected in local plan policies, land use map(s), and implementing ordinances (e.g., zoning ordinance). The overlay zones around existing and future risk sources would be delineated using the quantitative approaches described above for project-level review and the resultant risk buffers would be included in the General Plan (or the EIR for the General Plan) to assist in site planning. BAAQMD will provide guidance as to the methods used to establish the TAC buffers and what standards to be applied for acceptable exposure level in the updated CEQA Guidelines document. Special overlay zones of at least 500 feet (or an appropriate distance determined by modeling and approved by the Air District) on each side of all freeways and high volume roadways would be included in this proposed threshold.

The threshold of significance for plan impacts could affect all plan adoptions and amendments and require mitigation for a plan's air quality impacts. Where sensitive receptors would be exposed above the acceptable exposure level, the plan impacts would be considered significant and mitigation would be required to be imposed either at the plan level (through policy) or at the project level (through project level requirements).

3.3.5 Community Risk Reduction Plans

The goal of a Community Risk Reduction Plan would be to bring TAC and $PM_{2.5}$ concentrations for the entire community covered by the Plan down to acceptable levels as identified by the local jurisdiction and approved by the Air District. This approach

provides local agencies a proactive alternative to addressing communities with high levels of risk on a project-by-project approach. This approach is supported by CEQA Guidelines Section 15030(a)(3), which provides that a project's contribution to a cumulative problem can be less than cumulatively considerable "if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact." This approach is also further supported by CEQA Guidelines Section 15064(h)(3), which provides that a project's contribution to a cumulative effect is not considerable "if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem."

Qualified Community Risk Reduction Plans

(A) A qualified Community Risk Reduction Plan adopted by a local jurisdiction should include, at a minimum, the following elements. The District's revised CEQA Guidelines provides the methodology to determine if a Community Risk Reduction Plan meets these requirements. Define a planning area;

(B) Include base year and future year emissions inventories of TACs and PM2.5;

(C) Include Air District–approved risk modeling of current and future risks;

(D) Establish risk and exposure reduction goals and targets for the community in consultation with Air District staff;

(E) Identify feasible, quantifiable, and verifiable measures to reduce emissions and exposures;

(F) Include procedures for monitoring and updating the inventory, modeling and reduction measures in coordination with Air District staff;

(G) Be adopted in a public process following environmental review.

4 CRITERIA POLLUTANT THRESHOLDS

4.2 PROPOSED THRESHOLDS OF SIGNIFICANCE

Project Construction	
Pollutant	**Average Daily (pounds/day)**
ROG (reactive organic gases)	54
NO_X (nitrogen oxides)	54
PM_{10} (exhaust) (particulate matter-10 microns)	82
$PM_{2.5}$ (exhaust) (particulate matter-2.5 microns)	54
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices
Local CO (carbon monoxide)	None

Project Operations		
Pollutant	**Average Daily (pounds/day)**	**Maximum Annual (tons/year)**
ROG	54	10
NO_X	54	10
PM_{10}	82	15
$PM_{2.5}$	54	10
Local CO	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	

Plans
1. Consistency with Current Air Quality Plan control measures 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase

Regional Plans (Transportation and Air Quality Plans)
No net increase in emissions of criteria air pollutants and precursors

4.3 JUSTIFICATION AND SUBSTANTIAL EVIDENCE SUPPORTING THRESHOLDS

4.3.1 PROJECT CONSTRUCTION CRITERIA POLLUTANT THRESHOLDS

Staff proposes criteria pollutant construction thresholds that add significance criteria for exhaust emissions to the existing fugitive dust criteria employed by the Air District. While our current Guidelines considered construction exhaust emissions controlled by the overall air quality plan, the implementation of new and more stringent state and federal standards over the past ten years now warrants additional control of this source of emissions.

The average daily criteria air pollutant and precursor emission levels shown above are recommended as the thresholds of significance for construction activity for exhaust emissions. These thresholds represent the levels above which a project's individual emissions would result in a considerable contribution (i.e., significant) to the SFBAAB's existing non-attainment air quality conditions and thus establish a nexus to regional air quality impacts that satisfies CEQA requirements for evidence-based determinations of significant impacts.

For fugitive dust emissions, staff recommends following the current best management practices approach which has been a pragmatic and effective approach to the control of fugitive dust emissions. Studies have demonstrated (Western Regional Air Partnership, U.S.EPA) that the application of best management practices at construction sites have significantly controlled fugitive dust emissions. Individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to more than 90 percent. In the aggregate best management practices will substantially reduce fugitive dust emissions from construction sites. These studies support staff's recommendation that projects implementing construction best management practices will reduce fugitive dust emissions to a less than significant level.

4.3.2 PROJECT OPERATION CRITERIA POLLUTANT THRESHOLDS

The proposed thresholds for project operations are the average daily and maximum annual criteria air pollutant and precursor levels shown above. These thresholds are based on the federal BAAQMD Offset Requirements to ozone precursors for which the SFBAAB is designated as a non-attainment area which is an appropriate approach to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevention of a regionally cumulative significant impact (e.g. worsened status of non-attainment). Despite non-attainment area for state PM_{10} and pending nonattainment for federal $PM_{2.5}$, the federal NSR Significant Emission Rate annual limits of 15 and 10 tons per year, respectively, are proposed thresholds as BAAQMD has not established an Offset Requirement limit for $PM_{2.5}$ and the existing limit of 100 tons per year is much less stringent and would not be appropriate in light of our pending nonattainment designation for the federal 24-hour $PM_{2.5}$ standard. These thresholds represent the emission levels above which a project's individual emissions would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. The thresholds would be an evaluation of the incremental contribution of a project to a significant cumulative impact. These threshold levels are well-established in terms of existing regulations as promoting review of emissions sources to prevent cumulative deterioration of air quality. Using existing environmental standards in this way to establish CEQA thresholds of significance under Guidelines section 15067.4 is an appropriate and effective means of promoting consistency in significance determinations and integrating CEQA environmental review activities with other areas of environmental

regulation. (*See Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal. App. 4th 98, 111.[4])

4.3.3 Local Carbon Monoxide Thresholds

The proposed carbon monoxide thresholds are based solely on ambient concentration limits set by the California Clean Air Act for Carbon Monoxide and Appendix G of the State of California CEQA Guidelines.

Since the ambient air quality standards are health-based (i.e., protective of public health), there is substantial evidence (i.e., health studies that the standards are based on) in support of their use as CEQA significance thresholds. The use of the ambient standard would relate directly to the CEQA checklist question. By not using a proxy standard, there would be a definitive bright line about what is or is not a significant impact and that line would be set using a health-based level.

The CAAQS of 20.0 ppm and 9 ppm for 1-hour and 8-hour CO, respectively, would be used as the thresholds of significance for localized concentrations of CO. Carbon monoxide is a directly emitted pollutant with primarily localized adverse effects when concentrations exceed the health based standards established by the California Air Resources Board (ARB).

In addition, Appendix G of the State of California CEQA Guidelines includes the checklist question: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? Answering yes to this question would indicate that the project would result in a significant impact under CEQA. The use of the ambient standard would relate directly to this checklist question.

4.3.4 Plan-Level Criteria Pollutant Thresholds

This proposed threshold achieves the same goals as the Air District's current approach while alleviating the existing analytical difficulties and the inconsistency of comparing a plan update with AQP growth projections that may be up to several years old. Eliminating the analytical inconsistency provides better nexus and proportionality for evaluating air quality impacts for plans.

Over the years staff has received comments on the difficulties inherent in the current approach regarding the consistency tests for population and VMT growth. First, the population growth estimates used in the most recent AQP can be up to several years older than growth estimates used in a recent plan update, creating an inconsistency in this analysis. Staff recommends that this test of consistency be eliminated because the Air

[4] The Court of Appeal in the *Communities for a Better Environment* case held that existing regulatory standards could not be used as a definitive determination of whether a project would be significant under CEQA where there is substantial evidence to the contrary. Staff's proposed thresholds would not do that. The thresholds are levels at which a project's emissions would normally be significant, but would not be binding on a lead agency if there is contrary evidence in the record.

District and local jurisdictions all use regional population growth estimates that are disaggregated to local cities and counties. In addition, the impact to air quality is not necessarily growth but where that growth is located. The second test, rate of increase in vehicle use compared to growth rate, will determine if planned growth will impact air quality. Compact infill development inherently has less vehicle travel and more transit opportunities than suburban sprawl.

Second, the consistency test of comparing the rate of increase in VMT to the rate of increase in population has been problematic at times for practitioners because VMT is not always available with the project analysis. Staff recommends that either the rate of increase in VMT or vehicle trips be compared to the rate of increase in population. Staff also recommends that the growth estimates used in this analysis be for the years covered by the plan. Staff also recommends that the growth estimates be obtained from the Association of Bay Area Governments since the Air District uses ABAG growth estimates for air quality planning purposes.

4.3.5 Criteria Pollutant Thresholds for Regional Plans

Regional plans include the Regional Transportation Plan prepared by the Metropolitan Transportation Commission (MTC) and air quality plans prepared by the Air District.

The Regional Transportation Plan (RTP), also called a Metropolitan Transportation Plan (MTP) or Long-Range Transportation Plan is the mechanism used in California by both Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) to conduct long-range (minimum of 20 years) planning in their regions. MTC functions as both the regional transportation planning agency, a state designation, and, for federal purposes, as the region's metropolitan planning organization (MPO). As such, it is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of comprehensive transportation system that includes mass transit, highway, airport, seaport, railroad, bicycle and pedestrian facilities. The performance of this system affects such public policy concerns as air quality, environmental resource consumption, social equity, "smart growth," economic development, safety, and security. Transportation planning recognizes the critical links between transportation and other societal goals. The planning process requires developing strategies for operating, managing, maintaining, and financing the area's transportation system in such a way as to advance the area's long-term goals.

The Air District periodically prepares and updates plans to achieve the goal of healthy air. Typically, a plan will analyze emissions inventories (estimates of current and future emissions from industry, motor vehicles, and other sources) and combine that information with air monitoring data (used to assess progress in improving air quality) and computer modeling simulations to test future strategies to reduce emissions in order to achieve air quality standards. Air quality plans usually include measures to reduce air pollutant emissions from industrial facilities, commercial processes, motor vehicles, and other sources. Bay Area air quality plans are prepared with the cooperation of MTC and the Association of Bay Area Governments (ABAG).

The proposed threshold of significance for regional plans is no net increase in emissions including criteria pollutant emissions. This threshold serves to answer the State CEQA Guidelines Appendix G sample question: "Would the project Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?"

5 ODOR THRESHOLDS

5.2 PROPOSED THRESHOLDS OF SIGNIFICANCE

Project Operations – Source or Receptor	Plans
Five confirmed complaints per year averaged over three years	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors

5.3 JUSTIFICATION AND SUBSTANTIAL EVIDENCE SUPPORTING THRESHOLDS

Staff proposes revising the current CEQA significance threshold for odors to be consistent with the Air District's regulation governing odor nuisances (Regulation 7—Odorous Substances). The current approach includes assessing the number of unconfirmed complaints which are not considered indicative of actual odor impacts. Basing the threshold on an average of five confirmed complaints per year over a three year period reflects the most stringent standards derived from the Air District rule and is therefore considered an appropriate approach to a CEQA evaluation of odor impacts.

Odors are generally considered a nuisance, but can result in a public health concern. Some land uses that are needed to provide services to the population of an area can result in offensive odors, such as filling portable propane tanks or recycling center operations. When a proposed project includes the siting of sensitive receptors in proximity to an existing odor source, or when siting a new source of potential odors, the following qualitative evaluation should be performed.

When determining whether potential for odor impacts exists, it is recommended that Lead Agencies consider the following factors and make a determination based on evidence in each qualitative analysis category:

- **Distance:** Use the screening-level distances in Table 9.
- **Wind Direction:** Consider whether sensitive receptors are located upwind or downwind from the source for the most of the year. If odor occurrences associated

with the source are seasonal in nature, consider whether sensitive receptors are located downwind during the season in which odor emissions occur.

- **Complaint History:** Consider whether there is a history of complaints associated with the source. If there is no complaint history associated with a particular source (perhaps because sensitive receptors do not already exist in proximity to the source), consider complaint-history associated with other similar sources in BAAQMD's jurisdiction with potential to emit the same or similar types of odorous chemicals or compounds, or that accommodate similar types of processes.

- **Character of Source:** Consider the character of the odor source, for example, the type of odor events according to duration of exposure or averaging time (e.g., continuous release, frequent release events, or infrequent events).

- **Exposure:** Consider whether the project would result in the exposure of a substantial number of people to odorous emissions.

Table 9 – Screening Distances for Potential Odor Sources

Type of Operation Project Screening	Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Coffee Roaster	1 mile

California Integrated Waste Management Board (CIWMB). Facilities that are regulated by the CIWMB (e.g. landfill, composting, etc.) are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. The Air District recognizes a Lead Agency's discretion under CEQA to use established odor detection thresholds as thresholds of significance for CEQA review for CIWMB regulated facilities with an adopted OIMP.

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EXHIBIT 6

Comments Regarding Air Quality Impact Analysis and Mitigation

706 Mission Street Project

Draft EIR (San Francisco, CA)

Autumn Wind Associates, Inc.

Newcastle, CA

Prepared for Tom Lippe, Attorney

April 26, 2013

I. Introduction

Autumn Wind Associates provides the following comments regarding air quality analysis and mitigation measures identified in the 706 Mission Street – The Mexican Museum and Residential Tower Project DEIR at the request of Tom Lippe, Esq. This review and commentary focuses on the proposed project's construction-related criteria- and toxic air contaminant-pollutants, thresholds of significance, and mitigation measure M-AQ-1. Reviewed documents included the DEIR and air quality-related appendices.

As noted in the DEIR's Air Quality element and related supporting documents, increased cancer risk beyond the threshold of significance is anticipated to occur with project construction emissions, with mitigation measure components ostensibly designed to reduce those emissions very substantially (65%) to a less than significant level. Unfortunately, it is not clear from the discussion in the documentation how individual measures designed to reduce diesel particulate matter (DPM) will be verified for effectiveness prior to or during actual construction, nor is there any discussion of how those substantial commitments, running across 36 months will be enforced from start to project finish.

The EIR appears to suggest that a Construction Emission Minimization Plan, to be prepared and approved prior to construction startup, will be reviewed by an "Environmental Planning Air Quality Specialist" before final approval by the City's ERO. We are concerned about the qualifications of that Specialist since tasks will include intimate familiarity with diesel engines, construction vehicles and equipment, VDECS technologies, new and used construction vehicles and emission control options, air regulations, etc., and we are aware of no certifications by CARB or the BAAQMD for that position. No information is provided on how vehicles with lower-emitting engines or VDECS will be confirmed as acceptable, either in advance or during the project's three year building period. Nor is there any discussion detailing how, for instance, idling time of diesel equipment onsite will be limited to no more than two minutes at a time. This and other measure components may look good on paper, but without discussion of and provision for truly effective compliance mechanisms, including regular enforcement, the measures can be expected to be undercut or simply ignored once actual site preparation, demolition, and construction activities begin. Without valid enforcement and compliance mechanisms applied throughout the construction period, we have little doubt that DPM emissions will not be reduced by the targeted 65% measure.

Our review also raises concerns regarding the Lead Agency's use of BAAQMD thresholds of significance derived from the New Source Review (NSR) process. Because NSR thresholds have been designed to account for the increment of criteria pollutant emissions from air agency-permitted stationary source emissions in the air basin, they would automatically require adjustment to reflect the considerably higher (PM2.5) and substantially higher (NOx) increments from mobile sources regularly drawn to new indirect sources such as 706 Mission Street. Because those NSR-borrowed CEQA thresholds have not been

adjusted to reflect the reality that the great majority of the basin's ozone nonattainment result from mobile source emissions, and not stationary sources, they will automatically under-represent the actual, true significance of construction, operational, and cumulative emissions that will result with development of the proposed 706 Mission Street project.

In sum, our review indicates that the project's construction emissions mitigation is flawed by its lack of enforceability, the absence of qualifications for the Environmental Planning Air Quality Specialist, too much potential for subjectivity in determining equipment or technology feasibility, and a lack of information showing how mitigation components will be reviewed, approved, implemented and then enforced across the three-year construction period. Without compliance and enforcement mechanisms, and clearly defined feasibility objectives, it is highly unlikely that the project will actually reduce its construction DPM emissions by the claimed 65% value. Finally, the Lead Agency's reliance on substantively flawed NSR thresholds to evaluate and characterize the project's mobile source-driven air quality impact significance is very likely to under-represent actual project impacts.

II. Construction Mitigation Measure M-AQ-1 Is Unlikely To Produce Required 65% DPM Reduction

At DEIR Appendix G, "706 Mission Street Air Quality Technical Report" Table 17, pg. 25 excess cancer risk for existing resident children is predicted at 27.3 per million. This exceeds the cancer risk threshold of significance (TOS) of 10 per million. At pg. 26, mitigation M-AQ-1 identifies specific measures necessary to reduce the project's toxic diesel particulate matter (DPM) emissions to achieve a less-than-significant risk level, below the TOS. (Note: Mitigation M-AQ-3 found at DEIR pg. IV.G.34 appears to reflect the same information as contained in Appendix G's M-AQ-1; therefore, comments directed here to M-AQ-1 should pertain also to M-AQ-3). As currently written, M-AQ-1 fails to ensure that its components will be implemented and enforced on a regular basis; without effective onsite enforcement and compliance provisions, the measure will not provide the DEIR-claimed 65% DPM reduction.

Included at pg. 26 is "Limiting idling times by either shutting equipment off when not in use or reducing the maximum idling time to two minutes." It is important to note that on-and offroad construction equipment will include delivery vehicles throughout all construction phases, and many diesel-powered vehicles will routinely operate onsite each day for the three year construction period. Large construction projects involve dozens of contractors and sub-contractors operating a wide variety of diesel vehicles and equipment at the site on highly variable cycles. Yet without highly effective and repetitive notification of mitigation requirements it is virtually certain that many diesel operators at 706 Mission Street will not know of or, as a practical matter, comply with M-AQ-1's idling time restriction over the three-year construction period unless forced to do so. As a licensed general and specialty contractor, we have operated or controlled diesel-powered construction equipment for many years, and we have audited construction projects for compliance with mitigation requirements---our experience shows that owners

and operators will simply not stop their equipment for a two-minute pause based on the common belief that excessive battery, starter motor, and unnecessary engine wear will result and because of the additional time it takes to re-start and regain hydraulic pressure to raise related accessories, etc. Additionally, backhoes, graders, excavators, grout pumps, and similar types of equipment routinely pause, often for more than two minutes but without knowing in advance, while grades are checked, subsurface improvements (gas lines, electrical, etc.) are inspected, transit mixers are cycled in and out, etc. In those situations operators routinely throttle back to idle and stay with the equipment while waiting to resume work; few such interruptions can be predicted to last two minutes or less and so equipment engines are left to idle. Industry practices, buttressed by the effect of employee turnover rates, will predominate during project construction. Without constant, hourly enforcement by a qualified, empowered onsite compliance officer, the two-minute idling mitigation will simply not function as envisioned in the DEIR.

At Appendix G, pg. 26, M-AQ-1 includes "Prohibiting use of diesel generators for electric power because on-site distribution of electricity is available". Welding operations routinely require use of truck-mounted generators due to portability requirements. Similarly, portable, high-intensity, generator-powered lights are routinely used on large construction projects. Without regular enforcement by a qualified, empowered onsite compliance officer, we would expect this prohibition to be commonly ignored.

At Appendix G, pg. 27, M-AQ-1 "Requiring use of Interim Tier 4 or Tier 4 equipment where such equipment is available and feasible for use" is followed by information stating that backhoes and rubber-tired dozers are available in Tier 4 configuration. While these and other types of construction equipment are or will become available with Tier 4 engines for use during the project's construction duration, this measure is fatally flawed as a result of the subjective nature of "feasible for use". Without defining what constitutes "feasible for use", a contractor could, for example, be permitted to claim infeasibility in order to use older, higher-emitting construction equipment simply because they do not care to obtain newer, lower-emitting equipment. Feasibility should be conditioned to the availability of Tier III VDECS or Tier 4 equipment in the marketplace---if it is available it must be considered feasible.

As noted near the end of M-AQ-1, the Construction Emissions Minimization Plan (CEMP) must be submitted to the ERO, who will subsequently seek "review and approval by an Environmental Planning Air Quality Specialist prior to the commencement of construction activities". No information is provided to determine where the ERO will obtain the services of a qualified "Environmental Planning Air Quality Specialist—whatever that is. Is the Lead Agency anticipating that BAAQMD will handle the duties of this Specialist position? We are aware of no training or certification program available to planners or air quality specialists for this job title, to provide the level of expertise necessary to successfully accomplish the "review and approval" of the highly technical duties related to engine inspections, VDECS applicability and availability, and other feasibility-related matters; we do know from many years of experience that planners know little or nothing about construction equipment, engines and Tier levels, air quality regulations, and emissions control technologies---and wouldn't begin to know how to actually

evaluate equipment and emissions controls in the field necessary for compliance with M-AQ-1. While a qualified, experienced equipment-experienced air quality specialist from BAAQMD could provide such expertise, there is no information in M-AQ-1 or the DEIR to show that such expertise will be provided. Moreover, equipment used at the construction site across the three-year duration will need to be verified onsite regularly for actual compliance, since it is virtually impossible that all equipment to be used over its three-year construction period could be accurately listed in the CEMP prior to start of construction. Without defining what constitutes "feasible for use" and providing for regular (daily) verification and compliance inspections onsite, we believe M-AQ-1 will actually produce much less than the 65% DPM reduction it claims.

Tier 3 engines in new construction equipment were required, based on engine hp, beginning in 2006 and through 2011 (75 – 175 hp). Tier 4 Interim began in 2008, based on engine hp, and will conclude in MY2014. Tier 4 began in 2008, based on engine hp, and will conclude with all hp models required to emit at Tier 4 levels by MY 2015. (See diesel tier introduction dates; http://www.dieselforum.org/index.cfm?objectid=6D682188-9381-11E0-98E9000C296BA163.) Based on this information, virtually all types of construction equipment to operate at the 706 Mission St. project are already available in the marketplace with Tier 3 engines, and many are available with lower-emitting Tier 4. By the beginning of the project's last construction year, all new construction equipment will require Tier 4 engines. Rather than relying on the "feasible for use" language which is unenforceable as written, the EIR should stipulate that all diesel-powered offroad or stationary equipment at the project operate with Tier 3 engines or Tier 4 engines. While this will limit availability of construction equipment for the project, it is nonetheless reasonable and feasible since such equipment is available now and will increase in number over time.

We suggest the Lead Agency consider adding the following, suggested language to the project's construction mitigation:

1. All offroad and stationary diesel engine-equipped equipment used at the project shall have:

   i. Engines that meet or exceed either USEPA or ARB Tier 3 off-road emission standards, or utilize CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS); or

   ii. If offroad or stationary diesel-engine equipment meeting Tier 3 or CARB Level 3 VDECS emission standards is not obtainable within the State, equipment with the next most recent Tier or VDECS level must be used."

2. The project shall require use of an Environmental Coordinator experienced with construction practices, air quality regulations, construction equipment, diesel engines, VDECS and various emissions control technologies, and other tasks associated with ensuring that the project will deliver the 65% DPM

reduction required by M-AQ-1; the Coordinator will review the Construction Emission Mitigation Plan for approvability, and provide regular (daily or 3x/week) onsite compliance inspections and enforcement services. If diesel equipment is found to be non-compliant with M-AQ-1, it shall be immediately removed from service and repaired or upfitted for compliance, or replaced with compliant equipment. Violations of other M-AQ-1 components (e.g. 2 minute idling restriction) will result in written correction notice to the operator and the contractor; continued failures to comply will result in equipment being red-tagged for removal from the site.

III. Lead Agency Use of NSR Thresholds of Significance For the Determination of Indirect Source Project Impact Significance Can Be Expected To Lead To Continued Nonattainment

At DEIR pg. IV.G.21, the source of the project's thresholds of significance used to determine the project's air quality impact significance is explained:

> "The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on emissions limits for stationary sources set in the state and federal Clean Air Acts. The federal New Source Review (NSR) program was created by the federal Clean Air Act to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health-based ambient air quality standards.
>
> "Although this regulation applies to new or modified stationary sources, land use development projects result in ROG and NOx emissions as a result of increases in vehicle trips, architectural coating and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects, and projects that result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ROG and NOx emissions.

The Lead Agency has mistakenly and without evidence assumed that use of NSR-derived thresholds to evaluate the 706 Mission Street's indirect source emissions effectively ensures that the project will not "contribute to an existing or project air quality violation..." Without factual evidence to substantiate that "the above (NSR) thresholds can be applied to...land use projects", the Lead Agency cannot reasonably conclude that BAAQMD's NSR-derived thresholds of significance have been set at levels that, when applied to evaluate the 706 Mission Street project, will not contribute to the basin's longstanding ozone and PM air quality standards violations. In order for the Lead Agency's BAAQMD-derived thresholds to be justified, factors used to determine the NSR lbs/day threshold levels must be relatively comparable to and consistent with indirect source inventory numbers and their mobile source-related influence on the basin's nonattainment designations. If emissions from vehicles in new land uses subject to CEQA review outdistance emissions contributed by highly-regulated stationary sources, it makes little sense to expect

that NSR thresholds would provide control adequate to expeditiously return the air basin to attainment. In fact, there is no clear nexus between the two—factors influencing establishment of NSR values for stationary sources in the SFBAAB are dissimilar to those affecting mobile source emissions chiefly responsible for the basin's ozone and PM2.5 nonattainment.

The SF Bay Area air basin is classified federal nonattainment for ozone and PM2.5, and classified State nonattainment for ozone, PM10, and PM2.5. Violations of ambient air quality standards have persisted for many years, despite the BAAQMD's longstanding attempts and mechanisms identified in District Clean Air Plans to achieve healthful air quality by required attainment dates. Actual air quality reflected in air monitoring data and the recurrent failures to attain the standards are the true litmus test, indicating that District rules, regulations, and programs, particularly those aimed at reducing the air quality impacts of mobile sources that populate new indirect sources of air pollution, are not providing enough reductions. This is particularly relevant to mobile sources, since the air basin's stationary sources contribute only a fraction of the emissions generated daily by on-and off-road mobile sources.

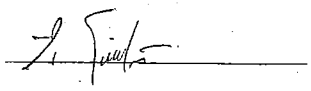
A number of important differences exist between stationary sources and indirect sources, suggesting that thresholds from one will not interchange effectively with the other. While stationary sources of air pollution are subject to Clean Air Act-required NSR regulations that will impose specific significance thresholds in pounds of criteria pollutant emission per day, BACT emission controls, and emission offsets, BAAQMD does not similarly require that new indirect sources of emissions (such as the 706 Mission Street project) that exceed the CEQA thresholds of significance borrowed from NSR thresholds must utilize BACT and offsets to achieve less-than-significant impacts. Under the CAA significant sources of new stationary source emissions are highly regulated, yet under CEQA the same pollutants, occurring at equivalent levels from a new indirect source, are routinely accepted by the lead agency with nothing more than a statement of "Overriding Considerations". And while indirect source mitigations may produce some emission reductions, only stationary sources must be permitted annually, inspected regularly, and with operating conditions subject to stringent enforcement penalties. Based on our experiences, few CEQA projects actually comply with substantive emission mitigations designed to produce real emission reductions that would not otherwise occur. Although air districts routinely inspect permitted stationary sources for compliance, lead agencies rarely follow CEQA projects post-approval and fewer still provide any mitigation-related inspection, compliance, or enforcement.

Additional fundamental differences exist between NSR-governed stationary source thresholds and CEQA mobile source-oriented thresholds. NSR thresholds of significance are established and applied to stationary sources on the basis of an air basin's nonattainment designation---as the basin's designation worsens thresholds, BACT requirements, and offset triggers become more stringent. This is not the case, however, when NSR thresholds are applied as CEQA thresholds to indirect sources—CEQA thresholds are not required to change when a basin's nonattainment designation changes. Moreover, there is a

logical nexus between the levels at which NSR threshold quantities are set and the number of stationary sources that produce daily and annual emissions incrementally tied to the basin's attainment designations.

In order to apply NSR levels, then, to an air basin's indirect sources of emissions there must be relative parity in source numbers and air emissions budgets. In fact, there is no such parity in the SFBAAB since mobile source emissions comprise the greatest portion of the NOx emissions inventory, and NOx is formative of the basin's nonattainment-level ozone. Based on BAAQMD emissions inventory information, mobile source NOx comprises 85% of the basin's NOx inventory, roughly six times that produced by its stationary sources. (See BAAQMD 2010 Clean Air Plan "NOx emissions by source, 2009", pg. 2-15.) Since the BAAQMD's NSR thresholds have been established as a function of the basin's nonattainment designations and keyed quantitatively to the number of permitted sources in the inventory, their application to indirect sources—mostly vehicle emission-related---must then automatically and substantially undercut the control of CEQA-subject NOx emissions from new indirect sources. In fact, setting the CEQA NOx threshold equal to the NSR threshold is akin to exchanging a dollar for eighteen cents. It is no wonder that the SFBAAB continues its history of ozone nonattainment; similarly, mobile source PM2.5, including toxic DPM emissions, contributes substantially to the basin's PM2.5 and PM10 nonattainment designations.

Sincerely,



Greg Gilbert
Autumn Wind Associates

STATEMENT OF QUALIFICATIONS

Autumn Wind Associates

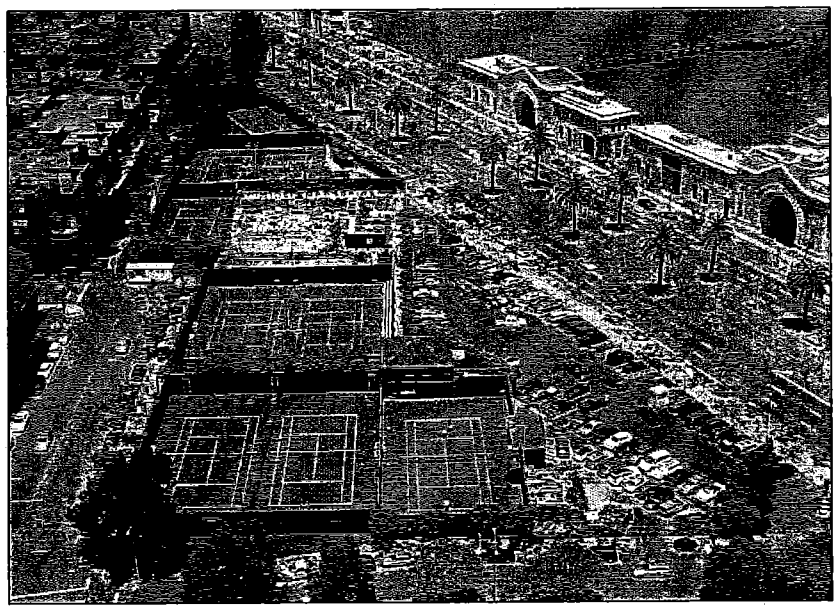
Greg Gilbert is director and founder of Autumn Wind Associates, Inc, located northeast of Sacramento, CA. Utilizing primarily ex-air agency personnel, AWA provides expert review, analysis, and estimation of potential air quality and associated environmental impacts of proposed land-use development projects involving both indirect- (mobile) and stationary (operating under air agency permit) sources of air pollution. He has consulted on air quality land use planning, mobile, and stationary source matters and projects to private and public clients since leaving public service as an air agency manager in 2000. Previously, he was national marketing director for an emissions catalyst products and technology firm with international markets in mobile and stationary sources. Between 1990 and 2000 Mr. Gilbert was employed in two California air agencies, most recently as project manager in the Mobile Source Division of the Sacramento Metropolitan Air Quality Management District (SMAQMD). While at SMAQMD Mr. Gilbert was responsible for assisting in the development and implementation of the agency's heavy-duty diesel vehicle low-emission incentive program that would later serve as the model for the statewide Moyer Program of the California Air Resources Board (CARB); the evaluation of land use-related air quality emission impacts and control strategies, development of California Environmental Quality Act (CEQA) thresholds to evaluate and mitigations to reduce, offset, or eliminate air quality impacts of new land use; development of air-related CEQA guidance; and creation of the first air quality CEQA mitigation fee program with percentage-based emission reduction options for developers to mitigate project-specific construction and operational development-related emissions.

Since 2001, AWA has provided consulting expertise to private entities and air agencies, provided input for revisions to the URBEMIS (urban emissions model to predict development-related mobile- and area-source emissions) model, conducted research on construction practices and equipment emissions, assisted with development of CEQA land-use guidance documents and mitigation strategies for CA air quality agencies, and provided modeling and consulting expertise for toxics-related health risk assessments. Mr. Gilbert reviews and provides expert written and testimony on CEQA- and development-related project-specific environmental analysis, mitigation, and documentation for a wide range of public-, private-, and environmental-sector clients, including law firms specializing in CEQA-NEPA cases.

EXHIBIT 7

DRAFT ENVIRONMENTAL IMPACT REPORT

8 WASHINGTON STREET / SEAWALL LOT 351 PROJECT



CITY AND COUNTY OF SAN FRANCISCO PLANNING DEPARTMENT:
CASE NO. 2007.0030E

STATE CLEARINGHOUSE NO. 2007122027

DRAFT EIR PUBLICATION DATE: JUNE 15, 2011

DRAFT EIR PUBLIC HEARING DATE: JULY 21, 2011

DRAFT EIR PUBLIC COMMENT PERIOD:
JUNE 15, 2011 TO AUGUST 15, 2011

Written comments should be sent to:

Bill Wycko, Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

concentrations of $PM_{2.5}$ from roadway sources within 500 feet of a project site would exceed a concentration of 0.2 micrograms per cubic meter ($\mu g/m^3$) (annual average).[3] This action level (of 0.2 $\mu g/m^3$) represents about 8 percent to 10 percent of the range of ambient $PM_{2.5}$ concentrations in San Francisco based on monitoring data, and is based on epidemiological research that indicates that such a increase in concentration can result in an approximately 0.28 percent increase in non-injury mortality, or an increased mortality rate of approximately 20 "excess deaths" per year per one million population in San Francisco.[4,5] If this standard is exceeded, Article 38 requires that the project applicant design the project to minimize air pollutants indoors or install a filtered air supply system, with high-efficiency filters.

The project site, at 8 Washington Street, is located within the Potential Roadway Exposure Zone, as mapped by DPH. In consultation with DPH, an Air Quality Assessment was prepared for the proposed project. Results of the assessment indicate that the project site does not exceed a $PM_{2.5}$ concentration greater than 0.2 micrograms per cubic meter.[6] Thus, the proposed project is not required to install a filtered air supply system as per the Health Code.

IMPACTS

SIGNIFICANCE THRESHOLDS

The Planning Department Initial Study Checklist, which incorporates Appendix G of the state CEQA Guidelines, provides a framework of topics to be considered in evaluating potential impacts under CEQA.

Implementation of a project could have a potentially significant impact related to air quality if the project were to:

---

[3] For purposes of evaluation of potential effects of $PM_{2.5}$ exposure, DPH also recommends analysis where there are more than 50,000 daily vehicles within 330 feet (100 meters) of the site, or more than 10,000 daily vehicles within 165 feet (50 meters). These latter two conditions are included to capture equivalent impacts from lesser concentrations of traffic in smaller areas than the ARB-recommended standard of 100,000 daily vehicles within 500 feet (150 meters) (CARB, *Air Quality and Land Use Handbook: A Community Health Perspective*, 2005).

[4] "Excess deaths" (also referred to as premature mortality) refer to deaths that occur sooner than otherwise expected, absent the specific condition under evaluation; in this case, exposure to $PM_{2.5}$.

[5] San Francisco Department of Public Health, Occupational and Environmental Health Section, Program on Health, Equity, and Sustainability, "Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review," May 6, 2008. Twenty excess deaths per million based on non-injury, non-homicide, non-suicide mortality rate of approximately 714 per 100,000. Although San Francisco's population is less than one million, the presentation of excess deaths is commonly given as a rate per million population.

[6] Patrick Fosdahl, MS, REHS, San Francisco Department of Public Health, Letter to Paul Osmundson re: 8 Washington Street Air Quality Assessment, April 28, 2009. A copy of this letter is on file as part of Case No. 2007.0030E and available for public review at the Planning Department, 1650 Mission Street, Suite 400.

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

For project-level impact analysis, the BAAQMD recommends various thresholds and tests of significance. BAAQMD significance thresholds are summarized in Table IV.E-3. However, on December 15, 2010, the District's Board of Directors revised the effective date for the risk thresholds for new receptors from January 1, 2011 to May 1, 2011. All other CEQA thresholds of significance adopted by the Board of Directors on June 2, 2010 remain effective as of June 2, 2010. In addition, BAAQMD Resolution No. 2010-06, which was approved by the BAAQMD Board of Directors on June 2, 2010, clarifies that it is BAAQMD's policy that the revised significance thresholds be applied to those of projects whose notices of preparation are issued (and environmental analyses begun) after June 2, 2010.[7] The following analysis of air quality impacts from the 8 Washington Street project is based on BAAQMD's most recent thresholds of significance and the BAAQMD CEQA Air Quality Guidelines, May 2011.

IMPACT EVALUATION

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. First, during project construction, the project would affect local particulate concentrations primarily due to fugitive dust sources, as well as construction equipment exhaust. Over the long term, the project would result in an increase in emissions primarily due to increased motor vehicle trips and an emergency back up generator as required per the fire code. On-site stationary sources (such as natural gas boilers for water and space heating) and area sources (such as landscaping and use of consumer products) would result

[7] It is BAAQMD's policy that the risk and hazards thresholds for siting new receptors be applied to projects whose NOP was prepared after May 1, 2011.

Table IV.E-3: BAAQMD Air Quality Project-Level Thresholds of Significance

Pollutant	Construction-Related	Operational-Related	
Criteria Air Pollutants and Precursors (Regional)	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10} (Exhaust)	82	82	15
$PM_{2.5}$ (Exhaust)	54	54	10
$PM_{10}/PM_{2.5}$ (Fugitive Dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Risks and Hazards (Individual Projects)	Same as Operational Thresholds	Compliance with a Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million OR Increased non-cancer risk of >1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase > 0.3 $\mu g/m^3$ annual average	
Risks and Hazards (Cumulative Threshold)	Same as Operational Thresholds	Compliance with a Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: >10.0 Hazard Index)from all local sources) $PM_{2.5}$ > 0.8 $\mu g/m^3$ annual average (from all local sources)	
Odors	None	5 confirmed complaints per year averaged over 3 years	

Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$= fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases.

Source: Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2011.

in lesser quantities of pollutant emissions. This section addresses both project-specific impacts, and whether the project will make a cumulatively considerable contribution to cumulative air quality impacts; in each instance, the text makes clear whether the analysis addressed project-specific or cumulative impacts. .

The proposed project would include residential and retail uses not typically associated with noxious odors. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people, and odors are not discussed further in this section.

Impact AQ-1: Construction of the proposed project would not violate an air quality standard or contribute to an existing or projected air quality violation, either individually or cumulatively. ***(Less than Significant)***

Demolition, grading, and new construction activities would temporarily affect local air quality during project construction, causing temporary increases in criteria pollutants. These include emissions generated from construction activities, combustion emissions of criteria air pollutants (reactive organic gases [ROG], nitrogen oxides [NOx], carbon monoxide [CO], sulfur oxides [SOx], and PM_{10} and $PM_{2.5}$) primarily from operation of construction equipment and worker vehicles, and evaporative emissions (ROG) from asphalt paving and architectural coating applications.

Construction-related emissions of criteria air pollutants and precursors were modeled in accordance with BAAQMD-recommended methodologies. Emissions of criteria air pollutants and precursors were modeled based on California Emissions Estimator Model (CalEEMod) defaults for construction equipment and the anticipated schedule for construction of the proposed project. The project applicant provided outlines of construction phasing and scheduling which were used to run CalEEMod. Construction would involve demolition of 4,900 sq. ft. of existing structures and construction of 165 residential units along with 41,900 sq. ft. of commercial/retail space and 185,000 sq. ft. of parking garage. Demolition and construction would occur over a 28-month period assumed to occur between January 1, 2012 and May 1, 2014.

Table IV.E-4 summarizes the modeled construction-related emissions of each criteria air pollutant and precursor. As shown in the table, construction-related emissions would be below the BAAQMD thresholds of significance. Thus, construction of the proposed project would have a less-than-significant effect on air quality standards.

Table IV.E-4: Estimated Average Daily Construction Emissions

	Projected Emissions (Pounds per Day)[1]			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Average Daily Emissions	35.63	47.63	2.01	2.01
BAAQMD Threshold	54	54	82	54

Note:
[1] Emission factors were generated by the URBEMIS 2007 (v. 9.2.4) model for San Francisco County for summer conditions.

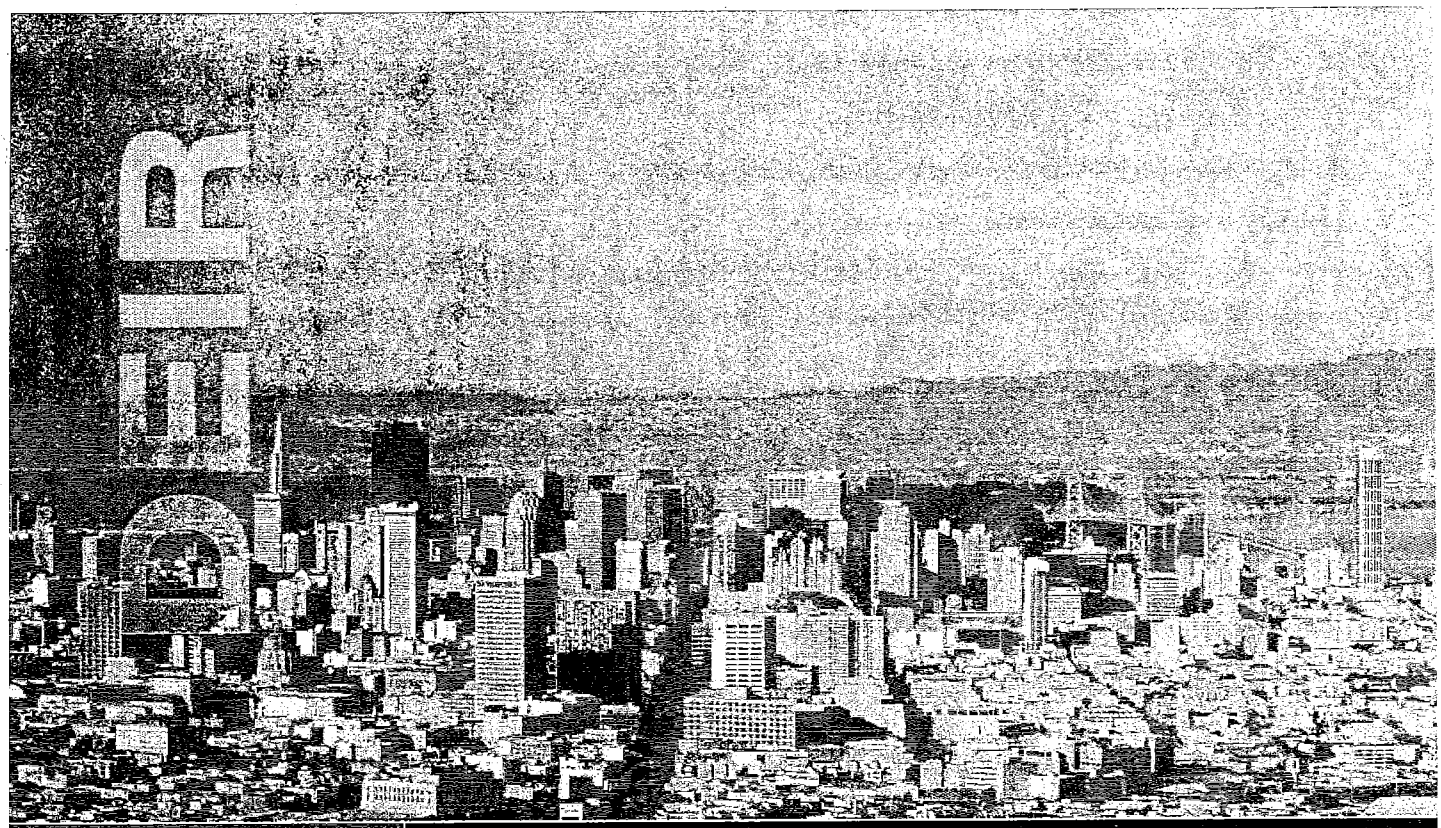
Source: Donald Ballanti, *Criteria Air Pollutant Impact Report for the 8 Washington Street Project, San Francisco,* April 2011.

Project emissions would not exceed the BAAQMD construction criteria air pollutant thresholds of significance. BAAQMD CEQA guidance provides that, if a project results in an increase in ROG, NOx, $PM_{2.5}$, or PM_{10} of more than their respective daily or annual mass thresholds, then it would also be considered to contribute considerably to a significant cumulative air quality impact. Since construction of the project would not exceed the daily mass emissions thresholds, the project would not contribute considerably to a significant cumulative effect with respect to construction-related criteria pollutant emissions, and cumulative construction criteria air pollutant impacts would be less than significant.

Impact AQ-2: The proposed project would not result in significant impacts related to fugitive dust resulting from project construction activities. ***(Less than Significant)***

Project-related demolition, excavation, grading and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Dust can cause watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, grading and

EXHIBIT 8



DRAFT ENVIRONMENTAL IMPACT REPORT

801 Brannan and One Henry Adams Streets Project

PLANNING DEPARTMENT CASE NO. 2000.618E

STATE CLEARINGHOUSE NO. 2003112070

Draft EIR Publication Date:	**June 22, 2011**
Draft EIR Public Hearing Date:	**July 28, 2011**
Draft EIR Public Comment Period:	**June 23, 2011 – August 8, 2011**

SAN FRANCISCO
PLANNING
DEPARTMENT

Written comments should be sent to:
Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103

Plan represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard.

AIR RESOURCE BOARD (ARB) IDLING REGULATIONS

In 2005, the ARB approved a regulatory measure to reduce emissions of toxic and criteria air pollutants by limiting the idling of new heavy-duty diesel vehicles. The regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than five consecutive minutes or periods aggregating more than five minutes in any one hour.[155] Buses or vehicles also must turn off their engines upon stopping at a school and must not start their engines more than 30 seconds before beginning to depart from a school. In addition, state law SB 351 (adopted in 2003) prohibits locating public schools within 500 feet of a freeway or busy traffic corridor.

Regional and Local Air Quality Planning

BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)

The BAAQMD is the regional agency with jurisdiction for regulating air quality within the nine-county Bay Area Air Basin. ABAG, MTC, county transportation agencies, cities and counties, and various non-governmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs.

BAAQMD is responsible for managing region-wide emissions to meet federal and State air quality standards in the Bay Area Air Basin. Specifically, BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Air Basin and to develop and implement strategies to attain the applicable federal and State standards. As mentioned above, the BAAQMD, in cooperation with the MTC and Association of Bay Area Governments (ABAG), adopted the 2010 Clean Air Plan on September 15, 2010, to replace the Bay Area 2005 Ozone Strategy.

In 1999, BAAQMD adopted its *CEQA Guidelines* as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts

[155] There are 12 exceptions to this requirement (e.g., emergency situations, military, adverse weather conditions, etc.), including: when a vehicle's power takeoff is being used to run pumps, blowers, or other equipment; when a vehicle is stuck in traffic, stopped at a light, or under direction of a police officer; when a vehicle is queuing beyond 100 feet from any restricted area; or when an engine is being tested, serviced, or repaired.

and preparing the air quality sections of environmental documents for projects subject to CEQA. In June 2010, BAAQMD board adopted revised thresholds of significance for air quality impacts. BAAQMD is the regional agency for air quality. Therefore, the Air District's guidelines and thresholds are commonly used in CEQA analysis, and are normally relied upon by the Planning Department for its significance determinations.

SAN FRANCISCO GENERAL PLAN AIR QUALITY ELEMENT

The San Francisco *General Plan* (*General Plan*) includes the 1997 Air Quality Element. The objectives specified by the City include the following:

- ***Objective 1:*** Adhere to state and federal air quality standards and regional programs.
- ***Objective 2:*** Reduce mobile sources of air pollution through implementation of the Transportation Element of the *General Plan*
- ***Objective 3:*** Decrease the air quality impacts of development by coordination of land use and transportation decisions.
- ***Objective 4:*** Minimize particulate matter emissions from road and construction sites.
- ***Objective 5:*** Link the positive effects of energy conservation and waste management to emission reductions.

SAN FRANCISCO DUST CONTROL ORDINANCE

The San Francisco Health Code Article 22B and San Francisco Building Code Section 106.A.3.2.6 collectively constitute the Construction Dust Control Ordinance. The Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco comply with specified dust control measures. This requirement applies to all site preparation work that has the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil whether or not the activity requires a permit from the Department of Building Inspection (DBI).

Dust suppression activities may include (1) watering all active construction areas sufficiently to prevent dust from becoming airborne and (2) more frequent watering when wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the

workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

For project sites greater than one half-acre in size, the Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Health Department. Interior-only tenant improvements, even if over one-half acre, that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement. As both project sites are greater than one-half acre, this requirement would apply to the proposed project, or either variant.[156]

SAN FRANCISCO HEALTH CODE PROVISIONS REGARDING ROADWAY GENERATED POLLUTANTS

Article 38 of the San Francisco Health Code requires an Air Quality Assessment be prepared for new residential projects of 10 or more units located in proximity to high-traffic roadways, as mapped by DPH, in order to determine whether residents would be exposed to potentially unhealthful levels of PM2.5. Consistent with CARB guidance, the San Francisco Department of Public Health (DPH) has identified that a potential public health hazard for sensitive land uses exists when such uses are located within a 150-meter (approximately 500-foot) radius of any roadway that experiences 100,000 vehicles per day. If a proposed project's air quality assessment shows that annual average concentration of PM2.5 from roadway sources would exceed a concentration of 0.2 micrograms per cubic meter (annual average), then the project sponsor must install a filtered air supply system, with high-efficiency filters, designed to remove at least 80 percent of ambient PM2.5 from habitable areas of residential units.

The project sites are located within the Roadway Exposure Zone, and is therefore subject to Article 38. Accordingly, DPH conducted an exposure analysis for PM2.5, which found that both project sites exceeded the current action level of 0.2 ug/m3. The highest level at 801 Brannan was 0.57 ug/m3 and the highest level at One Henry Adams was 0.39 ug/m3. Based on these results, the proposed project, or either variant, is required to incorporate filtration into the building design as discussed above (see also Mitigation Measure M-AQ-8, page 284).[157]

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156 The 801 Brannan site is approximately 5.21 acres. The One Henry Adams site is approximately 1.65 acres.

157 Thomas Rivard, San Francisco Department of Public Health, Toxic Air Contaminant Exposure Analysis for the 801 and One Henry Adams Streets Project, Letter from Thomas Rivard to Stu During, December 23, 2008.This letter is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Fourth Floor, San Francisco, as part of Case File 2000.618E.

IMPACTS

Air quality impacts from land development projects result from project construction and operation. Construction emissions, primarily dust generated by earthmoving activities and criteria air pollutants emitted by construction vehicles, would have a short-term effect on air quality. Operational emissions, generated by project-related traffic and by combustion of natural gas for building space and water heating, would continue to affect air quality throughout the lifetime of the project.

Significance Criteria

A project would have a significant air quality effect on the environment if it were to:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

As stated above, in 2010 BAAQMD adopted new significance thresholds for air quality for CEQA analysis. Under the new BAAQMD *CEQA Air Quality Guidelines* and thresholds,[158] the significance thresholds for criteria air pollutant emissions from project construction and operations have generally been lowered. The new thresholds are as follows: for ROG, NOx, and PM2.5, a net increase of 54 pounds per day or 10 tons per year (tpy) would be considered significant, while for PM10, a net increase of 82 pounds per day or 15 tpy would be considered significant. For CO, an increase would be considered significant if it leads to or contributes to CO concentrations exceeding the State Ambient Air Quality Standard (SAAQS). Quantification of the CO concentrations would not be required if a project is consistent with the local congestion management program and plans, and if traffic volumes at affected intersections are below 44,000 vehicles per hour, or below 24,000 vehicles per year in tunnel-like conditions. For construction-period impacts, the same thresholds apply for ROG, NOx, PM2.5, and PM10, except that the thresholds for PM2.5 and PM10 apply only to exhaust emissions. There are no quantitative thresholds for construction dust emissions; instead, impacts are considered less than significant if the

[158] BAAQMD, *California Environmental Quality Act (CEQA) Air Quality Guidelines*, June 2010; and adopted Thresholds of Significance, June 2010. Available online at http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx, accessed May 2, 2011.

BAAQMD Best Management Practices are employed to control dust during construction activities, including demolition and excavation.

BAAQMD considers projects that exceed these criteria air pollutant standards also to result in a cumulatively considerable air quality impact upon the region. According to BAAQMD, no further cumulative analysis should be required beyond the analysis of whether a proposed project's impacts would contribute considerably to ambient levels of pollutants or GHGs,[159] with the exception of the following cumulative risk and hazard analysis for toxic air contaminants.

For health risks and hazards resulting from emissions of toxic air contaminants, BAAQMD recommends either that a project be found to be in compliance with a "qualified community risk reduction plan," or that significance thresholds be used for both construction and operational emissions based on commonly used standards employed in health risk assessment. The following are thresholds for project-specific impacts: (1) an increase in lifetime cancer risk of 10 chances in one million, (2) an increase in the non-cancer risk equivalent to a chronic or acute "Hazard Index" greater than 1.0,[160] or (3) an increase in the annual average concentration of PM2.5 in excess of 0.3 micrograms per cubic meter. BAAQMD also recommends cumulative thresholds of 100-in-one-million cancer risk, a Hazard Index greater than 10.0, and a PM2.5 concentration greater than 0.8 micrograms per cubic meter. Unlike the volume-based thresholds for criteria air pollutants noted above, the toxic air contaminant thresholds are used for specific receptor locations when a risk analysis is required for specific project components, such as stationary sources (common in industrial operations) or the use of diesel-powered equipment, including construction equipment.

Approach to Analysis

The URBEMIS model was used to determine the proposed project's criteria air pollutant emissions as well as those from the two variants. A Health Risk Assessment was also conducted to determine if the proposed project would expose sensitive receptors to substantial levels of pollution. The results of these analyses are presented in an Air Quality Technical Report for this project (AQTR).[161] This methodology section summarizes the approaches, while more detail is provided in the impact analysis.

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159 *Ibid.*

160 Hazard Index represents the ratio of expected exposure levels to an acceptable reference exposure levels.

161 Donald Ballanti, Certified Consulting Meteorologist, *Air Quality Impact Report and Health Risk Assessment for the 801 Brannan and One Henry Adams Project* (AQTR), San Francisco, March 4, 2011, p. 4-5. This analysis is available for public review at the San Francisco Planning Department, 1650 Mission Street, Fourth Floor, San Francisco as part of Case File 2000.618E.

- Pave, apply water at a minimum three times daily in dry weather, or apply non-toxic soil stabilizers to all unpaved access roads, parking areas, and staging areas;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas;
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public street areas;
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more);
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.);
- Limit traffic speeds on unpaved roads to 15 miles per hour;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible;
- Install wheel washers for all exiting trucks, or wash off the tires of all trucks and equipment prior to leaving the site;
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas;
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph; and
- Limit the area subject to excavation, grading, and other construction activity at any one time.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond shall respond and take corrective action within 48 hours. The Air District's phone number shall be visible to ensure compliance with applicable regulations.

Therefore, compliance with the Dust Control Ordinance would reduce construction dust that the proposed project, or either variant, would generate to a less-than-significant level.

The proposed project, or either variant, must also comply with California Occupational Safety and Health Administration (Cal/OSHA) regulations, standards and procedures and California Department of Health Services (DHS) Lead Work Practice Standards. These regulations are designed to minimize worker and general public exposure to hazardous building materials.

The above regulations and procedures, already established and enforced as part of the permit review process, would ensure that any potential air emissions impacts due to dust, asbestos, lead, PM10, PM2.5, or other hazardous materials associated with construction of the proposed project, or either variant, would be ***less than significant.***

Impact AQ-2: Construction emissions under the proposed project, or either variant, would not violate an air quality standard or contribute significantly to an existing or projected air quality violation. (Less than Significant)

The air quality technical report prepared for this project provides the results of construction criteria air pollutant emissions modeling conducted for the proposed project, or either variant, and these results are summarized below. Construction phasing and scheduling information obtained from the project sponsor was used to run the construction module of the URBEMIS-2007 model. The construction phasing for the 801 Brannan and One Henry Adams sites are different, so a separate construction analysis was performed for each site. Construction at the 801 Brannan site would involve demolition of a 137,000 square foot building and construction of 585 residential units along with 30,417 square feet of commercial space. Demolition and construction would occur over a 24-month period assumed to occur between fall 2012 and fall 2014. Construction at the One Henry Adams site would involve demolition of three buildings totaling 29,164 square feet and construction of 239 residential units along with 9,070 square feet of commercial space. Demolition and construction would occur over an 18-month period assumed to occur between fall 2012 and summer 2014. Construction phasing and activity under either variant would not differ substantially, if at all, from that of the proposed project.

The volume of construction debris for each phase was estimated based on the square footage and height of buildings. Default values in the URBEMIS Program for truck capacity and trip length were utilized. URBEMIS default values were also used for equipment types and numbers during each phase of construction. As directed by current BAAQMD CEQA guidance, a surrogate five percent reduction in off-road exhaust emissions of NOx, PM10, and PM2.5 was used to account for standard mitigation measures required of all projects.[166] The URBEMIS-2007 program calculated annual emissions for each year of construction. The totals for each site were added, and the maximum annual emissions was divided by the number of construction days (22 days per month, 260 per year) for the year to obtain the average daily construction emission in pounds per day. The volume of construction debris under either variant would be the same as under the proposed project.

Table 19 on the following page shows that the highest estimated average daily construction emissions of criteria air pollutants (ROG, NOx, PM10, PM2.5) in pounds per day over the three phases of construction would not exceed the project-level BAAQMD thresholds of significance, either singly or cumulatively. Therefore, construction emissions of criteria air pollutants under the proposed project, or either variant, would be ***less than significant.***

[166] BAAQMD, *CEQA Air Quality Guidelines*, June 2010, *op. cit.* Table 8-4, page 8-6 and Appendix B, page B-11.

Table 19
Average Daily Construction Emissions of Criteria Air Pollutants
(Pounds per Day)

	ROG	NOx	PM10	PM2.5
801 Brannan site	28.0	22.07	17.27	4.36
One Henry Adams site	20.50	13.63	6.45	1.81
Total	48.50	35.70	23.77	6.17
BAAQMD Threshold of Significance	**54.00**	**54.00**	**82.00**	**54.00**

Notes:
- ROG = Reactive Organic Gases
- NOx = Nitrogen Oxides
- PM10 = Particulate Matter, 10 microns
- PM2.5 = Particulate Matter, 2.5 microns

Source: Donald Ballanti, *Air Quality Impact Report and Health Risk Assessment for the 801 Brannan/1Henry Adams Project*, San Francisco, March 2011, Table 1.

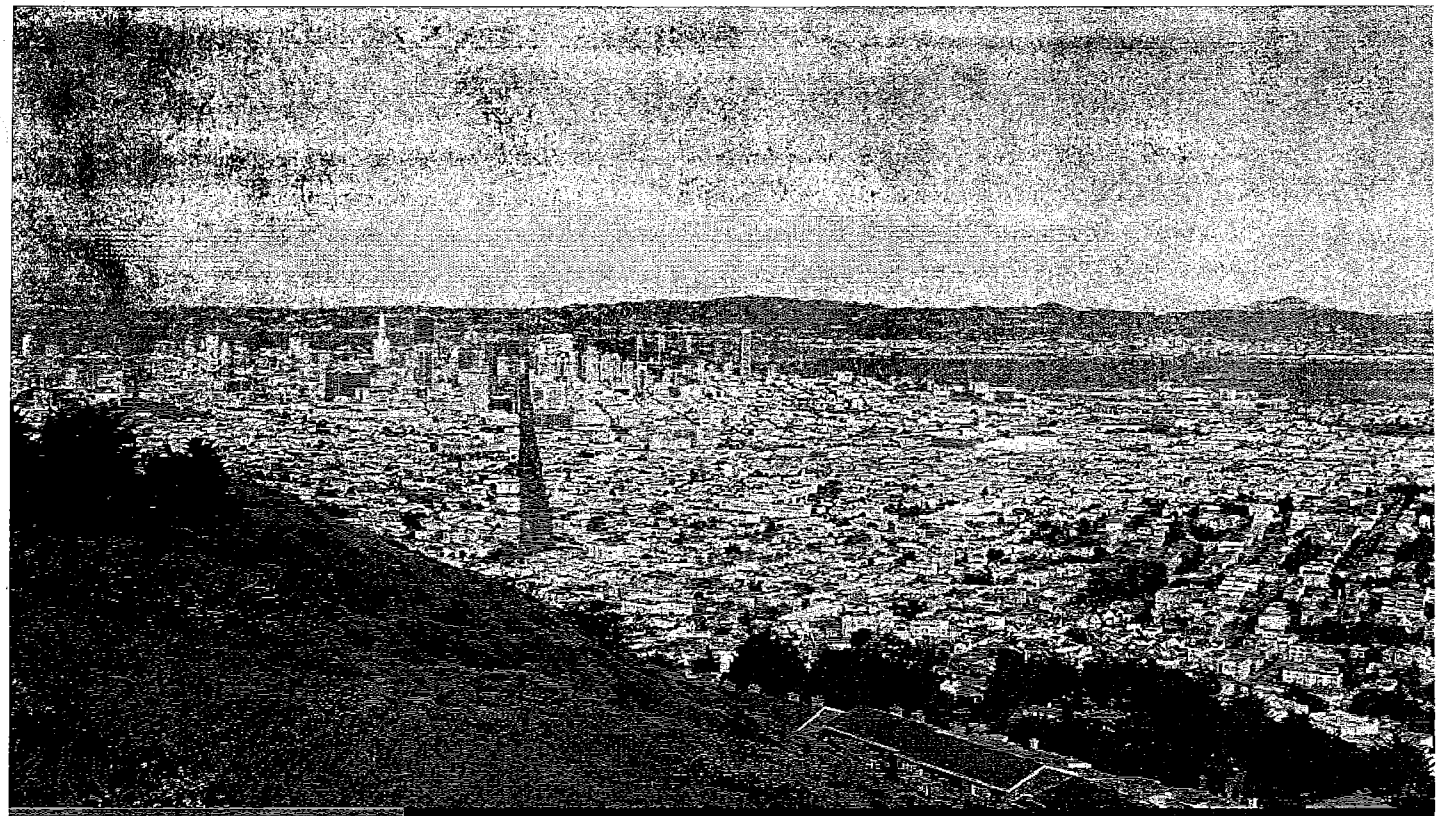
Impact C-AQ-3: Construction of the proposed project, or either variant, would not violate air quality standards or generate a cumulatively considerable increase in criteria air pollutant emissions. (Less than Significant)

BAAQMD CEQA guidance indicates that if an action does not result in a significant impact, then it would not contribute considerably to a significant cumulative effect. During construction of the proposed project, the highest average daily emissions of criteria air pollutants would not exceed the BAAQMD thresholds of significance (see Table 19) and there are no other nearby proposals with overlapping construction schedules that would generate a cumulatively considerable increase in criteria air pollutant emissions. Therefore, construction of the project, or either variant, would not contribute considerably to a significant cumulative impact on criteria air pollutant emissions, and would result in a *less-than-significant* impact.

Impact AQ-4: Operation of the proposed project, or either variant, would violate air quality standards with respect to, or generate a cumulatively considerable increase in, criteria air pollutants. (Significant and Unavoidable)

Operational emissions associated with the proposed project were calculated using the URBEMIS-2007 program. URBEMIS-2007 is a program developed specifically to quantify mobile and area source emissions from projects in California. Inputs to the URBEMIS-2007 program include trip generation rates, vehicle mix, average trip length by trip type and average speed. Default trip lengths and average trip speeds for San Francisco County were used. Project trip generation estimates from the project transportation report were used. URBEMIS-2007 requires that a project size be input for each land use.

EXHIBIT 9



DRAFT ENVIRONMENTAL IMPACT REPORT

Transit Center District Plan and Transit Tower

PLANNING DEPARTMENT
CASE NO. **2007.0558E and 2008.0789E**

STATE CLEARINGHOUSE NO. 2008072073

SAN FRANCISCO
PLANNING
DEPARTMENT

	Draft EIR Publication Date:	SEPTEMBER 28, 2011
	Draft EIR Public Hearing Date:	NOVEMBER 3, 2011
	Draft EIR Public Comment Period:	SEPTEMBER 28 THROUGH NOVEMBER 14, 2011

Written comments should be sent to:
Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 32, the Bay Area Air Basin is designated as "nonattainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards. The Air Basin is designated as "attainment" for all other pollutants listed in the table.

California Air Resources Board

CARB is the state agency responsible for regulating air quality. CARB's responsibilities include establishing state ambient air quality standards, emissions standards, and regulations for mobile emissions sources (e.g., autos, trucks, etc.), as well as overseeing the efforts of countywide and multi-county air pollution control districts, such as the BAAQMD, which have primary responsibility over stationary sources.

Bay Area Air Quality Management District

The BAAQMD regulates air quality through its planning and review activities. The district has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits; it can also impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The BAAQMD regulates new or expanding stationary sources of toxic air contaminants. However, the district has no direct regulatory authority over mobile sources (e.g., cars and trucks), nor does it have permit authority over transportation terminals, such as the new Transit Center, currently under construction to replace the Transbay Terminal.

Air Quality Plans to Achieve Compliance with State Standards

Air quality plans developed to meet federal requirements are referred to as State implementation Plans. The federal Clean Air Act and the California Clean Air Act require plans to be developed for areas designated as non-attainment (with the exception of areas designated as non-attainment for the State particulate matter standards plans for which are not required by California Code of Regulations). In September 2010, BAAQMD adopted the *2010 Bay Area Clean Air Plan*, which updated the *2005 Ozone Strategy*, and also to function as a "multi-pollutant plan to protect public health and the climate."[222] This plan includes ozone control measures and also consider the impacts of these control measures on particulate matter (PM), air toxics, and Greenhouse Gas Emissions (GHGs) in a single, integrated plan.

The *2010 Clean Air Plan* explains how the Basin will achieve compliance with the State one-hour air quality standard for ozone as expeditiously as practicable and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The Strategy also discusses related air quality issues of interest including the BAAQMD's public involvement process, climate change, fine particulate matter, BAAQMD's Community Air Risk Evaluation program, local benefits of ozone control measures, the environmental review process, national ozone standards, and photochemical modeling.

222 BAAQMD, *2010 Clean Air Plan*, September 2010. Available on the internet at: http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx.

In 1999, BAAQMD adopted its *CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. These BAAQMD Guidelines were revised and updated in June 2010, as the *BAAQMD CEQA Air Quality Guidelines*.

The 2010 *BAAQMD CEQA Air Quality Guidelines* is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein, but the document is commonly relied upon by local agencies, including the San Francisco Planning Department.[223] The document describes the criteria that BAAQMD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. In practice, most local agencies rely on the *BAAQMD CEQA Air Quality Guidelines* when assessing the significance of air quality impacts.

Air Quality Plans to Achieve Compliance with Federal Standards

In response to the EPA re-designation of the basin for the 1-hour federal ozone standard to nonattainment, the BAAQMD, ABAG, and MTC were required to develop an ozone attainment plan to meet this standard. The *1999 Ozone Attainment Plan* was prepared and adopted by these agencies in June 1999. However, in March 2001, the EPA proposed and took final action to approve portions of the 1999 ozone plan and disapprove other portions, while also making the finding that the Bay Area had not attained the national 1-hour ozone standard. As a result, a revised Ozone Attainment Plan was prepared and adopted in October 2001. The 2001 Ozone Attainment Plan amends and supplements the 1999 plan. The 2001 Ozone Attainment Plan contains control strategies for stationary and mobile sources. The adopted mobile-source control program was estimated to substantially reduce volatile organic compound and NOx emissions between 2000 and 2006, reducing emissions from on- and off-road diesel engines (including construction equipment). In addition to emission reduction requirements for engines and fuels, the 2001 Ozone Attainment Plan identified 28 transportation control measures to reduce automobile emissions, including improved transit service and transit coordination, new carpool lanes, signal timing, freeway incident management, and increased state gas tax and bridge tolls.

San Francisco Policies and Ordinances

San Francisco General Plan Air Quality Element

The Air Quality Element of the *San Francisco General Plan* is composed of six sections, each of which focuses on different aspects of air quality improvement efforts. They are: (1) adherence to air quality standards, (2) improvements related to mobile sources, (3) land use planning, (4) public awareness, (5) reduction of dust, and (6) energy conservation. The overarching goal of the Air Quality Element is to "Give high priority to air quality improvement in San Francisco to protect its population from adverse

223 BAAQMD, *CEQA Guidelines*, May 2011. See footnote 205, p. 370.

(2) Would the projected rate of increase in vehicle miles traveled or vehicle trips under the plan would be less than or equal to the projected rate of population increase under the plan.

If the two foregoing questions can be answered in the affirmative, the plan would neither:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation; nor
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).[228]

Community Risk and Hazard Impacts

This analysis also responds to the criterion that asks whether the proposed plan would:

- Expose sensitive receptors to substantial pollutant concentrations.

For plan-related health risks and hazards resulting from emissions of toxic air contaminants, BAAQMD recommends that overlay zones be established around existing and proposed land uses that emit TACs. These overlay zones should be included in proposed plan policies, land use maps, and implementing ordinances. Additionally, the plan must "identify goals, policies, and objectives to minimize potential impacts."[229]

Odors

For odors, a plan must identify the location of existing and planned odor sources in the Plan area. The plan must also include policies to reduce potential odor impacts in the Plan area. Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. Given that the draft Plan would not locate sensitive receptors within close proximity to these types of facilities and would not include development of such facilities, it can be reasonably concluded that no odor impact would occur. Therefore, impacts related to odor are not discussed further in this EIR.

Transit Tower

Project level thresholds of significance set by the BAAQMD reflect the level at which a project's individual emissions would result in a cumulatively considerable contribution to an existing air quality problem; therefore, if project impacts identified are significant, impacts would also be cumulatively considerable. As stated in the BAAQMD *CEQA Air Quality Guidelines*:

> Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact.

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228 The bulleted statements are the first three significance criteria in the City's CEQA Initial Study checklist.
229 BAAQMD *CEQA Air Quality Guidelines* (see footnote 205, p. 370); p. 9-71.

> No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.[230]

According to BAAQMD, no further cumulative analysis should be required beyond the analysis of whether a proposed project's impacts would contribute considerably to ambient levels of pollutants or greenhouse gases,[231] with the exception of the above-noted cumulative risk and hazard analysis for toxic air contaminants.

Criteria Air Pollutants

The BAAQMD-recommended significance thresholds for criteria pollutant emissions from operations of an individual project, such as the proposed Transit Tower, are as follows: for ROG, NOx and $PM_{2.5}$, a net increase of 54 pounds per day or 10 tons per year would be considered significant, while for PM_{10}, a net increase of 82 pounds per day or 15 tons per year would be considered significant. For CO, an increase would be considered significant if it leads to or contributes to CO concentrations exceeding the State Ambient Air Quality Standard, although quantification would not be required if a project is consistent with the local congestion management program and plans and traffic volumes at affected intersections are below 24,000 vehicles per hour. For construction-period impacts, the same thresholds apply for ROG, NOx, $PM_{2.5}$, and PM_{10}, except that the thresholds for $PM_{2.5}$ and PM_{10} apply only to exhaust emissions, and thresholds are specifically based on average daily emissions. There are no quantitative thresholds for construction dust emissions; instead, impacts are considered less than significant if standard best management practices are employed to control dust during construction activities, including demolition and excavation.

Community Risk and Hazard Impacts

With respect to risk and hazard impacts. BAAQMD recommends either that a project be found to be in compliance with a "qualified Community Risk Reduction Plan," or that significance thresholds be used for both construction and operational emissions based on commonly used standards employed in health risk assessment. The thresholds for project-specific impacts are: an increase in lifetime cancer risk of 10 chances in one million, an increase in the non-cancer risk equivalent to a chronic or acute "Hazard Index" greater than 1.0,[232] or an increase in the annual average concentration of $PM_{2.5}$ in excess of 0.3 micrograms per cubic meter. BAAQMD also recommends cumulative thresholds of 100 in one million cancer risk, a chronic Hazard Index greater than 10.0, and a $PM_{2.5}$ concentration greater than 0.8 micrograms per cubic meter. Unlike the volume-based thresholds for criteria pollutants noted above, the toxic air contaminant thresholds are used for specific receptor locations when a risk analysis is required for specific project components, such as permitted stationary sources (boilers, emergency generators, etc.), non-permitted sources such as the new Transit Center, or the use of diesel-powered

230 BAAQMD *CEQA Air Quality Guidelines* (see footnote 205, p. 370); p. 2-1.
231 *Ibid.*
232 Hazard Index represents the ratio of expected exposure levels to an acceptable reference exposure levels.

sources, and would also generate emissions of both criteria air pollutants and toxic air contaminants in construction equipment exhaust. Over the long term, the project would result in an increase in emissions primarily due to increased motor vehicle trips, as well as from operation of on-site stationary sources—in this case, a backup generator. Area sources (such as landscaping and use of consumer products) would result in lesser quantities of pollutant emissions.

Construction Air Quality Impacts

Impact AQ-6: Construction of the Transit Tower would result in emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to construction dust. (Less than Significant)

Demolition, grading and new construction activities would temporarily affect local air quality during the project's proposed 3-year construction schedule, causing temporary increases in particulate dust and other pollutants. Emissions generated from construction activities include combustion emissions of criteria air pollutants (reactive organic gases [ROG], nitrogen oxides [NOx], carbon monoxide [CO], sulfur oxides [SOx], and PM_{10} and $PM_{2.5}$) primarily from operation of construction equipment and worker vehicles, evaporative criteria pollutant emissions (ROG) from asphalt paving and architectural coating applications, and dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources; that is, dust generated by construction activities and that escapes from the construction site.

Criteria Air Pollutants

Criteria pollutant emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$ from construction equipment would incrementally add to the regional atmospheric loading of these pollutants during project construction. The BAAQMD *CEQA Air Quality Guidelines* recommend the quantification of project related exhaust emissions and comparison of the emissions to its new significance thresholds. Therefore, daily project construction exhaust emissions that would be associated with the proposed project have been estimated and are presented in **Table 34**.

As indicated in Table 34, emissions from project construction would not exceed the BAAQMD's significance thresholds. Even though construction-related emissions would not exceed the BAAQMD's significance thresholds for criteria pollutants, Implementation of Improvement Measure I-AQ-6 would further reduce the less-than-significant emissions from construction vehicles, and would be consistent with the BAAQMD's basic emissions control measures for all projects.

Improvement Measure

I-AQ-6 **Construction Vehicle Emissions Minimization:** To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications:

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

TABLE 34
TRANSIT TOWER PROJECT CONSTRUCTION EXHAUST EMISSIONS ESTIMATES

	Estimated Daily Emissions (pounds per day)[a]			
Construction Phase and Year	**ROG**	**NOx**	**PM10[b]**	**PM2.5[b]**
2013	14.4	43.1	1.9	1.7
2014	2.9	12.1	0.6	0.6
2015	40.5	11.0	0.6	0.5
2016	37.18	0.0	0.0	0.0
BAAQMD Threshold	54	54	82	54
Significant?	No	No	No	No

[a] Project construction emissions estimates are based on output from URBEMIS 2007 v.9.2.4 air quality model, using the model's default assumptions. Assumes construction starts in mid-2013 and ends in mid-2016.
[b] Vehicle exhaust only.

SOURCE: Environmental Science Associates, 2011

Fugitive Dust

For fugitive dust, the BAAQMD recommends a "best management practices" approach for dust control. Project-related demolition, excavation, grading and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board, reducing ambient particulate matter from 1998 – 2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose and throat. Demolition, excavation, grading and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

In response, as noted under Regulatory Setting (p. 383), the San Francisco Board of Supervisors approved a series of amendments to the *San Francisco Building* and *Health Codes* generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI).

Level of Significance After Mitigation

Implementation of the above measure would result in the maximum feasible reduction of diesel emissions that would contribute to construction-period health risk, thereby lowering both lifetime cancer risk and the concentration of $PM_{2.5}$ to which receptors would be exposed. Furthermore, the above analysis indicates that use of interim Tier 4 diesel construction equipment or Tier 2/ Tier 3 equipment with Level 3 VDECS would reduce the health risk to a level that would not exceed any of the significance thresholds identified by the BAAQMD. It is also noted that construction emissions could be lower if newer equipment is employed or less powerful or smaller diesel equipment is used than assumed in the analysis. Emissions could also be higher if more or larger diesel equipment is used. Depending on the regulations in place at the time construction begins, and depending on the precise mix of diesel-powered construction equipment employed, it is possible that the impact would be reduced to a less-than-significant level. However, because it cannot be stated with certainty that either cancer risk or $PM_{2.5}$ concentration would be reduced to below the BAAQMD-recommended significance thresholds, and because of the uncertainty concerning the availability and feasibility of using construction equipment that meets the requirements of Mitigation Measure M-AQ-7, this impact is conservatively judged to be **significant and unavoidable.**

Operational Air Quality Impacts

Impact AQ-8: Operation of the proposed Transit Tower would not conflict with *2010 Clean Air Plan*, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment, either individually or cumulatively. (Less than Significant)

Based on the project transportation analysis,[253] the proposed project would generate approximately 4,000 vehicle trips per day. Operational emissions from project traffic and from operation of the proposed building were calculated using the URBEMIS 2007 (version 9.2.4) model, and are presented in **Table 35.** As shown in Table 6, emission increases attributable to the proposed project would be substantially below the significance thresholds established by the BAAQMD. Therefore, the project's effects of regional criteria pollutant emissions would be less than significant.

The proposed project would be generally consistent with the San Francisco General Plan, as proposed for amendment by the draft Transit Center District Plan. Additionally, the General Plan, Planning Code, and City Charter implement various Transportation Control Measures identified in the 2010 Bay Area Clean Air Plan through the City's Transit First Program, bicycle parking requirements, transit development impact fees applicable to commercial uses, and other actions. The draft Plan would also be consistent with the Transportation Control Measures in the 2010 Clean Air Plan, as described in the analysis under Impact AQ-1, above, and the Transit Tower would be an integral part of the proposed Plan. In light of the above, the project would not make a considerable contribution to cumulative air quality impacts, nor

253 AECOM, *Transit Tower Transportation Impact Study* (see footnote 155, p. 276).

TABLE 35
TRANSIT TOWER ESTIMATED DAILY REGIONAL EMISSIONS (2016)

	Projected Emissions (Pounds per Day)[1,2]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Area-Source Emissions	1.1	7.4	0.02	0.02
Mobile-Source (Vehicle) Emissions	23.7	26.5	55.1	10.4
TOTAL	24.7	33.9	55.1	10.4
BAAQMD Threshold	54	54	82	54

NOTES:
1 Emission factors were generated by the URBEMIS 2007 (v. 9.2.4) model for San Francisco County, and assume a default vehicle mix. All daily estimates are the average of summer and winter conditions. Traffic generated emissions based on trip generation from the project transportation study.
2 Columns may not total due to rounding.

SOURCE: Environmental Science Associates, 2011.

would it interfere with implementation of the 2010 Clean Air Plan, which is the applicable regional air quality plan developed to improve air quality and to effectively meet the state and federal ambient air quality standards.

Mitigation: None required.

Local Air Quality Impacts

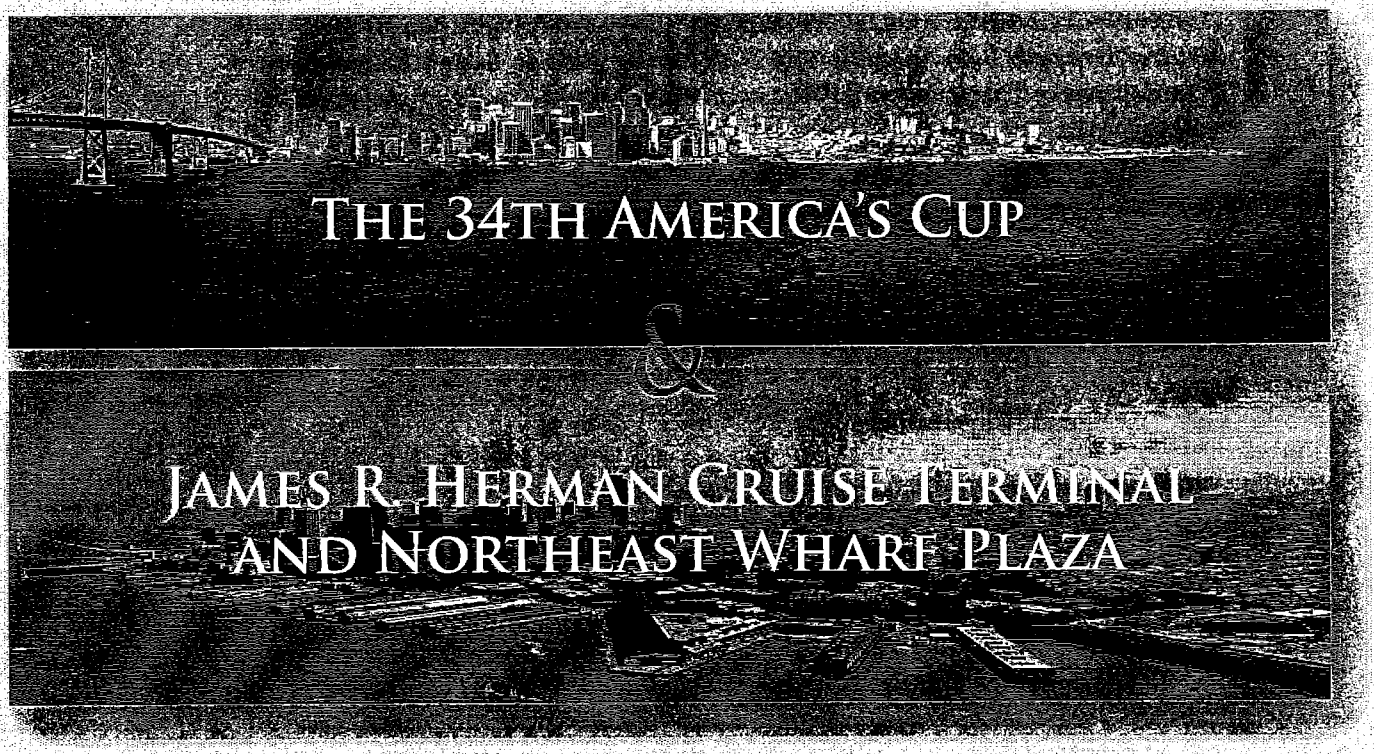
Impact AQ-9: Operation of the proposed Transit Tower would not result in emissions of carbon monoxide that would exceed state or federal standards, either individually or cumulatively. (Less than Significant)

The San Francisco Bay Area Air Basin is designated as "attainment" for carbon monoxide (CO). As stated in the 2010 update of the BAAQMD *CEQA Air Quality Guidelines*, "Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area Air Basin with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991."[254] Accordingly, as noted in the Significance Criteria, BAAQMD states that CO impacts may be determined to be less than significant if a project is consistent with the applicable congestion management plan and would not increase traffic volumes at local intersections to more than 24,000 vehicles per hour, for locations, such as the project site, in heavily urban areas, where "urban canyons" formed by buildings tend to reduce air circulation. The project would be consistent with applicable congestion management planning and, as described under Impact AQ-1, above, the greatest

254 BAAQMD *CEQA Air Quality Guidelines* (see footnote 205, p. 370); p. 6-1.

EXHIBIT 10

VOLUME 2
DRAFT ENVIRONMENTAL IMPACT REPORT



SAN FRANCISCO PLANNING DEPARTMENT CASE NO. 2010.0493E
STATE CLEARINGHOUSE NO. 2011022040

DRAFT EIR PUBLICATION DATE: JULY 11, 2011
DRAFT EIR PUBLIC HEARING DATE: AUGUST 11, 2011
DRAFT EIR PUBLIC COMMENT PERIOD: JULY 11, 2011 – AUGUST 25, 2011

WRITTEN COMMENTS SHOULD BE SENT TO THE
ENVIRONMENTAL REVIEW OFFICER
1650 MISSION STREET, SUITE 400
SAN FRANCISCO, CA 94103

SAN FRANCISCO
PLANNING
DEPARTMENT

Table 5.8-2. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 5.8-2, the Bay Area Air Basin is designated as "nonattainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards. The Bay Area Air Basin is designated as "attainment" for most other pollutants listed in the table.

The California Clean Air Act requires that air districts in which state air quality standards are exceeded prepare a plan that documents reasonable progress towards attainment. A three-year update is required. In the Bay Area, this planning process is incorporated into the BAAQMD Clean Air Plan, as discussed in Section 5.8.2.3, Local Regulations, below under Regional Air Quality Planning.

5.8.2.3 Local Regulations

Regional Air Quality Planning

The BAAQMD is the regional agency responsible for air quality regulation within the San Francisco Bay Area Air Basin. The BAAQMD regulates air quality through its planning and review activities and has permit authority over most types of stationary emission sources. The BAAQMD can require stationary sources to obtain permits, and can impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The BAAQMD regulates new or expanding stationary sources of toxic air contaminants.

For state air quality planning purposes, the Bay Area is classified as a serious nonattainment area for ozone. The "serious" classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the BAAQMD updates the *Clean Air Plan* (CAP) every three years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The Bay Area's record of progress in implementing previous measures must also be reviewed. On September 15, 2010, the BAAQMD adopted the most recent revision to the CAP—the 2010 CAP. The goals of the 2010 CAP are to:

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Consider the impacts of ozone control measures on PM_{10} and $PM_{2.5}$, TACs, and greenhouse gases (GHGs) in a single, integrated plan;
- Review progress in improving air quality in recent years; and
- Establish emission control measures to be adopted or implemented in the 2009–2012 timeframe.

In June 2010, BAAQMD issued its *CEQA Air Quality Guidelines*, replacing former guidelines adopted in December 1999, and adopted new thresholds of significance (BAAQMD Thresholds) to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. Updated in May 2011,[20] these guidelines include recommendations for analytical methodologies to determine air quality impacts and identify mitigation measures that can be used to avoid or reduce air quality impacts. The analysis herein uses the BAAQMD Thresholds and the *CEQA Air Quality Guidelines* to determine the proposed project's significance with respect to air pollutant emissions.

Local Air Quality Planning

San Francisco General Plan Air Quality Element

The *San Francisco General Plan* (General Plan) includes the 1997 Air Quality Element.[21] The objectives specified by the City include the following:

> *Objective 1*: Adhere to state and federal air quality standards and regional programs.
>
> *Objective 2*: Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan.
>
> *Objective 3*: Decrease the air quality impacts of development by coordination of land use and transportation decisions.
>
> *Objective 4*: Minimize particulate matter emissions from road and construction sites.
>
> *Objective 5*: Link the positive effects of energy conservation and waste management to emission reductions.

San Francisco Construction Dust Control Ordinance

San Francisco Health Code Article 22B and San Francisco Building Code Section 106.A.3.2.6, which collectively comprise the Construction Dust Control Ordinance, require that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from the Department of Building Inspection (DBI).

Pursuant to Health Code Article 22B, Section 1247, all departments, boards, commissions, and agencies of the City and County of San Francisco — including the Port of San Francisco — that authorize construction or improvements on land under their jurisdiction under circumstances where no building, excavation, grading, foundation or other permits are required to be obtained under the San Francisco Building Code shall adopt rules and regulations to ensure that the same dust control requirements that are set forth in this article are followed.

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[20] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, updated May 2011.

[21] San Francisco Planning Department, Air Quality Element of the *San Francisco General Plan*, July 1997, updated in 2000.

Dust suppression activities may include watering of all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating runoff in any area of land clearing and/or earth movement). During excavation and earth-moving activities, contractors must wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the work day. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base and soil must be covered with a 10-millimeter (0.01-inch) polyethylene plastic (or equivalent) tarp, braced down, or other equivalent soil stabilization techniques must be used.

For project sites greater than one-half acre in size, the ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Health Department. Interior-only tenant improvements, even if over one-half acre, that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement.

San Francisco Health Code Provisions

The City and County of San Francisco adopted Article 38 of the San Francisco Health Code in 2008, requiring that an Air Quality Assessment be prepared for new residential projects of ten or more units located in proximity to high-traffic roadways, as mapped by the Department of Public Health, to determine whether residents would be exposed to potentially unhealthful levels of $PM_{2.5}$.

San Francisco Clean Construction Ordinance

The San Francisco Board of Supervisors adopted the Clean Construction Ordinance in 2007, which became effective in 2009. The Clean Construction Ordinance is implemented for public works projects in the City of San Francisco or City-financed construction projects. The ordinance amended the Administrative Code to add Section 6.25 to require City contractors to adopt clean construction practices including use of biodiesel fuels and emission controls. The ordinance also requires departments that are authorized to award contracts to compare bids on the basis that the work will be performed using cleaner off-road diesel equipment and biodiesel fuel. The proposed projects would be subject to the Clean Construction Ordinance.

5.8.3 Impacts and Mitigation Measures

5.8.3.1 Significance Criteria

The City has not formally adopted significance standards for impacts related to air quality, but generally considers that implementation of the project could have a potentially significant impact related to air quality if it were to:

- Conflict with or obstruct implementation of the applicable air quality plan;

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

As described above, the BAAQMD issued CEQA Air Quality Guidelines,[22] including Air Quality CEQA Thresholds of Significance, in June 2010 and updated them in May 2011. These guidelines provide reference thresholds for considering whether a project would have a significant air quality impact. The guidelines, published for assessing impacts relative to these thresholds, also provide recommended procedures for evaluating potential air quality impacts during the environmental review process. Additionally, the BAAQMD has adopted new risk and hazard exposure thresholds for the siting of new sensitive receptors that apply to projects for which the Notice of Preparation (NOP)was issued) and environmental analysis began subsequent to May 1, 2011. However, neither the proposed AC34 events nor the proposed cruise terminal would permanently locate a new sensitive receptor, and this threshold is not applicable to the proposed projects. The following analysis has been conducted in accordance with BAAQMD's *CEQA Air Quality Guidelines* (May 2011).

AC34 Event and Cruise Terminal Construction Impact Criteria

Under the BAAQMD CEQA thresholds, a project would have a significant air quality impact if it would result in average daily construction-related emissions of ROG, NOx, or $PM_{2.5}$ (non-inclusive of fugitive dust[23]) of 54 pounds (25 kilograms) average daily emissions or greater. There is a separate emission threshold for PM_{10} (non-inclusive of fugitive dust[24]) of 82 pounds (37 kilograms) average daily emissions. The thresholds for PM_{10} and $PM_{2.5}$ are inclusive only of construction exhaust emissions. BAAQMD guidance regarding construction-related emission of fugitive dust identifies implementation of best management practices as its threshold of significance.[25] The BAAQMD *CEQA Air Quality Guidelines* identify a list of eight "Basic Construction Mitigation Measures Recommended for All Proposed Projects" and consider implementation of these measures as meeting the best management practices requirements for fugitive dust emissions.[26]

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[22] BAAQMD, *CEQA Air Quality Guidelines*, May 2011, http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines%20May%202011.ashx.

[23] Fugitive dust consists of very small liquid and solid particulate matter that is suspended in the air by the wind and human activities. Fugitive dust originates primarily from the soil.

[24] Fugitive dust is PM suspended in the air by the wind and human activities. It originates primarily from the soil and is not emitted from exhaust pipes, vents, or stacks.

[25] BAAQMD, *CEQA Air Quality Guidelines*, Table 2-1.

[26] BAAQMD, *CEQA Air Quality Guidelines*, Table 8-2.

The 2010 BAAQMD CEQA thresholds indicate that a project would also have a significant air quality impact if construction activities would result in an incremental increase in localized annual average concentrations of $PM_{2.5}$ exceeding 0.3 micrograms per cubic meter ($\mu g/m^3$) within a 1,000-foot radius from the property line of the construction area or a receptor. A project would also have a significant air quality impact if it would expose persons to substantial levels of TACs (including DPM), such that the probability of contracting cancer for the Maximally Exposed Individual (MEI)[27] exceeds 10 in one million or if it would expose persons to TACs such that a non-cancer Hazard Index of 1.0 would be exceeded. A Hazard Index is a summation of the non-cancer hazard quotients for all chemicals to which an individual is exposed.

AC34 Event and Cruise Terminal Operational Impact Criteria

For the AC34 event and Cruise Terminal project impact operational analyses, the 2011 BAAQMD *CEQA Air Quality Guidelines* include various thresholds and tests of significance. For ROG, NOx, and $PM_{2.5}$, a net increase equal to or greater than 10 tons per year (maximum annual) or 54 pounds average daily emissions is considered significant, while for PM_{10} a net increase equal to or greater than 15 tons per year (maximum annual) or 82 pounds average daily emissions is considered significant.

For CO emissions, an increase would be considered significant if it leads to or contributes to CO concentrations exceeding the state ambient air quality standard, although quantification would not be required if a project is consistent with the local congestion management program and plans and traffic volumes at affected intersections are below 44,000 vehicles per hour or 24,000 vehicles per year in tunnel-like conditions.

Under the 2010 BAAQMD thresholds, project operations would also have a significant air quality impact if they would result in an incremental increase in localized annual average concentrations of $PM_{2.5}$ exceeding 0.3 micrograms per cubic meter.

Additionally, a project would also have a significant air quality impact if project operations would expose persons to substantial levels of TACs, such that the probability of contracting cancer for the MEI exceeds 10 in one million or if the project would expose persons to TACs such that a non-cancer Hazard Index of 1.0 would be exceeded.

Cumulative Impact Criteria

The 2011 BAAQMD *CEQA Air Quality Guidelines* state that if the individual emissions from a project would result in an increase in ROG, NOx, $PM_{2.5}$, or PM_{10} that exceeds the project-level significance criteria, then the project would also be considered to contribute considerably to a significant cumulative effect. Cumulative air quality impacts relative to emissions of $PM_{2.5}$ and TACs are new concepts contained in BAAQMD's updated thresholds.

[27] The Maximally Exposed Individual is the person with the highest exposure in a given population.

With regard to cumulative impacts from $PM_{2.5}$, a significant cumulative air quality impact would occur if localized annual average concentrations of $PM_{2.5}$ would exceed 0.8 micrograms per cubic meter at any receptor from project operations in addition to existing emission sources and cumulative emissions sources within a 1,000-foot radius of the property line of the source or receptor.

With regard to cumulative impacts from TACs, a significant cumulative air quality impact would occur if the probability of contracting cancer for the MEI would exceed 100 in one million or if the project would expose persons to TACs such that a non-cancer chronic Hazard Index of 10.0 would be exceeded at any receptor as a result of project operations, in addition to existing emission sources and cumulative emissions sources within a 1,000-foot radius of the project site.

However, a project's construction or operational impacts would be considered to result in a considerable contribution to an identified cumulative health risk impact if the project's construction or operation activities would exceed the project-level health risk significance thresholds identified above.

5.8.3.2 Approach to Analysis

The air quality impact analysis is organized to address potential impacts from the AC34 events and the Cruise Terminal project separately. Construction and operational emissions are assessed individually as recommended by BAAQMD guidance. Cumulative air quality impacts are discussed with regard to the near-term cumulative construction and operational impacts of the AC34 venues and pier improvements including near-term construction-related effects of the cruise terminal. The cruise terminal would be completed and in operation after the AC34 events end, and long-term (year 2035) operational cumulative impacts are assessed only with respect to the cruise terminal.

Evaluation of air quality impacts from operational and construction air emission sources of the proposed projects under the BAAQMD *CEQA Air Quality Guidelines* requires the quantification of the estimated mass emissions of criteria air pollutants such as ROG, NO_x, PM_{10}, and $PM_{2.5}$. In addition, an evaluation of potential human health effects from the emission of specific toxic air contaminants (TACs) present in the ROG or PM emissions is also required. The following sections describe the emissions estimation, air dispersion modeling, and risk characterization methodologies that were used to evaluate project-related emissions.

Analytical Approach for Construction Emissions

Construction exhaust emissions of criteria air pollutants and toxic air contaminants (TACs, in order to evaluate health risks and hazards) were estimated by first collecting extensive information on all of the different types of air emissions sources involved in project construction and the level of activity anticipated from these sources during each phase of construction. This information was then combined with emission factors applicable to each source type to generate

Impact AQ-2: Construction of the America's Cup facilities would result in emission of criteria pollutants and precursors that would violate an air quality standard or contribute substantially to an existing or projected air quality violation. (Significant and Unavoidable with Mitigation)

A number of temporary and some permanent facilities would be constructed in preparation for the America's Cup events at various locations as described in Chapter 3, Project Description.

Demolition of existing structures would occur at Piers 27-29 and Piers 30-32 in 2012. Installation of temporary floating docks would occur at Piers 30-32, Pier 80, and Marina Green for the AC34 2012 events. Other construction activities in 2012 would include construction of the new cruise terminal building "cold shell" and paving/concrete improvements at Piers 27-29, and installation of the team base at Piers 30-32 and/or Pier 80. Emissions would also result from construction and erection of facilities at spectator locations. For the AC34 2013 events, construction of temporary floating docks and/or wave attenuators would occur at several locations (e.g., Piers 30-32, 32-36, 27-29, 26-28, 23, and 1; Piers 9-15 water basin; Rincon Point Open Water Basin; Piers 17-19; and Fort Mason). Mooring anchoring would be installed at Brannan Street Wharf Open Water Basin and Piers 27-29, and dredging would occur at Brannan Street Wharf Open Water Basin and Pier 28. The team base would remain at Piers 30-32. In addition, all temporary floating docks, wave attenuators, the communications barge, associated pilings and mooring anchoring, and the Pier 80 and Piers 30-32 team bases would be removed in 2013 after completion of the AC34 events. Phase 2 buildout of the new cruise terminal at Piers 27-29 would also start at the end of 2013 for proposed operation of the new cruise terminal in 2014, the impacts of which are addressed in Impacts AQ-9 and AQ-10, below, relative to the Cruise Terminal project.

Criteria and ozone precursor pollutant (NOx, ROG, PM_{10}, $PM_{2.5}$) emissions from construction equipment exhaust would incrementally add to the regional atmospheric loading of these pollutants during project construction. The BAAQMD *CEQA Air Quality Guidelines* recommend the quantification of project-related criteria pollutant exhaust emissions from construction, separate from operational emissions, and comparison with significance thresholds included in the guidelines. Daily engine exhaust emissions from construction activities associated with the proposed project are compared with emission BAAQMD significance thresholds in **Table 5.8-5**. Emissions were estimated separately for construction scheduled to occur in 2012 and 2013 and then combined. Total construction emissions were divided by the number of construction days to derive average daily emissions for comparison against BAAQMD significance threshold levels. The BAAQMD construction significance thresholds for criteria pollutants are established in terms of average daily emissions, and this is how emissions are reported in Table 5.8-5.

The emissions presented in Table 5.8-5 would be generated by many different construction sources including off-road construction equipment such as loaders, backhoes, pile drivers, and cranes; in-water construction sources such as assist tugs, barges and dredge equipment; and on-road trucks. The predominant source of emissions would be off-road equipment, which would generate approximately double the emissions of in-water construction sources at most locations, except those where dredging would occur; in dredging locations, in-water construction would be the predominant emissions source. At all locations, emissions from on-road trucks would be substantially lower than emissions from either off-road or water sources.

TABLE 5.8-5
AC34 AVERAGE DAILY CONSTRUCTION-RELATED EMISSIONS

	Average Daily Construction Emissions (pounds/day)			
	ROG	NOx	PM10	PM2.5
Cruise Terminal Phase I and AC34 Construction				
Demolition at Piers 27-29	0.2	1.3	0.1	0.05
Shell Construction Piers 27-29	16	90	7	6
AC34 Venue Construction	8	69	4	3
Total[a]	24	160	10	10
BAAQMD Threshold	54	54	82	54
Above Threshold?	No	Yes	No	No

NOTES:

[a] The total emissions may not sum precisely due to rounding of subtotals.

SOURCE: ENVIRON, 2011

Construction of the America's Cup facilities would result in emission of criteria pollutants and precursors that, with the exception of NOx, would be at levels below the BAAQMD thresholds of significance. However, the estimated construction emissions of NOx would exceed the BAAQMD significance threshold, resulting in a significant air quality impact.

Impact Summary

Construction of the America's Cup facilities would result in emission of NOx that would exceed BAAQMD thresholds of significance, a *significant* impact. Implementation of **Mitigation Measure M-AQ-2a** (Construction Vehicle Emissions Minimization) and **M-AQ-2b** (Off-Road Construction Equipment), requiring use of off-road equipment that meets the most stringent U.S. EPA standards, as available, and the requirements specified under the Clean Construction Ordinance would reduce the severity of the impact. However, as discussed below, the ability of the mitigation measures to reduce the impact to less than significant depends on the feasibility of implementing the measures.

A discussion of available mitigation and associated feasibility of implementation is presented with the mitigation measures below. The results indicate that limited emission reduction would be expected due to lack of available feasible mitigation. Therefore, this impact would remain *significant and unavoidable with mitigation.*

Mitigation Measure M-AQ-2a: Construction Vehicle Emissions Minimization

To reduce construction vehicle emissions, the project sponsors shall incorporate the following into construction specifications:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure, Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

Operational Impacts

Impact AQ-4: Operations of the America's Cup facilities would violate an air quality standard or contribute substantially to an existing or projected air quality violation. (Significant and Unavoidable with Mitigation)

Operations of the America's Cup events during 2012 and 2013 would involve a wide variety of activities, both on water and on land, as well as helicopter activities. On-water activities would include boat and yacht trips (e.g., race-sponsored spectator vessels, race support vessels, small and large private spectator boats, and assist tugs). Boat lifts would be used at several locations. On-land activities would include generators and other equipment used at race-sponsored viewing sites and on-road vehicle trips. Helicopters would be used for broadcasting and media operations and would follow each race route. In addition, the increase in cruise ship emissions at Pier 27 during 2013 associated with the loss of the shore power hookup (which would be relocated and disconnected until completion of the AC34 events at Piers 27-29) during the America's Cup are included in the AC34 operational emissions total. No existing emissions were assumed for the AC34 event itself, as all emissions associated with the event were assumed to be new, additional emissions.

Criteria and ozone precursor pollutant (ROG, CO, NOx, PM_{10}, and $PM_{2.5}$) emissions associated with these activities were estimated for 2012 and 2013 using methods and data sources described previously and in Appendix AQ. Emissions for 2012 and 2013 were summed and divided by the total number of days of race operations to determine daily average emissions that were then compared with BAAQMD *CEQA Air Quality Guidelines* threshold levels as presented in **Table 5.8-7**. Because a variety of activities would occur throughout the AC34 event period, the number of days of "race operations" in each year was determined on the basis of the length of time that major operations are scheduled to take place (assumed to be 20 days in 2012 and 50 days in 2013 for vessel and on-road traffic and 80 days in 2012 and 90 days in 2013 for other sources), not simply the number of days on which actual races are scheduled.

As shown in Table 5.8-7, estimated average daily emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$ would exceed the BAAQMD significance thresholds. Over 90 percent of daily PM and daily ROG emissions shown in Table 5.8-7 are attributable to operation of private spectator and race-support vessels. Daily emissions of NOx have substantial contributions from all sources except assist tugs.

Annual emissions from AC34 operations in 2012 and 2013 were also tabulated and compared to the BAAQMD threshold levels shown in Table 5.8-7. Emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$ are predicted to exceed the BAAQMD significance thresholds. As per the above discussion of daily average emissions, over 90 percent of the annual ROG and particulate emissions would be generated by private spectator and race-support vessel operations.

America's Cup operations would result in emission of criteria pollutants and precursors that could exceed BAAQMD thresholds of significance for NOx, ROG, PM_{10}, and $PM_{2.5}$; this would be a significant air quality impact.

TABLE 5.8-7
AC34 AVERAGE DAILY AND MAXIMUM ANNUAL OPERATIONAL EMISSIONS

	Average Daily Emissions (pounds/day)			
	ROG	NOx	PM10	PM2.5
Race Operations				
Race Sponsored Vessels	9	102	4	4
Race Support Vessels	875	104	155	143
Small Private Vessels	1,272	198	212	195
Large Private Vessels	22	244	10	10
Assist Tugs	0	1	0	0
Other Sources[a]	21	174	5	5
Shoreside Power Temporary Decommissioning (2013)	4	94	2	2
Overall Spectator Traffic	30	62	4	4
Total Overall (2012+2013)	2,233	979	392	362
BAAQMD Threshold	54	54	82	54
Above Threshold?	Yes	Yes	Yes	Yes

	Maximum Annual Emissions (short tons/year)			
	ROG	NOx	PM10	PM2.5
2012 Race Operations				
Race Sponsored Vessels	1	6	0	0
Race Support Vessels	37	4	6	6
Small Private Vessels	83	12	13	12
Large Private Vessels	0	0	0	0
Assist Tugs	0	0	0	0
Other Sources[a]	1	8	0	0
Spectator Traffic	2	4	0	0
2012 Total	124	35	20	18
BAAQMD Threshold	10	10	15	10
Above Threshold?	Yes	Yes	Yes	Yes
2013 Race Operations				
Race Sponsored Vessels	1	17	1	1
Race Support Vessels	157	19	28	26
Small Private Vessels	200	32	34	31
Large Private Vessels	5	54	2	2
Assist Tugs	0	0	0	0
Other Sources[a]	4	31	1	1
Shoreside Power Temporary Decommissioning (2013)	1	21	0	0
Spectator Traffic	5	10	1	1
2013 Total	372	183	67	62
BAAQMD Thresholds	10	10	15	10
Above Threshold?	Yes	Yes	Yes	Yes

NOTES:
BAAQMD = Bay Area Air Quality Management District

[a] Other sources include boat lifts, generators, helicopters, and truck trips.

SOURCE: ENVIRON, 2011

EXHIBIT 11



DRAFT ENVIRONMENTAL IMPACT REPORT

Western SoMa Community Plan, Rezoning of Adjacent Parcels, and 350 Eighth Street Project

PLANNING DEPARTMENT
CASE NOS. 2008.0877E AND 2007.1035E
STATE CLEARINGHOUSE NO. 2009082031

SAN FRANCISCO
PLANNING
DEPARTMENT

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ENVIRONMENTAL PLANNING | SAN FRANCISCO PLANNING DEPARTMENT

Impacts and Mitigation Measures

Significance Criteria

In 1999, the BAAQMD adopted its *CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. These BAAQMD guidelines were revised and updated in May 2011 and May 2012, as the *BAAQMD CEQA Air Quality Guidelines*.

The 2011 *CEQA Air Quality Guidelines* is an advisory document intended to assist lead agencies in evaluating the air quality impacts of projects and plans in the Air Basin during the environmental review process.[29] The document describes the criteria that the BAAQMD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. In practice, most local agencies rely on the *BAAQMD CEQA Air Quality Guidelines* when assessing the significance of air quality impacts.

BAAQMD's adoption of the significance thresholds for CEQA air quality analysis is the subject of recent judicial actions. In a ruling dated March 5, 2012, Alameda County Superior Court Judge Frank Roesch found that, in adopting updated significance thresholds for air quality impacts, the BAAQMD violated CEQA by not first studying the potential environmental impacts of its new rules, and required that the thresholds be rescinded pending formal CEQA review.[30]

Western SoMa Community Plan and Rezoning of Adjacent Parcels

Criteria Air Pollutants

The significance thresholds for assessment of a planning document, such as the proposed *Western SoMa Community Plan* and the Rezoning of Adjacent Parcels, involve an evaluation of whether:

(1) The plan would be consistent with the control measures contained in the current regional air quality plan (the *2010 Clean Air Plan*) and would support the primary objectives of that plan and would not hinder implementation of that plan; and

(2) The projected rate of increase in vehicle miles traveled or vehicle trips under the plan would be less than or equal to projected rate of population increase under the plan.

If the two foregoing questions can be answered in the affirmative, the Draft Plan would neither:

- Conflict with or obstruct implementation of the applicable air quality plan;

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29 BAAQMD, *CEQA Air Quality Guidelines*, May 2012. Available online at http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en, accessed on June 13, 2012; p 1-1.

30 *California Building Industry Association v. Bay Area Air Quality Management District*, 2012. Statement of Decision. Case No. RG10-548693. Superior Court of the State of California in and for the County of Alameda.

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation; nor
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).[31]

Community Risk and Hazard Impacts

This analysis responds to the criterion that asks whether the proposed Draft Plan would:

- Expose sensitive receptors to substantial pollutant concentrations.

For plan-related health risks and hazards resulting from emissions of TACs, the BAAQMD *CEQA Air Quality Guidelines* (2011) recommend that overlay zones be established around existing and proposed land uses that emit TACs and $PM_{2.5}$. These overlay zones should be included in proposed plan policies, land use maps, and implementing ordinances. Additionally, the plan must "identify goals, policies, and objectives to minimize potential impacts."[32]

Odors

The Proposed Project would result in a significant impact with respect to odors if it would:

- Create objectionable odors affecting a substantial number of people.

For odors, a proposed land use plan must identify the location of existing and planned odor sources. The proposed land use plan must also include policies to reduce potential odor impacts. Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. BAAQMD identifies a screening distance for new sources of potential odors, such as wastewater treatment plants, landfills and transfer stations, refineries, asphalt and chemical plants, food processing facilities, and the like, of 1 or 2 miles, depending on use. In general, such setback distances would avoid the potential for significant odor impacts.

Proposed Transportation Improvements and 350 Eighth Street Project

For the proposed transportation improvements to be undertaken in the Draft Plan Area and for an individual development project such as the 350 Eighth Street project, the City relies on the quantitative thresholds of significance. **Table 4.G-3**, on the following page, summarizes these thresholds of significance. A discussion of each threshold is provided below.

31 The bulleted statements are the first three significance criteria in the City's CEQA Initial Study checklist.

32 BAAQMD, *CEQA Air Quality Guidelines*, May 2011. Available online at http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx, accessed on April 19, 2012; p. 9-71.

TABLE 4.G-3
AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82	82	15
$PM_{2.5}$	54	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources			
Excess Cancer Risk	10 per 1 million	10 per 1 million	
Chronic or Acute Hazard Index	1.0	1.0	
Incremental annual average $PM_{2.5}$	0.3 $\mu g/m^3$	0.3 $\mu g/m^3$	
Health Risks and Hazards for Sensitive Receptors (Cumulative from all sources within 1,000 foot zone of influence) and Cumulative Thresholds for New Sources			
Excess Cancer Risk	100 per 1 million		
Chronic Hazard Index	10.0		
Annual Average $PM_{2.5}$	0.8 $\mu g/m^3$		

ppm – parts per million
µg/m3 – microgram per cubic meter

SOURCE: San Francisco Planning Department, 2012.

Ozone Precursors

As discussed previously, the Air Basin is currently designated as nonattainment for ozone and particulate matter (PM_{10} and $PM_{2.5}$). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on the state and federal Clean Air Acts' emissions limits for stationary sources. The federal New Source Review program was created under the federal Clean Air Act to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health based ambient air quality standards. Similarly, to ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors, ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 lbs. per day).[33] These levels represent emissions by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

[33] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance.* October 2009; p. 17.

Although this regulation applies to new or modified stationary sources, land use development projects result in ROG and NO_x emissions as a result of increases in vehicle trips, architectural coating, and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects and those projects that result in emissions below these thresholds, would not be considered to contribute to an existing or projected air quality violation or result in a cumulatively considerable net increase in ROG and NO_x emissions. Because construction activities are temporary in nature only the average daily thresholds are applicable to construction phase emissions.

Particulate Matter (PM_{10} and $PM_{2.5}$)

The BAAQMD has not established an offset limit for $PM_{2.5}$ and the current federal Prevention of Significant Deterioration (PSD) offset limit of 100 tons per year for PM_{10} is too high and would not be an appropriate significance threshold for the Bay Area considering the nonattainment status of PM_{10}. However, the federal New Source Review emissions limits for stationary sources in nonattainment areas provide for appropriate thresholds. For PM_{10} and $PM_{2.5}$, the emissions limit under New Source Review is 15 tons per year (82 pounds per day) and 10 tons per year (54 pounds per day), respectively. These emissions limits represent levels at which a source is not expected to have an impact on air quality.[34] Similar to ozone precursor thresholds identified above, land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of a land use project. Those projects that result in emissions below the New Source Review emissions limits would not be considered to contribute to an existing or projected air quality violation or result in a cumulatively considerable net increase in PM_{10} and $PM_{2.5}$ emissions. Because construction activities are temporary in nature only the average daily thresholds are applicable to construction-phase emissions.

Other Criteria Pollutants

Regional concentrations of CO in the Bay Area have not exceeded the state standards in the past 11 years and SO_2 concentrations have never exceeded the standards. The primary source of CO emissions from land use projects is vehicle traffic. Construction-related SO_2 emissions represent a negligible portion of the total basin-wide emissions and construction-related CO emissions represent less than five percent of the Bay Area total basin-wide CO emissions.[35] As discussed previously, the Bay Area is in attainment for both CO and SO_2. Furthermore, the BAAQMD has demonstrated, based on modeling, that in order to exceed the California ambient air quality standard of 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average) for CO, project traffic in addition to existing traffic would need to exceed 44,000 vehicles per hour at affected intersections (or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited). Therefore, given the Bay Area's attainment status and the limited CO and SO_2 emissions that could result from a land use projects, land use projects would not result in a cumulatively considerable net increase in CO or SO_2, and quantitative analysis not required.

34 *Ibid.*, p. 16.
35 *Ibid.*, p. 27.

these mid-block streets are very low, these improvements would result in minimal changes in traffic patterns, particularly because most traffic on these streets is presumably local. To the extent that the pedestrian improvements might discourage existing cut-through traffic, the volumes in question are so small as to not represent a meaningful impact relative to vehicular emissions. Therefore, no substantial air quality impacts would ensue, and the impact of installation of pedestrian improvements would be less than significant.

Mitigation: None required.

Impacts of the 350 Eighth Street Project (Project-Level Analysis)

Air quality impacts from the proposed 350 Eighth Street project would fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. These potential impacts are consistent with those described above for development in the Project Area as a whole. First, during project construction, the 350 Eighth Street project would affect local particulate concentrations primarily due to fugitive dust sources, and would also generate emissions of both criteria air pollutants and TACs from construction equipment exhaust. Over the long term, the 350 Eighth Street project would result in an increase in emissions primarily due to increased motor vehicle trips, as well as from operation of on-site stationary sources—in this case, a backup generator. Area sources (such as landscaping and the use of consumer products) would generate lesser quantities of air pollutants.

Construction Air Quality Impacts

Impact AQ-10: Construction of the 350 Eighth Street project would not result in emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and would not result in substantial construction dust. (Less than Significant)

Demolition, grading and new construction activities would temporarily affect local air quality during the 350 Eighth Street project's proposed three-year construction schedule, causing temporary increases in particulate dust and other pollutants. Emissions generated from construction activities include combustion emissions of criteria air pollutants (ROG, NOx, CO, SOx, and PM_{10} and $PM_{2.5}$) primarily from construction equipment and worker vehicles, evaporative criteria pollutant emissions (ROG) from asphalt paving and architectural coating applications, and dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources; that is, dust generated by construction activities and that escapes from the construction site.

Criteria Air Pollutants

Criteria pollutant emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$ from construction equipment during construction of the 350 Eighth Street project would incrementally add to the regional atmospheric loading of these pollutants. The Planning Department requires quantification of project-related exhaust emissions and comparison of the emissions to applicable significance thresholds.

The HRA for the proposed Plan included an estimate of construction criteria air pollutant impacts specific to the 350 Eighth Street Project. Average daily criteria air pollutant emissions from project construction were estimated using the California Emissions Estimator Model (CalEEMod). Averaged daily construction criteria air pollutant emissions are based on estimates of construction phasing and equipment expected to be used, as provided by the project sponsor. Where project-specific data were not available (e.g., equipment horsepower and load factors) default assumptions from CalEEMod and ARB's 2011 In-Use Off-Road Equipment Emissions Inventory Model were used to estimate construction emissions. Additional modeling parameters are detailed in the HRA prepared for the proposed project. Average daily emissions are presented in **Table 4.G-5**, page 4.G-54. The methodology used to estimate construction-period emissions is described under "Approach to Analysis" on page 4.G-26.[74]

TABLE 4.G-5
350 EIGHTH STREET PROJECT CONSTRUCTION EXHAUST EMISSIONS ESTIMATES

	Estimated Daily Emissions (pounds per day)[a]			
Construction Phase	**ROG**	**NOx**	**PM10[b]**	**PM2.5[b]**
Demolition	28	88	16	16
Grading	88	628	28	28
Building Construction	1,600	6,100	288	288
Architectural Coating	11,700	720	76	76
Total Construction Emissions	13,146	7,536	408	408
Average Daily Emissions[c]	**18**	**10**	**0.6**	**0.6**
Significance Threshold	54	54	82	54
Significant?	No	No	No	No

[a] Project construction emissions estimates are based on output from CalEEMod v. 2011.1.1 air quality model, using the model's default assumptions. Assumes construction starts in 2013 and ends in 2015.
[b] Vehicle exhaust only.
[c] Based on 730-day construction schedule

SOURCE: Environ International, 2012

As indicated in Table 4.G-6, emissions from the construction of 350 Eighth Street project would not exceed the applicable significance thresholds for criteria pollutants, and construction-related air pollutant impacts would be less than significant.

Fugitive Dust

Dust can be an irritant causing watering eyes or irritation to the lungs, nose and throat. Demolition, excavation, grading and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to this

[74] CalEEMod output sheets are presented in the health risk assessment (see footnote 53), which is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2008.0877E.

standard are infeasible. It should be noted that, for specialty equipment types (e.g., drill rigs, shoring rigs and concrete pumps), it may not be feasible for construction contractors to modify their current, older equipment to accommodate the particulate filters, or for them to provide newer models with these filters pre-installed.

Significance after Mitigation: Implementation of the above measure would result in the maximum feasible reduction of diesel emissions that would contribute to construction-period health risk, thereby lowering both lifetime cancer risk and the concentration of $PM_{2.5}$ to which receptors would be exposed. However, Tier 4 equipment is not readily available at this time. Both federal (EPA) and ARB Interim Tier 4 standards took effect in January 2011 for new equipment, and it is anticipated that it will take several years, at a minimum, for this equipment to be placed in widespread use, because heavy construction equipment typically has a useful life of 15 years or more. Meanwhile, as also noted above under "Toxic Air Contaminant (TAC) Regulations," ARB has delayed implementation of emissions standards for existing off-road diesel engines, including requirements that construction equipment use so-called Best Available Control Technology or that each operator's fleet of equipment meet a specified average emissions standards. Moreover, retrofitting of off-road equipment with Level 3 VDECS is not yet required by ARB.

It is noted that construction emissions could be lower if newer equipment is employed or less powerful or smaller diesel equipment is used than assumed in the analysis. Emissions could be higher if more or larger diesel equipment is used. Depending on the regulations in place at the time construction begins, and depending on the precise mix of diesel-powered construction equipment employed, it is possible that the impact would be reduced to a less-than-significant level. However, because it cannot be stated with certainty that estimated excess cancer risk from construction emissions would be reduced to below the applicable significance thresholds, and because of the uncertainty concerning the availability and feasibility of using construction equipment that meets the performance requirements of Mitigation Measure M-AQ-11, this impact is conservatively judged to be **significant and unavoidable.**

Operational Air Quality Impacts

Impact AQ-12: Operation of the proposed 350 Eighth Street project would not conflict with the *2010 Clean Air Plan*, violate or contribute to violation of an air quality standard, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment, either individually or cumulatively. (Less than Significant)

Based on the Proposed Project transportation analysis,[78] the 350 Eighth Street project would generate approximately 1,870 vehicle trips per day. Operational emissions from project traffic and from operation of the proposed building were calculated using the CalEEMod (version 2011.1.1) model, and are presented in **Table 4.G-6,** page 4.G-59. As shown in Table 4.G-7, emission increases attributable to the 350 Eighth Street project would be substantially below the applicable significance thresholds. Therefore, the 350 Eighth Street project's effects of regional criteria pollutant emissions would be less than significant.

78 LCW Consulting, *Western SoMa Community Plan Transportation Study, June 15, 2012*

TABLE 4.G-6
350 EIGHTH STREET PROJECT ESTIMATED DAILY REGIONAL EMISSIONS (2016)

	Daily Projected Emissions (Pounds per Day)[a,b,c]			
	ROG	NOx	PM_{10}	$PM_{2.5}$
Area-Source Emissions	12	1	<1	<1
Mobile-Source (Vehicle) Emissions	15	27	22	2
TOTAL	**27**	**29**	**22**	**2**
Significance Threshold	*54*	*54*	*82*	*54*
Significant?	No	No	No	No
	Annual Projected Emissions (Tons per Year)[a,b,c]			
	ROG	NOx	PM_{10}	$PM_{2.5}$
Area-Source Emissions	2.3	0.3	<0.1	<0.1
Mobile-Source (Vehicle) Emissions	0.8	1.4	1.3	0.1
TOTAL	**3.1**	**1.6**	**1.4**	**0.1**
Significance Threshold	*10*	*10*	*15*	*10*
Significant?	No	No	No	No

NOTES:

[a] Emission factors were generated by the CalEEMod (v. 2011.1.1) model for San Francisco County, and assume a default vehicle mix. All daily estimates are the average of summer and winter conditions. Traffic generated emissions based on trip generation from the project transportation study.

[b] Columns may not total due to rounding.

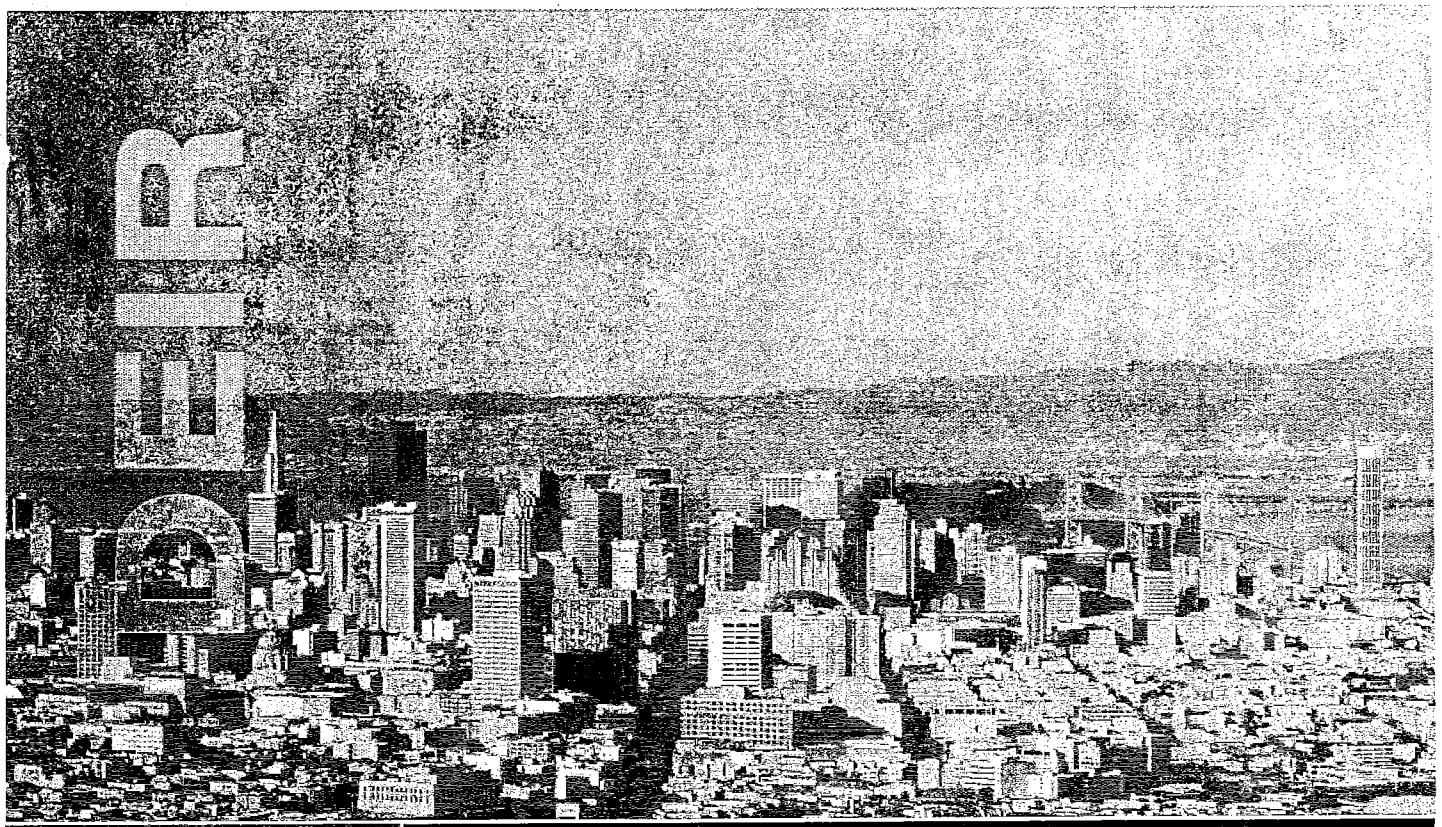
[c] Emergency generator emissions not included, as they were modeled in the SCREEN3 model and found to amount to less than 0.002 pounds per day of any pollutant averaged over the course of the year, and less than 0.02 pounds per day of any pollutant on a day when the generator is tested.

SOURCE: Environ International, 2012; Environmental Science Associates, 2012.

The proposed 350 Eighth Street project would be generally consistent with the *San Francisco General Plan*, as proposed for amendment by the *Western SoMa Community Plan*. Additionally, the General Plan, Planning Code, and City Charter implement various Transportation Control Measures identified in the *2010 Clean Air Plan* through the City's Transit First Program, bicycle parking requirements, transit development impact fees applicable to commercial uses, and other actions.

Consistency with this *2010 Bay Area Clean Air Plan* is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan. A consistency analysis of the proposed project in relation to the goals and objectives of the *Clean Air Plan* focuses on the proposed project's support of the primary goals in the *Clean Air Plan*, the proposed project's implementation of applicable control measures in the *Clean Air Plan*, and evaluation of any potential disruption to or hindrance of implementation of the *Clean Air Plan*. In determining whether a proposed project or plan would conflict with the *Clean Air Plan*, three criteria area evaluated: would the Project implement the applicable control measures in the *Clean Air Plan*; would the Project disrupt or hinder implementation of any of these control measures; and would the Project support the primary goals of the *Clean Air Plan*?

EXHIBIT 12



DRAFT ENVIRONMENTAL IMPACT REPORT

200-214 6th Street Affordable Housing with Ground-Floor Retail Project

PLANNING DEPARTMENT
CASE NO. 2011.0119E

STATE CLEARINGHOUSE
NO. 2012082052

Draft EIR Publication Date:	February 27, 2013
Draft EIR Public Hearing Date:	April 4, 2013
Draft EIR Public Comment Period:	February 27, 2013 – April 15, 2013

SAN FRANCISCO
PLANNING
DEPARTMENT

Written comments should be sent to:
Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
7. AIR QUALITY—Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	☐

Setting

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with jurisdiction over the nine-county San Francisco Bay Area Air Basin (SFBAAB), which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara and Napa counties and portions of Sonoma and Solano counties. BAAQMD is responsible for attaining and maintaining air quality in the SFBAAB within federal and state air quality standards, as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the SFBAAB and to develop and implement strategies to attain the applicable federal and state standards. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the *2010 Clean Air Plan*, was adopted by the BAAQMD on September 15, 2010. The *2010 Clean Air Plan* updates the *Bay Area 2005 Ozone Strategy* in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and GHGs in a single, integrated plan; and establish emission control measures to be adopted or implemented. The primary goals of the *2010 Clean Air Plan* are to:

- Attain air quality standards;

- Reduce population exposure and protect public health in the San Francisco Bay Area; and
- Reduce GHG emissions and protect the climate.

The *2010 Clean Air Plan* represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan.

Criteria Air Pollutants

In accordance with the state and federal CAAs, air pollutant standards are identified for the following six criteria air pollutants: ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment[40] or unclassified for most criteria pollutants with the exception of ozone, $PM_{2.5}$, and PM_{10}, for which these pollutants are designated as non-attainment for either the state or federal standards. By its very nature regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.[41]

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. Table 3, page 71, identifies air quality significance thresholds followed by a discussion of each threshold. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

40. "Attainment" status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. "Unclassified" refers to regions where there is not enough data to determine the region's attainment status.

41. Bay Area Air Quality Management District (BAAQMD). *California Environmental Quality Act Air Quality Guidelines*. May 2011. Page 2-1.

Table 3 Criteria Air Pollutant Significance Thresholds			
Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	

Ozone Precursors. As discussed previously, the SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM_{10} and $PM_{2.5}$[42]). Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, are based on the state and federal Clean Air Acts emissions limits for stationary sources. The federal New Source Review (NSR) program was created by the federal CAA to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health based ambient air quality standards. Similarly, to ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors, ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 pounds (lbs.) per day).[43] These levels represent emissions by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Although this regulation applies to new or modified stationary sources, land use development projects result in ROG and NO_x emissions as a result of increases in vehicle trips, architectural coating and construction activities. Therefore, the above thresholds can be applied to the construction and operational

42 PM_{10} is often termed "coarse" particulate matter and is made of particulates that are 10 microns in diameter or larger. $PM_{2.5}$, termed "fine" particulate matter, is composed of particles that are 2.5 microns or less in diameter.

43 BAAQMD, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance. October 2009. At page 17.

phases of land use projects and those projects that result in emissions below these thresholds, would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ROG and NO_x emissions. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Particulate Matter (PM_{10} and $PM_{2.5}$). The BAAQMD has not established an offset limit for $PM_{2.5}$. However, the emissions limit in the federal NSR for stationary sources in nonattainment areas is an appropriate significance threshold. For PM_{10} and $PM_{2.5}$, the emissions limit under NSR is 15 tons per year (82 lbs. per day) and 10 tons per year (54 lbs. per day), respectively. These emissions limits represent levels at which a source is not expected to have an impact on air quality.[44] Similar to ozone precursor thresholds identified above, land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of a land use project. Again, because construction activities are temporary in nature, only the average daily thresholds are applicable to construction-phase emissions.

Fugitive Dust. Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices (BMPs) at construction sites significantly control fugitive dust.[45] Individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to 90 percent.[46] The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.[47] The City's Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) requires a number of measures to control fugitive dust to ensure that construction projects do not result in visible dust. The BMPs employed in compliance with the City's Construction Dust Control Ordinance is an effective strategy for controlling construction-related fugitive dust.

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44 Ibid, p. 16.

45 Western Regional Air Partnership. 2006. *WRAP Fugitive Dust Handbook.* September 7, 2006. This document is available online at *http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf,* accessed February 16, 2012.

46 BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance.* October 2009, p. 27.

47 BAAQMD, *CEQA Air Quality Guidelines,* May 2011. This document is available online at *http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx,* accessed February 27, 2012.

(retail, likely restaurant). During the project's approximately 20-month construction period, construction activities would have the potential to result in fugitive dust emissions, criteria air pollutants, and DPM, as discussed further below.

Impact AQ-1: The proposed project's construction activities would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Fugitive Dust

Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board, reducing ambient particulate matter from 1998-2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, grading, and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to general particulate matter and specific contaminants such as lead or asbestos that may be constituents of soil.

In response, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, to minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI).

The Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a

permit from DBI. The Director of DBI may waive this requirement for activities on sites less than one half-acre that are unlikely to result in any visible wind-blown dust.

The project sponsor and the contractor responsible for construction activities at the project site shall use the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the Director. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

These regulations and procedures set forth by the San Francisco Building Code would ensure that potential dust-related air quality impacts would be reduced to a level of insignificance.

Criteria Air Pollutants

As discussed above, construction activities would also result in emissions of criteria air pollutants. To assist lead agencies in determining whether short-term construction-related air pollutant emissions require further analysis as to whether the project may exceed the criteria air pollutant significance thresholds shown in Table 4, the BAAQMD, in their *CEQA Air Quality Guidelines* (May 2011), has developed screening criteria. If all the screening criteria are met by a proposed project, then the lead agency or applicant does not need to perform a detailed air quality assessment of the project's air pollutant emissions, and construction of the proposed project would result in less-than-significant criteria air pollutant impacts. Projects that exceed the screening sizes may require further project-level quantification to determine whether criteria air pollutant emissions may exceed significance thresholds. The *CEQA Air Quality Guidelines* note that the screening levels are generally representative of new development on greenfield[56] sites without any form of mitigation measures taken into consideration. In

[56] Agricultural or forest land or an undeveloped site earmarked for commercial, residential, or industrial projects.

addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are mixed-use, infill and/or proximate to transit service and local services such as the proposed project, emissions would be expected to be less than the greenfield-type project that the screening criteria are based upon.

The proposed project would include 67 residential units and approximately 2,845 square feet of ground-floor commercial space (retail, likely restaurant). The proposed project would be below the criteria air pollutant screening sizes for mid-rise residential (494 units) identified in the BAAQMD's *CEQA Air Quality Guidelines*. The guidelines do not have screening criteria for generic commercial, retail, or restaurant uses; however, the screening criteria for various applicable retail and restaurant uses are at a minimum of 5,000 square feet (24-hour convenience market) or 8,000 square feet (fast food restaurant without drive-through).

Thus, quantification of construction-related criteria air pollutant emissions is not required, and the proposed project's construction activities would not exceed any of the significance thresholds for criteria air pollutants, and would result in a less-than-significant construction criteria air pollutant impact.

Impact AQ-2: The proposed project's construction activities would generate toxic air contaminants, including diesel particulate matter, which would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)

Off-road equipment (which includes construction-related equipment) was once estimated to be the second largest source of ambient DPM emissions in California. However, newer and more refined emission inventories have substantially lowered the estimates of DPM emissions from off-road equipment such that off-road equipment is now considered the sixth largest source of DPM emissions in California.[57] This reduction in emissions is due, in part, to effects of the economic recession and the decline in construction. Also, more refined emissions estimation methodologies are showing decreases in emissions. For example, revised particulate matter (PM) emission estimates for the year 2010, for which DPM is a major component of total PM, have decreased by 83 percent from previous estimates for the SFBAAB.[58] Approximately half of the reduction can be attributed to the economic recession and

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[57] California Air Resources Board (ARB), *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, October 2010.

[58] ARB, "In-Use Off-Road Equipment, 2011 Inventory Model," Query accessed online, April 2, 2012, http://www.arb.ca.gov/msei/categories.htm#inuse_or_category.

EXHIBIT 13

SAN FRANCISCO
PLANNING DEPARTMENT

Preliminary Mitigated Negative Declaration

1650 Mission St.
Suite 400
San Francisco,
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415.558.6409

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Information:
415.558.6377

Date:	March 20, 2013
Case No.:	**2007.0385E**
Project Title:	**345 Brannan Street**
Zoning:	Mixed Use Office District 65-X Height and Bulk District
Block/Lot:	3788/039
Lot Size:	24,110 square feet
Project Sponsor:	Charles Bloszies, (415) 834-9002
Staff Contact:	Don Lewis, (415) 575-9095, don.lewis@sfgov.org

PROJECT DESCRIPTION:

The "L"-shaped project site is located mid-block between Stanford and Third Streets on the block bounded by Brannan Street to the north, Third Street to the west, Townsend Street to the south, and Second Street to the east within the South of Market area. The proposed project involves the removal of an existing 94-space surface parking lot and construction of a new, five-story, 65-foot-tall, office building totaling approximately 116,615 square feet in size with 26 below-grade parking spaces. The project sponsor proposes two options for the ground-floor. Option 1 would include ground-floor retail/restaurant use, while Option 2 would include ground-floor office use. Under Option 1, the building would contain 95,585 square feet of office use and 7,000 square feet of ground-floor retail/restaurant use. Under Option 2, the building would contain 102,585 square feet of office use. Under both options, approximately 825 square feet of private open space would be provided on the second floor and approximately 4,000 square feet of common open space would be provided on the roof deck. Pedestrian access would be from Brannan Street and vehicular access to the underground parking garage would be from Stanford Street. The proposed project would require Planning Commission authorization under Planning Code Section 321 (Office Development Annual Limit), Section 329 (Large Project Authorization), and Section 295 (Shadow). The project site is located within the Eastern Neighborhoods Plan Area.

FINDING:

This project could not have a significant effect on the environment. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to prepare a Negative Declaration), and the following reasons as documented in the Initial Evaluation (Initial Study) for the project, which is attached.

Mitigation measures are included in this project to avoid potentially significant effects. See pages 127-134.

cc: Chuck Bloszies, Project Sponsor; Supervisor Jane Kim, District 6; Virna Byrd, M.D.F.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	☐

Setting

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with jurisdiction over the nine-county San Francisco Bay Area Air Basin (SFBAAB), which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties and portions of Sonoma and Solano Counties. The BAAQMD is responsible for attaining and maintaining air quality in the SFBAAB within federal and state air quality standards, as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the SFBAAB and to develop and implement strategies to attain the applicable federal and state standards. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the *2010 Clean Air Plan,* was adopted by the BAAQMD on September 15, 2010. The *2010 Clean Air Plan* updates the *Bay Area 2005 Ozone Strategy* in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan; and establish emission control measures to be adopted or implemented. The 2010 Clean Air Plan contains the following primary goals:

- Attain air quality standards;
- Reduce population exposure and protect public health in the San Francisco Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

The *2010 Clean Air Plan* represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan.

Criteria Air Pollutants

In accordance with the state and federal CAAs, air pollutant standards are identified for the following six criteria air pollutants: ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. These air pollutants are termed criteria air

pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment[24] or unclassified for most criteria pollutants with the exception of ozone, $PM_{2.5}$, and PM_{10}, for which these pollutants are designated as non-attainment for either the state or federal standards. By its very nature, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.[25]

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. Table 1, below, identifies air quality significance thresholds followed by a discussion of each threshold. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

Ozone Precursors. As discussed previously, the SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM10 and PM2.5[26]). Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NOx). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, are based on the state and federal Clean Air Acts emissions limits for stationary sources. The federal New Source Review (NSR) program was created by the federal CAA to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health based ambient air quality standards. Similarly, to ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NOx, the offset emissions level is an annual average of 10 tons per

[24] "Attainment" status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. "Unclassified" refers to regions where there is not enough data to determine the region's attainment status.

[25] Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines*, May 2011, page 2-1.

[26] PM_{10} is often termed "coarse" particulate matter and is made of particulates that are 10 microns in diameter or smaller. $PM_{2.5}$, termed "fine" particulate matter, is composed of particles that are 2.5 microns or less in diameter.

year (or 54 pounds (lbs.) per day).[27] These levels represent emissions by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Although this regulation applies to new or modified stationary sources, land use development projects result in ROG and NOx emissions as a result of increases in vehicle trips, architectural coating and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects and those projects that result in emissions below these thresholds, would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ROG and NOx emissions. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Table 1
Criteria Air Pollutant Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	

Particulate Matter (PM_{10} and $PM_{2.5}$). The BAAQMD has not established an offset limit for $PM_{2.5}$. However, the emissions limit in the federal NSR for stationary sources in nonattainment areas is an appropriate significance threshold. For PM_{10} and $PM_{2.5}$, the emissions limit under NSR is 15 tons per year (82 lbs. per day) and 10 tons per year (54 lbs. per day), respectively. These emissions limits represent levels at which a source is not expected to have an impact on air quality.[28] Similar to ozone precursor thresholds identified above, land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of a land use project. Again, because

[27] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 17.

[28] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 16.

construction activities are temporary in nature, only the average daily thresholds are applicable to construction-phase emissions.

Fugitive Dust. Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices (BMPs) at construction sites significantly control fugitive dust.[29] Individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[30] The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.[31] The City's Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) requires a number of measures to control fugitive dust to ensure that construction projects do not result in visible dust. The BMPs employed in compliance with the City's Construction Dust Control Ordinance is an effective strategy for controlling construction-related fugitive dust.

Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long-duration) and acute (i.e., severe but of short-term) adverse effects to human health, including carcinogenic effects. A TAC is defined in California Health and Safety Code §39655 as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs do not have ambient air quality standards but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine which sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and

[29] Western Regional Air Partnership. *2006. WRAP Fugitive Dust Handbook.* September 7, 2006. This document is available online at *http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf*, accessed February 16, 2012.

[30] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance,* October 2009, page 27.

[31] BAAQMD, *CEQA Air Quality Guidelines,* May 2011.

Construction Air Quality Impacts

Project-related air quality impacts fall into two categories: short-term impacts due to construction and long term impacts due to project operation. The following addresses construction-related air quality impacts resulting from the proposed project.

Impact AQ-1: The proposed project's construction activities would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Construction activities (short-term) typically result in emissions of fugitive dust, criteria air pollutants, and DPM. Emissions of criteria pollutants and DPM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve painting or other types of architectural coatings or asphalt paving activities. The proposed project includes the removal of the surface parking lot and the construction of a five-story office building. During the project's approximately ten to twelve month construction period, construction activities would have the potential to result in fugitive dust emissions, criteria air pollutants and DPM.

Fugitive Dust

Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board, reducing ambient particulate matter from 1998-2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, grading, and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

In response, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes generally referred hereto as the Construction Dust Control

Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI).

The Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from DBI. The Director of DBI may waive this requirement for activities on sites less than one half-acre that are unlikely to result in any visible wind-blown dust.

In compliance with the Construction Dust Control Ordinance, the project sponsor and the contractor responsible for construction activities at the project site would be required to use the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the Director. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

For projects over one half-acre, such as the proposed project, the Dust Control Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Department of Public Health. DBI will not issue a building permit without written notification from the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement. Interior-only tenant improvement projects that are over one-half acre in size that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement.

The site-specific Dust Control Plan would require the project sponsor to: submit of a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down

areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third-party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and securing with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep off adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with these dust control requirements.

Compliance with these regulations and procedures set forth by the San Francisco Building Code would ensure that potential dust-related air quality impacts would be reduced to a level of insignificance.

Criteria Air Pollutants

As discussed above, construction activities would result in emissions of criteria air pollutants from the use of off- and on-road vehicles and equipment. To assist lead agencies in determining whether short-term construction-related air pollutant emissions require further analysis as to whether the project may exceed the criteria air pollutant significance thresholds shown in Table 1, above, the BAAQMD, in its *CEQA Air Quality Guidelines* (May 2011), developed screening criteria. If a proposed project meets the screening criteria, then construction of the proposed project would result in less-than-significant criteria air pollutant impacts. A project that exceeds the screening criteria may require a detailed air quality assessment to determine whether criteria air pollutant emissions would exceed significance thresholds. The *CEQA Air Quality Guidelines* note that the screening levels are generally representative of new development on greenfield[40] sites without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are mixed-use, infill, and/or proximate to transit service and local services, emissions would be expected to be less than the greenfield-type project that the screening criteria are based upon.

[40] A greenfield site refers to agricultural or forest land or an undeveloped site earmarked for commercial, residential, or industrial projects.

The proposed project involves the removal of a surface parking lot and construction of a five-story office building with potential ground-floor retail use. The proposed project would be below the criteria air pollutant screening sizes for a General Office Building (277,000 square feet) and Quality Restaurant[41] (277,000 square feet) identified in the BAAQMD's *CEQA Air Quality Guidelines*. Thus, quantification of construction-related criteria air pollutant emissions is not required, and the proposed project's construction activities would not exceed any of the significance thresholds for criteria air pollutants, and would result in a less-than-significant construction criteria air pollutant impact.

Impact AQ-2: The proposed project's construction activities would generate toxic air contaminants, including diesel particulate matter, but would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

Off-road equipment (which includes construction-related equipment) is a large contributor to DPM emissions in California, although since 2007, the ARB has found the emissions to be substantially lower than previously expected.[42]Newer and more refined emission inventories have substantially lowered the estimates of DPM emissions from off-road equipment such that off-road equipment is now considered the sixth largest source of DPM emissions in California.[43] This reduction in emissions is due, in part, to effects of the economic recession and refined emissions estimation methodologies. For example, revised particulate matter (PM) emission estimates for the year 2010, which DPM is a major component of total PM, have decreased by 83 percent from previous estimates for the SFBAAB.[44] Approximately half of the reduction can be attributed to the economic recession and approximately half can be attributed to updated assumptions independent of the economic recession (e.g., updated methodologies used to better assess construction emissions).[45]

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[41] Although the retail use of the proposed project Option 1 has not yet been determined, a Quality Restaurant represents a best estimate at this time and is closest to any of uses list on Table 3-1.

[42] ARB, *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, p.1 and p. 13 (Figure 4), October 2010.

[43] ARB, *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, October 2010.

[44] ARB, "In-Use Off-Road Equipment, 2011 Inventory Model," Query accessed online, April 2, 2012, http://www.arb.ca.gov/msei/categories.htm#inuse_or_category.

[45] ARB, *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, October 2010.

EXHIBIT 14

SAN FRANCISCO
PLANNING DEPARTMENT

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PRELIMINARY MITIGATED NEGATIVE DECLARATION

Date:	March 27, 2013
Case No.:	2011.0702E
Project Title:	101 Polk Street Residential Development
Block and Lot:	0811/002 & 003
Zoning:	C-3-G (Downtown Commercial General) 120-X Height and Bulk District
Lot Size:	13,200 square feet
Project Sponsor:	Marc Babsin, Emerald Fund, (415) 489-1313 marcb@emeraldfund.com
Staff Contact:	Andrea Contreras, (415) 575-9044 andrea.contreras@sfgov.org

PROJECT DESCRIPTION:

The project site (site) is located at 101 Polk Street, at the northwest corner of Polk and Hayes Streets in the Downtown/Civic Center area of San Francisco, approximately one-half block south of San Francisco City Hall, one block north of Market Street, and about three blocks from the Civic Center Bay Area Rapid Transit (BART) Station. The site is bordered by Hayes Street to the south, Lech Walesa Alley to the north, and Polk Street to the east. The 13,200-square-foot site is currently in use as a surface parking lot. The project sponsor proposes to build a 13-story, 162 unit residential building on the site. A subterranean garage would contain vehicle and bicycle parking, and would be accessible from the adjacent Lech Walesa Alley. Street frontage along Polk and Hayes Streets would consist of walk-up residential units, as well as the building's lobby and leasing area. The proposed project would require three exceptions per Planning Code Section 309 for parking (Code Section 151.1) and rear yard requirements (Code Section 134 (d)), as well as the continuation of existing wind comfort level exceedances (Code Section 148). A Conditional Use Authorization would also be required per Planning Code Sections 215, 124(f), and 303 to allow dwelling unit density in excess of one unit per 125 square feet of lot area and to exempt the on-site inclusionary dwelling units from the floor area ratio limits.

FINDING:

This project could have a significant effect on the environment. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to Prepare a Negative Declaration), and the following reasons as documented in the Initial Evaluation (Initial Study) for the project, which is attached.

Mitigation and improvement measures are included in this project to avoid potentially significant effects. See pp.143-150.

measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and GHGs in a single, integrated plan; and establish emission control measures to be adopted or implemented. The primary goals of the 2010 Clean Air Plan are to:

- Attain air quality standards;
- Reduce population exposure and protect public health in the San Francisco Bay Area; and
- Reduce GHG emissions and protect the climate.

The 2010 Clean Air Plan represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan.

Criteria Air Pollutants

In accordance with the state and federal CAAs, air pollutant standards are identified for the following six criteria air pollutants: ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2) and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment[35]or unclassified for most criteria pollutants with the exception of ozone, $PM_{2.5}$, and PM_{10}, for which these pollutants are designated as non-attainment for either the state or federal standards. By its very nature regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.[36]

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. Table 6, identifies air quality significance thresholds followed by a discussion of each threshold. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

[35] "Attainment" status refers to those regions that are meeting federal and/or state standards for specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. "Unclassified" refers to regions where there is not enough data to determine the region's attainment status.

[36] Bay Area Air Quality Management District (BAAQMD), California Environmental Quality Act Air Quality Guidelines, page 2-1. May 2011.

Table 6: Criteria Air Pollutant Significance Threshold

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NOx	54	54	10
PM10	82 (exhaust)	82	15
PM2.5	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	

Source: BAAQMD CEQA Guidelines, 2010 and 2011.

Ozone Precursors

As discussed previously, the SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM_{10} and $PM_{2.5}$)[37]. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, are based on the state and federal Clean Air Acts emissions limits for stationary sources. The federal New Source Review (NSR) program was created by the federal CAA to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health based ambient air quality standards. Similarly, to ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation Two, Rule Two requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors, ROG and NO_x, the offset emissions level is an annual average of ten tons per year (or 54 pounds (lbs.) per day).[38] These levels represent emissions by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Although this regulation applies to new or modified stationary sources, land use development projects result in ROG and NOx emissions as a result of increases in vehicle trips, architectural coating and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects and those projects that result in emissions below these thresholds, would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ROG and NOx emissions. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

[37] PM_{10} is often termed "coarse" particulate matter and is made of particulates that are 10 microns in diameter or larger. $PM_{2.5}$, termed "fine" particulate matter, is composed of particles that are 2.5 microns or less in diameter.

[38] BAAQMD, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, page 16. October 2009.

Construction Air Quality Impacts

Impact AQ-1: The proposed project's construction activities would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Construction activities (short-term) typically result in emissions of fugitive dust, criteria air pollutants, and DPM. Emissions of criteria pollutants and DPM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve painting or other types of architectural coatings or asphalt paving activities. The proposed project includes demolition of a surface parking lot and construction of a new 13-story building with 162 residential units and 635 square feet of commercial space (leasing office). During the project's approximately 18-month construction period, construction activities would have the potential to result in fugitive dust emissions, criteria air pollutants.

Fugitive Dust

Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board, reducing ambient particulate matter from 1998-2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, grading, and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to general particulate matter and specific contaminants such as lead or asbestos that may be constituents of soil.

In response, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, to minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI).

The Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from DBI. The Director of DBI may waive this requirement for activities on sites less than ½ acre

that are unlikely to result in any visible wind-blown dust. The project would disturb 9,000 cubic yards of soil and would be required to implement dust control measures.

The project sponsor and the contractor responsible for construction activities at the project site shall use the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the Director. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 mph. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques. Compliance with these regulations and procedures set forth in the San Francisco Building Code would ensure that potential dust-related air quality impacts would remain *less than significant*.

Criteria Air Pollutants

As discussed above, construction activities would also result in emissions of criteria air pollutants. To assist lead agencies in determining whether short-term construction-related air pollutant emissions require further analysis as to whether the project may exceed the criteria air pollutant significance thresholds shown in Table 6, the BAAQMD, in their CEQA Air Quality Guidelines (May 2011), has developed screening criteria. If all the screening criteria are met by a proposed project, then the lead agency or applicant does not need to perform a detailed air quality assessment of the project's air pollutant emissions, and construction of the proposed project would result in less-than-significant criteria air pollutant impacts. Projects that exceed the screening sizes may require further project-level quantification to determine whether criteria air pollutant emissions may exceed significance thresholds. The CEQA Air Quality Guidelines note that the screening levels are generally representative of new development on greenfield[50] sites without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are mixed-use, infill and/or proximate to transit service and local services such as the proposed project, emissions would be expected to be less than the greenfield-type project that the screening criteria are based upon.

The proposed project would include 162 residential units and approximately 635 square feet of ground floor commercial space (leasing office). The proposed project would be below the criteria air pollutant screening sizes for mid-rise residential (494 units) identified in the BAAQMD's CEQA Air Quality

[50] Agricultural or forest land or undeveloped site earmarked for commercial, residential, or industrial projects.

Operational Air Quality Impacts

Land use projects typically result in emissions of criteria air pollutants and toxic air contaminants primarily from an increase in motor vehicle trips. However, land use projects may also result in criteria air pollutants and toxic air contaminants from combustion of natural gas, landscape maintenance, use of consumer products, and architectural coating. The proposed project includes landscaped areas, a leasing office, and residences, which would involve the use of consumer products. Construction of the proposed project would include the use of architectural coatings, and the operation of the proposed project would also result in 591 vehicle trips per day. [59]

Impact AQ-3. The proposed project would result in emissions of criteria air pollutants, but not at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

As discussed above in Impact AQ-1, the BAAQMD in their *CEQA Air Quality Guidelines* (May 2011), has developed screening criteria to determine whether a project requires an analysis of project-generated criteria air pollutants. If all the screening criteria are met by a proposed project, then the lead agency or applicant does not need to perform a detailed air quality assessment. The proposed project includes 162 residential units and approximately 635 square feet of ground-floor commercial space (leasing office). The proposed project would be below the criteria air pollutant screening sizes for mid-rise residential (494 units) and the lowest potential screening criteria for various commercial uses (5,000 square feet for a 24-hour convenience market or 8,000 square feet for a fast-food restaurant without drive-through) identified in the BAAQMD's CEQA Air Quality Guidelines. Thus, quantification of project-generated criteria air pollutant emissions is not required, and the proposed project would not exceed any of the significance thresholds for criteria air pollutants, and would result in a *less-than-significant* impact with respect to criteria air pollutants.

Impact AQ-4: The proposed project would generate toxic air contaminants, including diesel particulate matter, and would expose sensitive receptors to substantial air pollutant concentrations. (Less than Significant with Mitigation)

As discussed above, the San Francisco Planning Department and DPH, in partnership with BAAQMD, has modeled and assessed air pollutant impacts from mobile, stationary and area sources within the City. This assessment has resulted in the identification of air pollutant hot spots, or areas within the City that deserve special attention when siting uses that either emit toxic air contaminants or uses that are considered sensitive to air pollution. The project site is partially within a hot spot (and is considered within a hot spot for CEQA purposes) and sensitive land uses exist in the residential uses adjacent to the project site. With its inclusion of 162 residential units, the proposed project would site new sensitive land uses within this potential air pollutant hot spot.

[59] Transportation Calculations prepared by Rachel Schuett. This document is available for public review as part of Case No. 2011.0702E at the San Francisco Planning Department, 1650 Mission Street, Suite 400 San Francisco, CA.

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April 25, 2013

Board President David Chiu and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: Argument in Support of Appeal of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035)
- **Impacts on Historic Resources**

Dear President Chiu and Supervisors:

This office represents appellants 765 Market Street Residential Owner's Association ("ROA"); Friends of Yerba Buena ("FYB"), Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins (collectively "Appellants") regarding the 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). I am writing to provide additional argument in support of appellants' grounds for appeal relating to impacts on Historic Resources.

1. Summary

The EIR ignores the fact that the entire Project, including the tower portion, is within the Historic Preservation Commission's ("HPC") permitting jurisdiction. The EIR also fails to (1) disclose the protected status of the Aronson Building and the Conservation District in which it is located, (2) discuss the inconsistencies with the General Plan and Planning Code that are discussed in this letter as required by CEQA; and (3) assess or identify the degradation of the historic character of the Aronson Building and the Conservation District as significant impacts of the Project.

The Aronson Building is a Category I Significant Building and the Aronson Building parcel is within the New Montgomery-Mission-Second Conservation ("NMMS") District. The Project will demolish part of the Aronson building and construct the tower where the part to be demolished is located. The tower will be physically attached to and programmatically integrated with the Aronson building.[1] Because the Project involves "construction, alteration, removal or demolition of a structure . . . or any new or replacement construction for which a permit is required pursuant to the Building Code, on any designated Significant or Contributory Building or any building in a

[1] Exhibit 2 [HPC Case Report], p. 1; Exhibit 3, [Article 11] § 3, Map; Exhibit 4 Ordinance 182-12], p. 196, Map.

Conservation District" (Planning Code § 1111(a)), the developer must obtain permits from the HPC for the entire Project.[2]

The tower is required, but fails, to meet the requirements of Planning Code Article 11 in several respects, including: the tower is not compatible in scale with the Aronson Building or the Conservation District in which it is located, and the tower will substantially degrade the historic character and architectural integrity of the Aronson Building and the Conservation District.[3]

2. The EIR and the HPC Case Report incorrectly assume that Planning Code Article 11 does not apply to the tower portion of the Project.

The EIR, without addressing the issue, and the HPC Case Report dated April 3, 2013 (attached hereto as Exhibit 2), without analyzing the issue, assume that the HPC does not have permitting jurisdiction over the tower. The HPC Case Report states:

> The proposed Major Permit to Alter will require Building Permit(s) for the proposed removal of the two non-historic 1978 additions as well as the fire escapes and landings, and the existing mechanical penthouse on the roof. In addition Building Permit(s) will be required for the proposed rehabilitation of the Aronson Building and the new addition features including new solarium on the roof, ground floor storefronts, and new window openings along the north façade. ¶ In addition to the above-mentioned building permits, other parts of the proposed project not within the jurisdiction of this Commission, including the new tower, will require discretionary approvals . . . .

This passage artificially separates the Project into several components in a way that ignores the obvious. As noted above, the Project involves demolition of part of a listed significant building

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[2]Under Charter § 4.135, the HPC has "the authority to approve, disapprove, or modify applications for permits to alter or demolish designated Significant or Contributory buildings or buildings within Conservation Districts." Under Planning Code § 1111(a), "No person shall carry out . . . any construction, alteration, removal or demolition of a structure . . . or any new or replacement construction for which a permit is required pursuant to the Building Code, on any designated Significant or Contributory Building or any building in a Conservation District unless a permit for such work has been approved pursuant to the provisions of this Article 11." Under Planning Code § 1111(b), "The HPC shall approve, disapprove, or modify all applications for permits to alter or demolish any Significant or Contributory Buildings or buildings within Conservation Districts, and permits for any new and replacement construction within Conservation Districts."

[3] See Exhibit 1 [Letter dated April 25, 2013 from Katherine T. Petrin, Architectural Historian and Preservation Planner].

and alteration of the Aronson Building by attaching the tower to and programmatically integrating the tower with the Aronson Building.[4] In addition, the tower is new construction located on the Aronson parcel, in the Conservation District. These facts are clearly visible in the attachments to the HPC Case Report attached hereto as Exhibits 6 and 7. Therefore, under Planning Code § 1111 the developer must obtain the HPC's approval of the tower by way of a permit to alter the Aronson Building or a permit for new construction of the tower in the NMMS District. Further, the Project must comply with the substantive standards of Planning Code Article 11. Also, the Downtown Area Plan of the City's General Plan provides that "The addition [to a Significant Category I or II building] or new building [in a Conservation District] would be required to meet the guidelines for new construction in conservation districts."[5]

In addition to the fact that the western portion of the Aronson Building will be demolished and the tower will be built in its place, the tower and Aronson Building will have "New exterior and interior connections . . . for programmatic and structural requirements" such that they will be "laterally connected . . . at all floor and roof levels" and will "move together during a seismic event" and "will not be structurally isolated."[6]

Also, "The existing tower volume will cantilever approximately 7' over the existing Aronson Building starting at the 12th floor and be setback approximately 15' from the south facade of the Aronson Building."[7] Even if the tower did not intrude into the airspace above the Aronson Building, its attachment to the Aronson Building results in increasing the height of the Aronson Building by 39 stories. But the plan to cantilever part of the tower over the top of the Aronson Building shows that raising the height of the Aronson Building by 39 stories is not just the result of this design, it is the developer's specific intent.

In addition: "Museum interior space will span across both new and existing buildings at the 2nd and 3rd floors, with ground floor entry within the new tower base. Museum interior space may also include all or a portion of the 1st floor Aronson Building, and/or portion of 4th floor tower for exterior terrace access and mechanical spaces."[8]

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[4] "As part of the project the two existing non-historic 1978 additions will be removed and the Aronson Building will be *integrated* as part of a new 47-story, 550'-tall tower with up to 215 residential units and *a portion of the Mexican Museum*. The new tower will be *adjacent to and physically connected* to the existing Aronson Building." (Exhibit 2, p. 2 (emphasis added).)

[5] Exhibit 5 [Downtown Area Plan], p. II.1-24.

[6] Exhibit 2, pp. 16-17.

[7] Exhibit 2, p. 16.

[8] Exhibit 6 (Major Permit to Alter, Appendix 1], p. 29.

The tower is new construction partially located on the Aronson Building parcel, and, therefore, within the Conservation District. The parcel on which the Aronson building is located within the NMMS District. At least part of the tower will be situated on that parcel.

The September 2012 amendments to Article 11 of the Planning Code expanding the NMMS Conservation District added the Aronson Building parcel to the District.[9] The Case Report indicates that the non-historic addition to the Aronson Building on its west facade will be removed. The Aerial Map shows the parcel boundaries surrounding the entire Aronson Building,[10] including the non-historic addition that will be demolished. This portion of the building is also clearly visible on the Bird's Eye View Photo,[11] and the Vicinity Photograph.[12]

Both the location of the tower on the parcel and the extent of the Project alterations to the Aronson Building can be seen in Exhibit 6. Thus, the tower will be located adjacent to the Aronson Building on its new west facade, occupying the same area on parcel 93 currently occupied by the non-historic addition that will be demolished. This fact also subjects the tower to the permitting requirements of Article 11.

3. The Project violates several requirements of Planning Code, Article 11

Planning Code § 1111.6(c)(6), provides that any additions to height of a Category I Significant Building such as the Aronson Building, "shall be limited to one story above the height of the existing roof." The Project violates this rule because the tower will increase the height of the Aronson Building by 39 stories.

Section 1111.6(c)(6) also provides that any additions to height of a Category I Significant Building such as the Aronson Building, "shall be compatible with the scale and character of the building." The Project violates this rule because the tower is not compatible with the scale or character of the Aronson Building.[13]

Under Planning Code § 1113(a), "any new or replacement structure or for an addition to any existing structure in a Conservation District" must be "compatible in scale and design with the District as set forth in Sections 6 and 7 of the Appendix that describes the District." The Project violates Planning Code § 1113(a) because the tower is not compatible with the scale, particularly

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[9]Exhibit 3; Exhibit 4.

[10]Exhibit 7 [Excerpt from HPC Case Report], Aerial Map.

[11]Exhibit 7, Birds's Eye View Photo.

[12]Exhibit 6, Vicinity Photograph.

[13]See Exhibit 1.

the predominant height of the district and the predominant height of the buildings that define the conservation characteristics of the district, as described in sections 6 and 7 of Appendix F.[14]

Article 11, Appendix F, Section 6, provides:

> The exterior architectural features of the New Montgomery-Mission-Second Street District are as follows: * * *
> (b) Scale. *More than two-thirds of the contributing buildings are three-to-eight story* brick or concrete commercial loft buildings constructed during the five years after the 1906 Earthquake and Fire. The scale of the District varies from the small buildings on Howard, Mission, Natoma, and Second Streets, such as the Phoenix Desk Company Building at 666 Mission Street, the Burdette Building at 90 Second Street, and the Emerison Flag Company Building at 161 Natoma Street; to medium-scaled structures on Mission and New Montgomery Streets, such as the Veronica Building at 647 Mission Street, and the Standard Building at 111 New Montgomery Street; to large-scale buildings on New Montgomery Street, such as the Pacific Telephone and Telegraph Building at 140 New Montgomery. On New Montgomery Street, the large facades are not commonly divided into smaller bays, *establishing a medium scale when combined with the five- to eight-story height of the buildings*. Similarly, the use of elaborate ornament on many of the buildings breaks their large facades into smaller sections and accordingly reduces their scale. *Second Street is characterized by much smaller buildings* with more frequent use of vertical piers whose scale is very intimate for the South of Market area.

(Emphasis added.) Appendix F, Section 7, provides:

> (a) Standards. All construction of new buildings and all major alterations, which are subject to the provisions of Sections 1110, 1111 through 1111.6 and 1113, shall be compatible with the District in general with respect to the building's composition and massing, *scale*, materials and colors, and detailing and ornamentation, including *those features described in Section 6* of this Appendix. Emphasis shall be placed on compatibility with those buildings in the area in which the new or altered building is located. In the case of major alterations, only those building characteristics that are affected by the proposed alteration shall be considered in assessing compatibility. (Emphasis added.)

The permit application attached to the HPC Case Report states:

> Circulation within the new tower would be linked to the Aronson Building at floor levels of the Aronson Building where floor alignments with floors of the proposed

[14] Exhibit 1.

> tower permit. However, the tower would be structurally independent of the Aronson Building with respect to gravity loads and thereby *removable*, in accordance with the Secretary's Standards. In addition, the tower is designed to read as an entirely separate building, a key requirement for related new construction to historic resources in dense urban locations as discussed in Preservation Brief 14: "New Exterior Additions to Historic Buildings: Preservation Concerns." The new tower therefore is consistent with Rehabilitation Standard 10 and Preservation Brief 14 guidelines regarding urban infill, which suggest that "Treating the addition as a separate or infill building may be the best approach when designing an addition that will have the least impact on the historic building and the district." [15]

There are several striking feature of this passage. First, the casually expressed notion that a 47 story building is "removable" is absurd on its face. Preservation Brief 14 discusses "removability" as it is used in the Secretary's Standards, Standard 10, as follows

> Standards for Rehabilitation. Standards 9 and 10 apply specifically to new additions:
> (9) "New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment."
> (10) "New additions and adjacent or related new construction shall be undertaken in such a manner that *if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*" [16]

As discussed by Ms. Petrin in Exhibit 1, the tower is not "removable" as that term is used in the Secretary's standards.

> The permit application also states:
>
> Preservation Brief 14 recommends that new infill construction should be compatible with the surrounding context in terms of scale, setback, and facade rhythm. Though the heights of the two buildings (Aronson Building and new tower) are significantly different, the proposed location and articulation of the tower as a related but visually separate building from the Aronson Building maintains a context that is similar to the varying heights of buildings in the surrounding area.[17]

Again, the casually expressed notion that a 47 story building is compatible in scale to the 8

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[15] Exhibit 8 [Major Permit to Alter Application Attachment], pp. 10-11.

[16] Exhibit 9 [Preservation Brief 14], p.2 (emphasis added).

[17] Exhibit 9 [Major Permit to Alter Application Attachment] pp. 10-11.

story Aronson Building or to the general height scale (i.e., three to eight stories) of the Conservation District is also absurd on its face.

Stepping back, the fact that the Permit Application attempts to justify the scale and "removability" of the tower demonstrates that in order for these issues to be relevant to the permit application, they must be within the HPC's "jurisdiction." Indeed, the application goes to some length to argue that the tower complies with the Secretary's Rehabilitation Standards 9 and 10, as discussed in Preservation Brief 14. Again, this discussion is only relevant if the HPC is going to pass judgment on these issues in the context of issuing a permit.

4. The EIR Violates CEQA Regarding the Project's Impacts on the Conservation District and Aronson Building.

The above described code violations demonstrate the Project's significant adverse environmental effects that the EIR fails to disclose. A substantial adverse change in the significance of an historical resource is treated as a significant effect on the environment. (CEQA Guidelines, § 15064.5, subd. (b).) A "substantial adverse change" includes demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired. (CEQA Guidelines, § 15064.5, subd. (b)(1) .) Here, the tower will cause these significant adverse effects.

The EIR should have discussed the above-described violations of the Planning Code in two contexts. First, these Planning Code violations are inconsistent with the City's General Plan (San Francisco Master Plan) because the Planning Code implements the General Plan. (Planning Code § 101.) The EIR should discuss the Project's inconsistencies with the General plan as required by CEQA Guideline § 15125(d).

Second, these inconsistencies, especially the incompatible scale of the tower, represent significant adverse impacts of the Project on the conservation values that Article 11 and the NMMS Conservation District were enacted to protect.

Also, the EIR fails to disclose that the September 2012 amendments to Article 11 of the Planning Code expands the NMMS Conservation District by adding the Aronson Building parcel to the District and listing the Aronson Building as a Category I (Significant) Building.

The Historic Resources Evaluation Report ("HRER"), on which the DEIR based its assessment of the Project's impacts on cultural and historic resources, is dated November 3, 2011. (DEIR, Appendix D.) The DEIR was issued on June 27, 2012. As the following excerpts from the EIR show, it asserts that the New Montgomery-Second Conservation District is bounded by 2nd and 3rd Streets, thus excluding the Aronson Building.

> The Aronson Building is assigned a National Register Status Code of 2S1, meaning that the building was determined eligible for individual listing in the National

> Register of Historic Places as well as being a contributor to the eligible Aronson Historic District by the Keeper of the National Register of Historic Places. As such, the Aronson Building is automatically listed in the California Register and is an historical resource under CEQA.

(DEIR p. IV.D-43.)

> Article 11 of the San Francisco Planning Code.
> The Downtown Area Plan is an element of the San Francisco General Plan. It contains a set of objectives and policies guiding decisions affecting the City's downtown, in particular providing for the identification and preservation of designated Significant and Contributory buildings and Conservation Districts in the City's C-3 districts. The Aronson Building is not designated under Article 11 of the Planning Code, but such a designation is currently under consideration, as discussed below.

(DEIR p. IV.D-44.)

> If adopted as an amendment to Article 11, the proposed Category I designation of the Aronson Building and the proposed New Montgomery-Mission-Second Street Conservation District would qualify the Aronson Building as an "historical resource" under CEQA. However, the building's existing inclusion in other local, State, and Federal historic resource surveys and registers is determinative of its status as an "historical resource" under CEQA.

(DEIR p. IV.D-45.)

> The proposed tower would be 47 stories and 550 feet tall (520 feet to the roof of the highest occupied floor plus a 30-foot-tall elevator/mechanical penthouse). The proposed tower design would be contemporary in visual character and would be clad in glass, masonry, and metal. The east facade of tower volume would cantilever approximately seven feet over the western end of the Aronson Building.

(DEIR p. IV.D-51.)

The EIR's Response to Comments issued on March 7, 2013 does not update or correct these outdated and false assertions, stating:

> On p. IV.D.51, the second paragraph under the heading "Proposed Tower" is revised as follows:
> The tower would be built adjacent to the Aronson Building's west party wall following demolition of the 1978 west annex. The Aronson Building would be either ~~and would be~~ connected to the tower ~~Aronson Building~~ with a structural seismic

> joint, or seismically tied into the tower at floor and roof levels without the use of a seismic joint. If a seismic joint is used, an air space would exist between the tower and the Aronson Building as required for structural movement, and the seismic joint would span the two structures. In either case, ~~t~~The tower and the Aronson Building would ~~be~~ have independent structural gravity systems. The tower may provide lateral support to the Aronson Building. ~~structurally separate, with an air space in between as required for structural movement~~. New connections between the tower and the existing Aronson Building would be established for programmatic and structural requirements, while still maintaining a visual separation between the buildings.

(RTC IV -14,15.)

The HPC Case Report is dated April 3, 2013 - one month after the Response to Comments was issued. It states:

> "The project site is located at 706 Mission Street in Assessor's Block 3706, Lot 093 at the intersection of Market and Third Streets. Historically known as the Aronson Building, the subject property is a Category I (Significant) Building located within the New Montgomery-Mission-Second Conservation (NMMS) District and the C-3-R (Downtown Retail) Zoning District with a 400-I Height and Bulk limit."[18]

An amendment to Article 11, Appendix F, was adopted by Ordinance 182-12 on August 8, 2012, and became effective on September 7, 2012, to include in the District and list the Aronson bldg as Category 1.[19] This was only two months after the DEIR was issued.

The Response to Comments should have corrected and updated the DEIR, but did not.

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

List of Exhibits

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[18] Exhibit 2, p. 1.

[19] Exhibit 4.

1. Letter Report dated April 25, 2013 from Katherine T. Petrin, Architectural Historian and Preservation Planner.

2. HPC Case Report (pages 1- 21).

3. Article 11, Appendix F, § 3, Map.

4. Excerpt from Ordinance 182-12 (pages 1-4, 184-201, 208-209).

5. Downtown Area Plan.

6. Excerpts from Appendix 1 of Major Permit to Alter (pages 5, 29, 39-61), attached to HPC Case Report.

7. Excerpt from HPC Case Report, including Assessor's Parcel Map for Block 3706, Parcel 093; Sanborn Map; Aerial Map, Birds's Eye View Photo.

8. Major Permit to Alter Application Attachment.

9. Preservation Brief 14.

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EXHIBIT 1

25 April 2013

Thomas N. Lippe
Lippe Gaffney Wagner LLP
329 Bryant Street, Suite 3D
San Francisco, California 94107

Re: Proposed Alterations to the Aronson Building, 706 Mission Street

Mr. Lippe:

I have been retained by the firm Lippe Gaffney Wagner LLP to provide professional consulting services as an Architectural Historian with regard to the proposed project at the Aronson Building, 706 Mission Street.

The Aronson Building (APN 3706-093) is located on a 147' x 105' rectangular lot at the northwest corner of Mission and Third Streets, in the South of Market neighborhood of San Francisco, California. Built in 1903, the 10-story Aronson Building, a Category I (Significant) Building, is a qualified historic resource and, in the past, has been determined individually eligible for listing in both the National Register of Historic Places and the California Register of Historic Resources. Architecturally significant, the Aronson Building has been recognized as San Francisco's finest example of the Chicago School style. It is a contributing resource to the Aronson Historic District, now part of the New Montgomery-Mission-Second Conservation District. As such, the provisions of Article 11 of the San Francisco Planning Code apply.

This opinion addresses three main points:

- the question of architectural compatibility between the Aronson Building and the proposed tower;
- the question of the architectural compatibility between the proposed tower and surrounding districts; and,
- the issue of future reversibility of the proposed alterations to the Aronson Building.

Project Description

The proposed rehabilitation of the historic 10-story Aronson Building, a Category I (Significant) Building, would be comprehensive, involving a range of alterations primarily, interior and exterior work, a seismic upgrade, and the demolition of incompatible 3- and 10-story additions on the secondary facades to accommodate construction of a 47-story tower addition to the historic building. The proposed tower would measure approximately 550 feet in height with an additional two floors below grade.

The new tower would abut and connect to the west façade of the Aronson Building with new openings proposed along the west façade for circulation between the two structures, as well as seismic, structural, mechanical, electrical and plumbing improvements. A portion of the footprint of the new tower would occupy the present site of the two existing non-historic 1978 additions; that portion falls within the New Montgomery-Mission-Second Conservation District.

Compatibility of the Proposed Tower with the Aronson Building

In this case, the matter of the compatibility of a 47-story tower alteration to a 10-story building revolves primarily around the question of scale. The *Major Permit to Alter Case Report* includes an analysis of the proposed project for consistency with *The Secretary of the Interior's Standards for the Treatment of Historic Properties for Rehabilitation.* Standard 9 involves the compatibility of new additions. Standard 9 states:

> New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

The Planning Department analysis for Standard 9 with regard to the proposed project addresses the compatibility of the architectural expression, but not the scale or proportion of the addition. It reads:

> All new work will be clearly differentiated from the old yet be compatible with the historic materials, features, size, proportion, and massing. Specifically the proposed storefronts, new canopies, new windows on the north façade, solarium on the roof top will be clearly differentiated through the use of contemporary detailing and materials. In addition, the tower will be differentiated in its modern, contemporary design vocabulary.

Analysis in the *Major Permit to Alter Case Report* focuses on the differentiation of the proposed tower and the historic building. It states that the proposed design of the project tower will be contemporary in architectural vocabulary, will cantilever over the Aronson Building, and will not include overt historic references. This approach visually distinguishes the proposed tower from the existing Aronson Building, allowing the proposed tower to appear as a new building adjacent to the historic Aronson Building rather than as an addition.

The National Park Service publication *Preservation Brief 14: New Exterior Additions to Historic Buildings: Preservation Concerns* addresses the issue of compatibility and retaining historic character when designing compatible new additions. Particularly relevant to the proposed project at 706 Mission Street is this paragraph, which states:

> A new addition should always be subordinate to the historic building; it should not compete in size, scale or design with the historic building. An addition that bears no relationship to the proportions and massing of the historic building—in other words, one that overpowers the historic form and changes the scale— will usually compromise the historic character as well. The appropriate size for a new addition varies from building to building; it could never be stated in a square or cubic footage ratio, but the historic building's existing proportions, site and setting can help set some general parameters for enlargement.

The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings, New Additions specifically recommends against, "Designing a new addition so that its size and scale in relation to the historic building are out of proportion, thus diminishing the historic character."

While the proposed alteration to the Aronson Building (the tower) has been designed to be completely different in architectural expression, character, and height, the transition in height between the 10-story Aronson Building and the 47-story proposed tower is stark and bears no relationship to the proportions and massing of the Aronson Building. With regard to the compatibility between the proposed tower and the historic building, the proposed project does not, in my opinion, meet Standard 9 of *The Secretary of the Interior's Standards for Rehabilitation* or the standards set forth in Planning Code Section 1111.6(c)(6).

Compatibility of the Proposed Tower with Surrounding Districts

Compatibility within the New Montgomery-Mission-Second Conservation District

The New Montgomery-Mission-Second Street area is a subarea within the C-3 District. It possesses concentrations of buildings that together create a subarea of architectural and environmental quality. As stated in Article 11, Appendix F, Section 5:

> The core of the New Montgomery-Mission-Second Street Conservation District is a product of the post-1906 reconstruction of downtown San Francisco. Rebuilt between 1906 and 1933 this district represents a collection of masonry commercial loft buildings that exhibit a high level of historic architectural integrity and create a cohesive district of two-to-eight story masonry buildings of similar scale, massing, setback, materials, fenestration pattern, style, and architectural detailing.... The intersection of 3rd and Mission evolved into the most important intersections in the survey area, bracketed on three corners by important early skyscrapers, including the rebuilt Aronson Building on the northwest corner, the Williams Buildings on the southeast corner, and the Gunst Building (demolished) on the southwest corner.

The Aronson Building is consistent with the architectural character of the New Montgomery-Mission-Second Street Conservation District in terms of style and materials. Like the Aronson Building, most of the contributing buildings are designed in the American Commercial Style and feature facades divided into a tripartite arrangement consisting of a base, shaft, and capital.

The Aronson Building's primary materials of brick, stone, terra cotta and ornamental details are consistent with District's established patterns.

Article 11 Appendix F Section 7 deals with guidelines for review of new construction and certain alterations. It states that such work, "shall be compatible with the District in general with respect to the building's composition and massing, scale, materials and colors, and detailing and ornamentation...". Section 7 further states that new construction should maintain the character of surrounding buildings by relating to their prevailing height, mass, proportions, rhythm and composition.

As stated above, the proposed alteration to the Aronson Building (the tower) has been designed to be completely different in architectural expression, character, and massing from the prevailing architectural character of the New Montgomery-Mission-Second Street Conservation District. The new construction bears no relationship to the architectural character of the New Montgomery-Mission-Second Street Conservation District, in terms of height and scale, and does not meet the standards set forth in Planning Code Section 1113.6(a).

Relationship with Jessie Square

The 1966 Yerba Buena Center Redevelopment Plan designated the block on the north side of Mission Street between Third and Fourth Streets as Central Block 1 and envisioned it as the northward extension of the open space at Yerba Buena Gardens, a 6-acre urban park within Central Block 2 on the south side of Mission street. Another objective of the Plan called for the visual enhancement of St. Patrick's Church through the creation of a public plaza (now Jessie Square) and pedestrian access to Market Street (now Yerba Buena Lane). In 2003, a surface parking lot was transformed to create Jessie Square, the one-acre plaza fronted by two designated local landmarks, St. Patrick's Church (on the west) and the Jessie Street Substation (now the Contemporary Jewish Museum on the north). The construction of Jessie Square marked the completion of the Plan.

Central Blocks 1 and 2 of the Yerba Buena Center Redevelopment Plan comprise the core of the Plan, introducing a mid-block, park-like setting and relief from the urban environment. Informed by the scale of the church and the Jessie Street Substation, the plaza was conceived as a space that would be defined by the architectural dialogue between low-scale buildings and open space. To introduce a new element on the east side of the plaza, a 550 foot tower would result in an abrupt transition that is not compatible with the surrounding scale, architectural massing and overall composition of Jessie Square.

Importance of the Role of the Aronson Building as a Transitional Height Element

Historically, the intersection of Third and Mission Streets has been one of the most important intersections, with three of its four corners occupied by important early skyscrapers, the Aronson Building on the northwest corner, the Williams Buildings on the southeast corner, and the Gunst Building (now demolished) on the southwest corner. Located at the northwest corner of Third and Mission Streets, the Aronson Building still plays an important role at this critical intersection and in terms of transition in scale between the east and west sides of Third Street.

West of Third Street, the scale is generally lower than on the east. The Aronson Building serves to demarcate the contrasting character between the east and west sides of Third Street.

At the far western edge of the New Montgomery-Mission-Second Street Conservation District, the Aronson Building functions as the western anchor of the conservation district, serves as a transitional element to the lower scale buildings around the open space of Jessie Square.

Reversibility of Proposed Alterations to the Aronson Building

The result of the overall project would be a rehabilitated historic building tied to a new tower structurally, programmatically and visually. The *Major Permit to Alter Case Report* includes an analysis of the proposed project for consistency with *The Secretary of the Interior's Standards for the Treatment of Historic Properties for Rehabilitation*. Standard 10 deals with the concept of reversibility of additions. It states:

> New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment will not be impaired.

The Planning Department analysis for Standard 10 with regard to the proposed project reads:

> The proposed additions and alternations will not remove significant historic fabric, and have been designed to be unobtrusive to the architectural character of the building and district in conformance with Secretary's Standards. While unlikely, if removed in the future, the proposed alterations at the roof, the primary and secondary facades, including the new adjacent tower, will not have an impact on the physical integrity or significance of the Aronson Building or the district in conformance with Standard 10 of the Secretary's Standards.

It is true that the likelihood of a 47-story, luxury high-rise tower addition to a 10-story being removed in the future is low. It is not true that such removal would not have an impact on the physical integrity of the Aronson Building. As previously described, the proposed tower would connect to all floors of the Aronson Building with new openings along the west façade for circulation between the two structures as well as seismic, structural, mechanical, electrical and plumbing improvements. The historic Aronson Building and the proposed tower will be integrated physically and tied together programmatically and structurally.

In light of the scale of the proposed alterations, interventions and connections, a removal scenario that does not impair the historic property would not be possible. With regard to the tower addition, the proposed project does not, in my opinion, meet Standard 10 of *The Secretary of the Interior's Standards for Rehabilitation*.

Methodology

Documents reviewed for the preparation of this memorandum include:

- *Executive Summary for Section 309 Determination of Compliance, Zoning Map Amendment, Planning Code Text Amendment, General Plan Referral, Section 295 Shadow Analysis* prepared by the San Francisco Planning Department dated 28 March 2013.
- *Major Permit to Alter Case Report* prepared by the San Francisco Planning Department dated 24 October 2012 and attachments including:
    - *The Aronson Building Historic Structure Report* by Page & Turnbull dated 2 December 2010.
    - *Memorandum Regarding Seismic Upgrade Approaches for the 706 Mission Street Project* by Page & Turnbull dated 22 February 2013.
- *Draft Environmental Impact Report (DEIR) for the proposed 706 Mission Street – The Mexican Museum and Residential Tower Project* (2008.1084E).
- *Report on the Redevelopment Plan for the Yerba Buena Center Approved Redevelopment Area D-1* by the San Francisco Redevelopment Agency approved 1 February 1966.
- *Yerba Buena Center Redevelopment Plan* prepared by the San Francisco Redevelopment Agency amended by Ordinance No. 256-09 dated 8 December 2009.
- Kay D. Weeks and Anne E. Grimmer, *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings, New Additions*. Department of the Interior, National Park Service, Technical Preservation Services, 1995.
- Kay D. Weeks and Anne E. Grimmer, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. Department of the Interior, National Park Service, 1995.

Professional Qualifications

Since 2000 I have practiced in San Francisco as an Architectural Historian and Preservation Planner. As such, I regularly use the National Register criteria of evaluation for historic buildings. In the course of my work, I utilize local, state, and national preservation regulations and regularly prepare historic significance assessments for environmental review documents, including projects in the City of San Francisco. I meet the *Secretary of the Interior's Historic Preservation Professional Qualifications Standards* in History, Historic Preservation Planning, and Architectural History, and have a master's degree in Historic Preservation from the Graduate School of Architecture, Planning and Preservation at Columbia University. (See attached CV.)

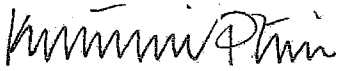
Conclusion

Because of a portion of the footprint of the new tower would occupy the present site of the two existing non-historic 1978 additions, it falls within the New Montgomery-Mission-Second Conservation District. The provisions of Article 11 are applicable to this project.

The proposed tower at 706 Mission Street, an alteration to the historic Aronson Building has been designed to be completely different in architectural expression, character, height, and massing from the historic building. With regard to the compatibility between the proposed tower and the historic building, and with regard to the hypothesis that the tower would be removable in the future, the proposed project does not, in my opinion, meet Standards 9 or 10 of *The Secretary of the Interior's Standards for Rehabilitation*.

Because of the significance of the two historical resources, the Aronson Building and the New Montgomery-Mission-Second Street Conservation District, and the material impairment caused by the proposed alterations, the proposed project would, in my opinion, result in a substantial adverse change.

Sincerely,



Katherine T. Petrin

KATHERINE T. PETRIN
Architectural Historian & Preservation Planner
1736 Stockton Street, Suite 4, 3rd Floor, San Francisco, California 94133
petrin.katherine@gmail.com **415.333.0342**

EDUCATION
Master of Science, Historic Preservation of Architecture, Columbia University, New York
Bachelor of Arts, Humanities, University of California, Berkeley

PROFESSIONAL EXPERIENCE
Sole Practitioner, Architectural Historian and Preservation Planner, April 2013 - present

Architectural Resources Group, Inc., San Francisco, CA
Architectural Historian and Preservation Planner, May 2000 - March 2013

HOK International, London, UK
Architectural Historian and Conservation Research, 1997 - 1999

Fundacíon Casa Ducal de Medinaceli, Seville, Spain
Documentation of Conservation Projects, 1992-1994

PROFESSIONAL QUALIFICATIONS
Meets the *Secretary of the Interior's Professional Qualifications Standards* in History, Historic Preservation Planning and Architectural History

SELECTED PROJECT EXPERIENCE (completed at Architectural Resources Group)
- Santa Barbara County Courthouse, Historic Structure Report, Santa Barbara, CA
- Ansel Adams Gallery, Historic Structures Report, Yosemite National Park, CA
- Ansel Adams Gallery, Cultural Landscape Report, Yosemite National Park, CA
- The Ahwahnee, Historic Structures Report, Yosemite National Park, CA
- The Ahwahnee, Historic Furnishings Report, Yosemite National Park, CA
- Thurston Lava Tube, Cultural Landscape Report, Hawai'i Volcanoes National Park, Hawai'i, HI
- Bayview Opera House, National Register Nomination, San Francisco, CA
- Furnace Creek Visitor Center HABS Documentation, Death Valley National Park, CA
- Fort Mason Center, Cultural Landscape Report Part II, San Francisco, CA
- The Old Mint, Historic Structure Report, San Francisco, CA
- Angel Island Immigration Station, Historic Structures Reports, San Francisco, CA
- Rosie the Riveter World War II Home Front National Historical Park, National Register Nominations for Associated Buildings, Richmond, CA
- Headlands Center for the Arts, Historic Structure Report, Marin County, CA
- City of Palm Springs, Historic Resources Survey, Palm Springs, CA
- University of Arizona, Preservation Master Plan, Tucson, AZ
- Village of Tomales, Design Guidelines, Tomales, CA
- Locke Boarding House, Historic Structure Report, Locke, CA
- Hawai'i Volcanoes National Park, Crater Rim Drive Historic Road Inventory, Hawai'i, HI
- Sacramento Railyards Central Shops, Conceptual Rehabilitation Design, Sacramento, CA
- Evaluation of Adobes at La Quinta Resort, La Quinta, CA
- Santa Barbara Airport Terminal, Historic Structure Report, Santa Barbara, CA
- Neitzel Farm Historic Property Treatment Plan and Section 106 Review, Fairfield, CA
- Municipal Services Building, Historic Structure Report, City of Glendale, Glendale, CA
- Grand Canyon National Park, Historic Structures Reports for five buildings, Grand Canyon National Park, AZ

RELATED PROFESSIONAL ACTIVITIES

Board Memberships

San Francisco Neighborhood Theater Foundation, Vice President, Board Member, 2004-present
Save New Mission Theater, Founding Member, San Francisco, 2001-present
Northeast San Francisco Conservancy, Board of Directors, 2005-present
Preservation Action, Member Board of Directors, Washington, DC, 2000-2006

Active Affiliations and Memberships

California Preservation Foundation
Friends of Terra Cotta
International Council on Monuments and Sites, US National Committee (US / ICOMOS)
Los Angeles Conservancy
Mechanics' Institute
National Trust for Historic Preservation
Preservation Action
San Francisco Architectural Heritage
Society of Architectural Historians, Northern California Chapter
Telegraph Hill Dwellers
Vernacular Architecture Forum
Western Neighborhoods Project

Selected Lectures, Conferences and Publications

Speaker, "Addressing Threats at Historic Seaports" at the National Preservation Conference, Spokane, WA, November 2012.

Co-organizer, "The Architecture of Julia Morgan and Sacred Spaces" a panel discussion organized by San Francisco Zen Center for the statewide celebration, Julia Morgan 2012, October 2012.

Invited Participant, SPUR/SF Architectural Heritage Historic Preservation Task Force, 2011-present.

Contributing Author, "Palaces for the People: Architecture and the Cinematic Experience" in *Left in the Dark: Portraits of San Francisco Movie Theatres*. Charta, 2010.

Moderator, "Cinema Across Media: The 1920s," at the First International Berkeley Conference on Silent Cinema, UC Berkeley, February 2011.

Speaker and Co-Author. "Glitz and Glam: Theatrics in the Historical Finishes of Timothy L. Pflueger," Third International Architectural Paint Research in Building Conservation Conference, New York, NY, 2008.

Steering Committee, 10th Annual International Symposium, International Council on Monuments and Sites, US National Committee (US/ICOMOS), San Francisco, CA, April 2007.

Speaker, "Preserving Motion Picture Palaces," Program of the National Trust for Historic Preservation and Museum of Modern Art, San Francisco, CA, February 2006.

Speaker, National Trust Conference Session on Modern Historic Resources, Portland, OR, October 2005.

Speaker, Palm Springs Desert Museum, "Building a Desert Oasis: Palm Springs Historic Resources Survey, Palm Springs, CA, May 2004.

Author, Local Landmark Legislation for the New Mission Theater, 2003.

Participant, TERRA Conference on Conservation of Earthen Architecture, Yazd, Iran (2003), and Bamako, Mali (2008).

Awards

California Preservation Foundation, Preservation Design Award for *Fort Mason Center Cultural Landscape Report*, 2010.

EXHIBIT 2

SAN FRANCISCO
PLANNING DEPARTMENT

Permit to Alter Case Report

HEARING DATE: APRIL 3, 2013

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Filing Date:	October 24, 2012
Case No.:	**2008.1084H**
Project Address:	**706 Mission Street**
Conservation District:	New Montgomery-Mission-Second Conservation District
Category:	Category I (Significant) – Aronson Building
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Block/Lot:	3706/093
Applicant:	Margo Bradish Cox Castle & Nicholson LLP 555 California Street, 10th Floor San Francisco, CA 94104
Staff Contact	Lily Yegazu - (415) 575-9076 lily.yegazu@sfgov.org
Reviewed By	Tim Frye - (415) 557-6822 tim.frye@sfgov.org

PROPERTY DESCRIPTION

The project site is located at 706 Mission Street in Assessor's Block 3706, Lot 093 at the intersection of Market and Third Streets. Historically known as the Aronson Building, the subject property is a Category I (Significant) Building located within the New Montgomery-Mission-Second Conservation (NMMS) District and the C-3-R (Downtown Retail) Zoning District with a 400-I Height and Bulk limit.

The Aronson Building was constructed in 1903 based on design by the architectural firm of Hemenway & Miller. The existing building is a ten-story, steel-frame, commercial building with a flat roof and is rectangular in plan. A 1978 addition extends along the west side of the building that is slightly taller than the original structure. A second, smaller addition, also constructed in 1978 is attached to the north façade. Both additions are constructed of cast-in-place reinforced concrete and are clad in yellow face brick.

The primary facades along Mission and Third Streets are five and four bays wide, respectively, have a base, shaft, and capital composition, with matching decorative details. The base consists of storefront bays delineated by pointed cast iron pilasters that have been infilled with non-historic buff-colored brick and contemporary storefronts. Historic entrances were located at the north end of Third Street façade and west end of Mission Street façade. At Mission Street, the infilled former entrance is framed by a pair of Colusa sandstone Ionic pilasters that support a projecting architrave that extends along entirety of both primary facades. The pilasters on the Third Street facade are missing their capitals. The second floor is

clad with Colusa sandstone with bays delineated by cast iron pilasters. Each bay contains three windows separated by cast iron mullions capped by a scrolled bracket. The third floor is clad in buff-colored terra cotta rusticated to resemble stone masonry. Each bay contains a pair of recessed windows divided by a masonry pilaster capped by a composite capital.

PROJECT DESCRIPTION

The proposed Major Permit to Alter is for an interior and exterior rehabilitation as well as seismic upgrade of the Aronson Building. As part of the project the two existing non-historic 1978 additions will be removed and the Aronson Building will be integrated as part of a new 47-story, 550'-tall tower with up to 215 residential units and a portion of the Mexican Museum. The new tower will be adjacent to and physically connected to the existing Aronson Building. As part of the proposed project, the Aronson Building will be restored and rehabilitated for possible residential or commercial, as well as retail and cultural use with a one-story rooftop solarium addition and roof garden/outdoor terrace. The proposed project is fully described in the conceptual plans and Architectural Design Intent Statement prepared by Handel Architects establishing the design intent and parameters for the new development and for the treatment of the historic Aronson Building based on recommendations included in the Historic Structure Report (HSR) prepared by Page & Turnbull (Exhibit J). The scope of work subject to this Major Permit to Alter includes the following:

East (Third St) and south (Mission St) facades

- The brick infill at the ground levels of the Third and Mission Street elevations are proposed to be removed. Any extant historic entry materials on the westernmost edge of the Mission Street elevation are exposed during removal of the brick infill, the materials are proposed to be retained, cleaned and protected. However, if no historic entryway materials exist, a new contemporary arched opening is proposed to be constructed in this location.
- The non-historic fire escapes and landings on the primary facades (Third and Mission Streets) will be removed and the cornice and any historic fabric will be repaired as required.
- Character-defining features of the Aronson Building that are deteriorated, such as the terra cotta, brick, Colusa sandstone, and cast ironwork will be rehabilitated and repaired. Features that are missing or deteriorated beyond repair will be replaced in kind or are proposed to be replaced with substitute materials.
- A new storefront system is proposed to be installation along the two primary facades (Third and Mission Streets).
- A new bronze portal surround is proposed to be integrated with the existing bronze door frame of the main entry way along the Third Street facade. The portal will match the storefronts in finish and will be setback from the historic pilasters and entablature. New glass double doors are also proposed at this location within the existing opening.
- A new canopy, 8' 6" high above the sidewalk grade, is proposed at the historic entryway along the Third Street façade. The proposed canopy will be approximately 7' 6" in width to fit in within the existing opening while still being setback from the historic pilasters on either side. The canopy will project approximately 4' from the face of the building and will be contemporary in design with a simple detail.
- The non-historic windows on the upper floors of the Third and Mission Street facades are proposed

to be replaced with new operable aluminum windows that will have similar proportions to the stiles and rails of the historic windows and will fit within existing openings.

West Facade

- The non-historic 10-story 1978 brick addition which currently obscures the historic west façade will be removed to make way for the proposed tower. The new tower will abut and connect to the west façade of the Aronson Building with new openings proposed along the west façade for circulation between the two structures as well as seismic, structural, mechanical, electrical and plumbing improvements. Existing openings in the original west wall will be reused, where feasible. The new tower will be setback approximately 6' from the Aronson Building's Mission Street façade to expose the historic brick on the west façade of the Aronson Building. The exposed brick will be cleaned, repointed as required and existing cracks will be repaired. The exterior finish of the new tower where it abuts the Aronson Building will comprise of transparent curtain-wall system to differentiate it from the Aronson Building.

North Façade

- The non-historic 3-story 1978 brick addition including existing windows, doors and grilles along the north façade will be removed. Openings within the party wall will be patched utilizing salvaged brick removed for new openings proposed along the same facade.
- The existing brick along the north wall will be inspected, repaired, cleaned, and repointed as required. Damaged or missing bricks will be replaced with salvaged brick removed for the proposed window openings.
- New simple punched openings within the existing brick party wall will be introduced to accommodate new metal framed windows with approximately 70% of the existing wall area retained. Each window will be approximately 45 square feet in size (5' x 9') and will be setback approximately 14' 5" from the Third Street façade at floors 4 through 10, and approximately 27' at floors 1 through 3.
- New metal framed transparent storefront openings will also be introduced at the ground floor, similar in material, divisions, frame profile and depth to the storefronts proposed on the Third and Mission Street facades. The new storefront openings will be approximately 250 square feet (12' x 16') each and in combination with the proposed upper floor windows, will cover approximately 30% of the north façade.
- A new metal canopy is also proposed immediately above the new storefronts on the north façade along with a recessed horizontal metal channel that will extend to and align with the cornice datum line of the Third Street façade.

Roof

- Selective removal of existing roofing material and structure as well as seismic upgrade and reinforcement as required is proposed for the existing roof.
- The roof of the Aronson Building will be rehabilitated to function as a residential amenity outdoor terrace/roof garden.
- The existing wood flagpole will be retained and rehabilitated.
- A new one-story, approximately 1,533 square feet (73' x 21') solarium structure, setback

approximately 23' from the Third Street façade, 27' from the Mission Street façade and 21' from the north façade is also proposed on the roof of the Aronson Building. The roof of the solarium will include a private outdoor terrace that will be used by residents.

- New transparent glass perimeter railing/windscreens, approximately 3' 6" in height and setback approximately 1' 6" from the interior of the existing parapet wall is proposed along the Third and Mission Street facades. The railing/windscreen is proposed to extend along the north façade but will be approximately 10' in height along this elevation to address wind issues.

OTHER ACTIONS REQUIRED

The proposed Major Permit to Alter will require Building Permit(s) for the proposed removal of the two non-historic 1978 additions as well as the fire escapes and landings, and the existing mechanical penthouse on the roof. In addition Building Permit(s) will be required for the proposed rehabilitation of the Aronson Building and the new addition features including new solarium on the roof, ground floor storefronts, and new window openings along the north façade.

In addition to the above-mentioned building permits, other parts of the proposed project not within the jurisdiction of this Commission, including the new tower, will require discretionary approvals that include but are not limited to the following:

- Actions by the Board of Supervisors: adoption of Zoning Map amendments, possible adoption of SUD, approval of Agreement of Purchase and Sale.
- Actions by the Planning Commission: recommendation of Zoning Map amendment, possible recommendation of adoption of an SUD, General Plan referral, approval of a Section 309 Determination of Compliance and Request for Exceptions, approval of Conditional Use Authorization (if required), approval of amendment of the quantitative shadow standard for Union Square.
- Actions by the Recreation and Park Commission: approval of amendment of the quantitative shadow standard for Union Square and recommendation to the Planning Commission
- Actions by the Successor Agency to the Redevelopment Agency, and the Oversight Board of the Successor Agency: approval of the Agreement of Purchase and Sale for the Mexican Museum parcel, approval of parking structure bond purchase/defeasance documents.
- Actions by the Planning Department: approval of the site permit, approval of the Vesting Tentative Map, approval of demolition, grading, and building permits.
- Actions by the Department of Public Works: Approval of the Vesting Tentative Map, approval of a street improvement permit and/or encroachment permit.
- Actions by the Department of Building Inspection: approval of the site permit, approval of demolition, grading, and building permits

PUBLIC/NEIGHBORHOOD INPUT

The Department has received no public input on the Major Permit to Alter Request as of the date of this report.

BACKGROUND

On February 2, 2011, the project sponsor presented an earlier version of the proposed Permit to Alter to the Architectural Review Committee (ARC) of the Historic Preservation Commission to seek ARC comments and recommendations regarding the compatibility of the proposed project with *Secretary's Standards*. The ARC provided comments and recommendations on the design, primarily concerning the proposed storefront system, new window openings on the north elevation, and the rooftop solarium. The project design has since been modified by the Project Sponsor in response to the ARC's comments. The ARC letter is included as Exhibit G in the packet.

On July 18, 2012, the Historic Preservation Commission held a public hearing and took public comment to assist the Commission in its preparation of any comments of the Commission on the Draft Environmental Impact Report (DEIR) for the proposed 706 Mission Street – The Mexican Museum and Residential Tower Project (2008.1084E). After discussion, the Commission determined that the DEIR presented sufficiently addressed and responded to the comments made previously by the ARC and that the write-up regarding the treatment to the building was adequate.

COMPLIANCE WITH THE PLANNING CODE PROVISIONS

The proposed Major Permit to Alter is in compliance with all other provisions of the Planning Code.

APPLICABLE PRESERVATION STANDARDS

ARTICLE 11

Pursuant to Section 1110 of the Planning Code, unless delegated to Planning Department Preservation staff through the Minor Permit to Alter process pursuant to Section 1111.1 of the Planning Code, the Historic Preservation Commission is required to review any applications for the construction, alteration, removal, or demolition for Significant buildings, Contributory buildings, or any building within a Conservation District. In evaluating a request for a Permit to Alter, the Historic Preservation Commission must find that the proposed work is in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, Section 1111.6 of the Planning Code, as well as the designating Ordinance and any applicable guidelines, local interpretations, bulletins, related appendices, or other policies. These standards, in relevant part(s), are listed below:

a) The proposed alteration shall be consistent with and appropriate for the effectuation of the purposes of this Article 11.

The proposed project is consistent with Article 11.

b) For Significant Buildings - Categories I and II, and for Contributory Buildings - Categories III and IV, proposed alterations of structural elements and exterior features shall be consistent with the architectural character of the building, and shall comply with the following specific requirements:

(1) The distinguishing original qualities or character of the building may not be damaged or destroyed. Any distinctive architectural feature which affects the overall appearance of the building shall not be removed or altered unless it is the only feasible means to protect the

public safety.

Based on Staff analysis, the project will rehabilitate all of the primary character-defining features of the Aronson Building, including majority of the structural system, building massing, scale and proportions; and all historic materials on both primary (Third and Mission Streets) facades.

(2) The integrity of distinctive stylistic features or examples of skilled craftsmanship that characterize a building shall be preserved.

The proposed project will retain and restore all distinctive materials, features, and finishes as well as construction techniques and examples of craftsmanship that characterize the building. As conditioned, the project will rehabilitate all of the character-defining features of the Aronson Building, such as the wall cladding in buff-colored glazed brick, the terra cotta and sandstone ornament, including sandstone entablatures and piers, brick pilasters, capitals, frizzes, spandrel panels and window sills, cast iron pilasters between ground-floor storefronts, galvanized sheet metal cornice with paired scrolled brackets and block modillions historic entrance locations on Third and Mission Street facades, as well as the wood flagpole on the roof.

(3) Distinctive architectural features which are to be retained pursuant to Paragraph (1) but which are deteriorated shall be repaired rather than replaced, whenever possible. In the event replacement is necessary, the new material shall match the material being replaced in composition, design, color, texture and other visual qualities. Repair or replacement of missing architectural features shall be based on accurate duplication of features, substantiated by historic, physical or photographic evidence, if available, rather than on conjectural designs or the availability of different architectural elements from other buildings or structures. Replacement of non-visible structural elements need not match or duplicate the material being replaced.

Any deteriorated historic features and materials will be repaired rather than replaced wherever feasible. If replacement of a deteriorated element is required, or if the element is missing, it will be replaced in kind, or if the material is no longer available, it will be replaced using an acceptable substitute material that matches the profile and configuration of the original based on physical or photographic documentation. As conditioned, a mock-up of any substitute material proposed will be reviewed and approved by Department Preservation Staff prior to fabrication and prior to the approval architectural addendum.

(4) Contemporary design of alterations is permitted, provided that such alterations do not destroy significant exterior material and that such design is compatible with the size, scale, color, material, and character of the building and its surroundings.

The proposed storefronts on the primary and secondary elevations will be compatible with the adjoining historic fabric and the original design of the building in terms of materials, proportions, profiles, and configuration based on historic photographs of the Aronson Building. New windows on the north elevation will be clearly differentiated by utilizing a contemporary detailing including simple punched windows while being compatible with the character of the building in size, fenestration pattern and organization. The canopies on the Third Street façade and the north façade will also be contemporary in design with simple details to be easily distinguished from the historic fabric of the building yet be compatible with the existing building.

(5) In the case of Significant Buildings - Category I, any additions to height of the building (including addition of mechanical equipment) shall be limited to one-story above the height of the existing roof, shall be compatible with the scale and character of the building, and shall in no event cover more than 75 percent of the roof area.

The proposed rooftop solarium will be one-story above the existing roof, will cover less than 75 percent (approximately 17.5%) of the roof area and will use materials and design that is compatible with the scale and character of the building including glazing similar to that on the Third and Mission Street facades in terms of material, divisions, frame profile and depth. In addition, given the one-story height and the 23' setback from the Third Street façade and 27' setback from the Mission Street façade, the new rooftop addition will be minimally visible from the public right-of-way. Furthermore, as conditioned, the proposed 10' high glass guardrail/windscreen along the north façade will be setback a minimum of 5' to minimize its view from the public right-of-way (across Third Street).

THE SECRETARY OF THE INTERIOR'S STANDARDS

The proposed Major Permit to Alter must be undertaken in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Properties. The proposed Major Permit to Alter includes rehabilitation as the primary treatment associated with the Aronson Building portion of the project. The Secretary of the Interior's Standards define rehabilitation as, *"The act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values"*. The Rehabilitation Standards provide, in relevant part(s):

Standard 1: A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

The *project will retain commercial uses, or introduce new uses that will be compatible with the building. With the exception of the building structural system and window frames at upper floors, there are no character-defining features on the interior. The window frames and the structural system will be retained and the new interior layout and features, including partition walls, stairs and other major building elements will be designed in a manner that will not obscure the fenestration of the rehabilitated Third and Mission Street facades. Therefore, the proposed alteration of the interior to accommodate the new use will not impact historic fabric or features that characterize the building.*

Standard 2: The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

The existing Aronson Building will be maintained and protected prior to and during construction to prevent deterioration and/or damage, and ensure preservation of historic fabric. In addition, the proposed exterior alterations to the building such as the new windows, storefront systems, and canopy on the north elevation occur on secondary elevations. Furthermore, the proposed one-story solarium addition on the rooftop will be substantially setback from the edges of the building (23'

from the Third Street façade, 27' from the Mission Street façade and 21' from the north façade) and will be minimally visible from the street. The proposed glass rail/windscreen along the primary facades will not be visible from the streets given its 3' 6" height and 1' 6" setback from the parapet wall. As conditioned, the 10' high portion of the glass railing/windscreen along the north façade will be setback at least 5' from the parapet wall, ensuring minimal visibility from across Third Street. The proposed new tower construction will also be located on a tertiary, previously altered elevation and will not result in the loss of any historic materials or features.

Standard 3: Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

The introduction of new storefronts and windows on the primary elevations are based on photographic documentation on the primary elevations is compatible with the adjoining historic fabric and are consistent with the original design of the building in terms of proportions, profiles and configurations. The new punched windows on the north elevation will be clearly differentiated but compatible with the character of the Aronson Building. As conditioned, the replacement windows on the primary facades will be wood framed single light windows and as such will be compatible with the existing building as they are based on physical and photographic documentation.

Standard 4: Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

There are no identified changes to the Aronson Building that have acquired historic significance in their own right. Other existing incompatible and non-historic 1978 additions on the north and west elevations, and storefront infill will be removed as part of the proposed rehabilitation.

Standard 5: Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

The proposed project will retain and restore all distinctive materials, features, and finishes as well as construction techniques and examples of craftsmanship. Specifically the proposed project will rehabilitate all of the character-defining features of the Aronson Building, such as the exterior cladding in buff-colored glazed brick, the terra cotta and sandstone ornament, including sandstone entablatures and piers, brick pilasters, capitals, frieze, spandrel panels and window sills, cast iron pilasters between ground-floor storefronts, galvanized sheet metal cornice with paired scrolled brackets and block modillions historic entrance locations on Third and Mission Street facades, as well as the wood flagpole on the roof . The original building entrance including the bronze door frame and arched transom frame at the Third Street entrance will be retained, cleaned and rehabilitated. As part of the proposed project, , any extant material associated with the Mission Street historic entryway exposed during demolition will be retained, cleaned and rehabilitated. As conditioned, Department Preservation Staff will review and approve the final design, including materials and details for a new compatible contemporary arched opening that will be built at the original location with new metal portal surround, side lights and new glass entry double doors,

matching those proposed for the Third Street façade, if no historic entryway is found after demolition.

Standard 6: Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

The proposed project will retain and restore all distinctive materials, features, and finishes, as well as construction techniques and examples of craftsmanship that characterize the building. The project also proposes to replace elements deteriorated beyond repair or missing elements in kind. If the material is no longer available, it will be replaced using a substitute material that matches the profile and configuration of the original based on physical or photographic documentation and following the practice outlined in Preservation Brief 16 - Use of Substitute Materials on Historic Building Exteriors. As conditioned, site mock-up of any substitute material used will be reviewed and approved by Department Preservation Staff prior to fabrication and prior to the approval of architectural addendum.

Standard 7: Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

The project will comply with Rehabilitation Standard 7, in such that the project will adhere to the recommendations in the HSR and as conditioned, will following the masonry cleaning practice outlined in Preservation Brief 1 – Cleaning and Water-Repellent Treatments for Historic Masonry Buildings, which include but are not limited to, exercising extreme care in the cleaning of brick and conducting mock-ups to ensure no damage will occur as a result of cleaning; cleaning of terra cotta proceed with the gentlest means, which may require several mock-ups prior to selection of the proper techniques and that the treatment approaches for the various historic materials be determined by a qualified preservation architect.

Standard 8: Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

Mitigation measures are identified in the EIR and incorporated in the Mitigation Monitoring and Reporting Program, which require archaeological monitoring during construction of the adjacent tower to ensure that the project will not result in a significant impact to archaeological resources.

Standard 9: New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

The proposed additions, exterior alterations and related new construction will not destroy historic

materials, features and spatial relationship that characterize the Aronson Building in that most of the new additions are proposed on secondary facades. The one-story solarium will be added on the rooftop and will be substantially setback form the primary facades of the Aronson Building (23' from the Third Street façade, 27' from the Mission Street façade and 21' from the north façade) minimizing the perceived mass and visibility of the addition from the public right-of-way. The canopy, new storefront system and new window openings along the north façade are also additions located on secondary elevations and are designed in a manner to be compatible with and not destroy historic materials, features, and spatial relationships that characterize the Aronson Building. In addition, the proposed tower construction will be located on the previously altered west elevation that has no ornamental detail or historic fenestration. The new storefronts on the primary facades will be designed to closely match the historic storefronts in proportion, profiles and configuration based on physical and photographic evidence. As conditioned, the replacement windows on upper floors of the primary facades will consist of wood window frames with profiles, configuration, color and operation that will closely match the historic windows based on physical and photographic evidence to ensure compatibility with the character of the Aronson Building.

All new work will be clearly differentiated from the old yet be compatible with the historic materials, features, size, proportion, and massing. Specifically the proposed storefronts, new canopies, new windows on the north façade, solarium on the roof top will be clearly differentiated through the use of contemporary detailing and materials. In addition,, the tower will be differentiated in its modern, contemporary design vocabulary.

Standard 10: New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment will not be impaired.

The proposed additions and alternations will not remove significant historic fabric, and have been designed to be unobtrusive to the architectural character of the building and district in conformance with Secretary's Standards. While unlikely, if removed in the future, the proposed alterations at the roof, the primary and secondary facades, including the new adjacent tower, will not have an impact on the physical integrity or significance of the Aronson Building or the district in conformance with Standard 10 of the Secretary's Standards.

STAFF ANAYLSIS

Based on the requirements of Article 11 and the Secretary of the Interior's Standards, the Department has determined the following:

Storefront: The ground floor of the Aronson Building on both the Mission and Third Street facades has been modified with the addition of brick infill. The Sponsor proposes to remove the existing non-historic brick infill and replace with a new glass storefront system to open up the ground floor and rehabilitate the exterior of the ground floor based on historic photographic evidence. The new storefront framing will extend to the perimeters of the opening between the existing pilasters and cornice and will have a prominent horizontal transom division corresponding with the original storefront configuration and minor vertical divisions to align with existing window openings on the upper floors. In addition, the storefronts will have a base that aligns with the existing pilaster bases. The new storefront system will

comprise of aluminum framing and clear glass. In response to the ARC comments, the new storefront will have proportions and configurations similar to the original storefront depicted in historic photos, with the introduction of a larger transom panel. The existing pilasters between the bays will be retained and restored. Storefronts that had been previously removed at the corner of Mission and Third Streets to accommodate recessed entries into the tenant spaces will also be reintroduced as part of the rehabilitation project.

New aluminum framed transparent openings will be added at the ground level along the north façade. The new storefront framing will be similar to that on the Mission and Third Street facades in material, divisions, frame profile and depth. In response to the ARC comments/feedback, the proposed storefronts along the north façade will retain solid brick wall between the storefront bays allowing the storefronts to align with the revised window pattern on the upper levels.

As conditioned, the storefronts appear to reference the configuration and surrounds of the storefront system on the primary as well as secondary (north) façades, and are consistent with the historic character of the ground floor glazed storefronts of the Aronson Building. The Department believes that in concept the proposed storefront systems are compatible with the character-defining features of the subject building and meet the *Secretary's Standards*. The Department recommends the following conditions of approval as part of the proposed scope of work:

(1) Construction details of the proposed storefront and entrance doors that indicate all exterior profiles and dimensions shall be based on historic photograph documentation and shall and are subject to review and approval prior to the approval of the architectural addendum by the Department Preservation Staff.

(2) All storefront finishes shall have a non-metallic powder coated or painted finish. All color and finish samples for storefronts will be submitted to Department Preservation Staff for review and approval as part of the architectural addendum.

Entryway: The existing original entryway along the Third Street façade will be rehabilitated by retaining the existing entrance opening and ornament, including bronze door frame and arched transom frame. New glass entry doors will be installed in the existing bronze door frame. The original arched entryway along Mission Street will be reversed by retaining, cleaning and rehabilitating any extant historic entryway that may be exposed during demolition. However, if no historic entryway exists, a new compatible contemporary arched opening is proposed to be built at the original location with new metal portal surround, side lights and new glass entry double doors, matching those proposed for the Third Street façade.

(3) The final design incorporating any historic fabric if discovered and, including shop drawings for the new contemporary arched opening proposed at the Mission Street shall be based on photographic or physical evidence and shall be included in the architectural addendum for review and approval by Department Preservation Staff.

(4) All exterior materials and finish samples shall be reviewed and approved by Department Preservation Staff prior to fabrication and prior to the approval of site permit or architectural addendum.

Canopy: A new canopy with integrated signage and lighting is proposed above the existing Third Street entryway. The new canopy will be integrated into the existing entry systems and will be confined within the entry bay. The Department believes that the concept of locating a canopy aligned with the proposed transom line is appropriate in that it serves as a continuation of the horizontal element created by the transom line on the proposed storefront system and will identify and provide prominence to the existing entryway.

A new metal canopy is also proposed at the ground level of the north façade, intended to encourage pedestrian activity and connections to the ground floor program, along with the new storefront system proposed on this façade. The new metal canopy above the storefront will align with the recessed horizontal metal channel above the new storefronts. Furthermore, a new recessed horizontal metal channel above the new storefront will extend to the building edge to align with the Third Street façade cornice datum line.

The Department believes that the canopy finish should match the proposed for the storefront to ensure compatibility with the building. In addition, attachment details should be submitted to Department Preservation Staff for review and approval.

(5) Final design, including finish and materials to match proposed storefronts, and shop drawings for the attachment details of the canopies at the Third Street entry and north façade shall be reviewed and approved by Department Preservation Staff prior to fabrication and prior to the architectural addendum.

(6) Attachment details of the proposed canopies indicating that the canopies will be attached in a manner that will avoid damage to the historic fabric shall be submitted for review and approval by Department Preservation Staff prior to approval of the architectural addendum.

Signage: New signage and lighting integrated with the storefront canopy is proposed above the existing entrance along Third Street. The proposed signage and lighting integrated within the new canopy also appears to be appropriate by providing identification to one of the main entrances to the Aronson Building. However, at this time, the overall signage program for the Aronson Building ground floor tenant spaces has not been developed and submitted as part of this application packet. When such a sign program is developed, it will need to be reviewed by staff under a new (Minor) Permit to Alter utilizing the Department's Sign Guidelines. As such, as conditioned below, the proposed location of the canopy and sign appear to be compatible with the subject building.

(7) The sign program for the Aronson Building, including lighting proposed, shall be submitted for review and approval by staff under a new (Minor) Permit to Alter at a later date.

Existing Windows: The existing non-historic windows on the upper floors of the Third and Mission Street facades are proposed to be replaced with new operable aluminum windows. The replacement windows are proposed to closely match the exterior profiles and dimensions of the historic wood windows based on photographic documentation.

The Department believes that the installation of aluminum windows may be in conflict with #2 of Section 1111.6 of the Planning Code which stipulates, "The integrity of distinctive stylistic features or examples of skilled craftsmanship that characterize a building shall be preserved." The Department and the

Commission's policy has been that replacement windows closely match the historic (extant or not) windows in terms of configuration, material, and all exterior profiles and dimensions. The department believes that as documented by historic photographs, the historic wood windows are distinctive and that they are an example of the craftsmanship of the building from the period in which it was constructed. As such, the Department recommends that the replacement windows should be wood windows based on department policy and previous action by the Commission.

It should be noted, that the HPC has approved substitute window materials for a Category I building only once. The Commission approved replacement windows to be wood-clad aluminum windows instead of wood upon the Project Sponsor demonstrating certain extenuating circumstances. A Certificate of Appropriateness for 403-405 Taylor Street was approved in 2009 where the Commission found the replacement of all windows from the 2nd -floor and above with wood aluminum-clad windows to be acceptable because of the deterioration and the amount of water infiltration into the building associated with the existing historic windows. The Commission did not find that approving that project will set a precedent for other window replacement projects and is based solely on the conditions associated with the specific building.

(8) The replacement windows for the non-historic windows on the Third and Mission Street elevations shall be wood windows that closely match the configuration, material, and all exterior profiles and dimensions of the historic windows based on historic photographic evidence.

Exterior Repairs: The exterior of the building will be cleaned and repaired as part of the project. All cleaning and repair work will be undertaken using gentlest means possible and best preservation practices as fully described in the Historic Structures Report by Page & Turnbull. In addition, a condition of approval is included requiring a façade inspection be conducted on the building facades and plans indicating the extent of damage be submitted for review and approval by Department Preservation Staff prior to installation prior to commencement of repair work.

(9) Documentation indicating the results of a thorough façade inspection shall be submitted for review and approval by Department Preservation Staff. The façade inspection document shall clearly identify the extent of damage and the parts that will be repaired, replaced in kind or those that are damaged beyond repair, requiring replacement with substitute materials.

Colusa Sandstone: The Colusa sandstone on the façade is proposed to be retained and existing paint and any unsound materials will be removed. The existing substrate, anchorage, and reinforcing will be assessed and repaired as required. Units will be reinforced and patched, with materials replaced in kind or with compatible substitute materials where damage is beyond repair. A coating material is proposed for the Colusa sandstone to closely match the existing historic material.

(10) Cleaning of the Colusa sandstone shall be conducted consistent with the masonry cleaning practice outlined in Preservation Brief 1 – Cleaning and Water-Repellent Treatments for Historic Masonry Buildings. The coating or paint type, color, and layering on the Colusa sandstone shall be researched before attempting its removal. Analysis of the nature of any unsound materials or paint to be removed from the sandstone shall be submitted to Department Preservation Staff for review and approval. In addition, initial testing shall be done on a small obscure location on the façade. All existing coatings shall be removed from the sandstone by gentlest means possible. A

mock-up of proposed coating shall be conducted prior to selection of a product to ensure that coating shall not alter the natural finish, color or texture of the stone.

Terra Cotta: The historic terra cotta on the primary facades is proposed to be cleaned and any spalls identified will be reinforced and patched. Where damage is beyond repair it will be replaced in kind or with a substitute material as appropriate. Cracked units and substrates will be stabilized and repointed as needed.

(11) Cleaning of the terra cotta shall be conducted consistent with the masonry cleaning practice outlined in Preservation Brief 1 – Cleaning and Water-Repellent Treatments for Historic Masonry Buildings, which include but are not limited to, exercising extreme care in the cleaning of brick and conducting mock-ups to ensure no damage will occur as a result of cleaning. In addition, cleaning of the terra cotta shall proceed with the gentlest means, which may require several mock-ups prior to selection of the proper techniques as determined by a qualified preservation architect.

Architectural Cast Iron: Existing cast iron on the primary facades will be retained and failing or deteriorated paint will be removed. Missing cast iron elements, such as scroll capitals along the Third Street facade, is proposed to be replaced with an acceptable substitute material. Where damage is beyond repair, it is proposed to be replaced in kind or with a substitute material as appropriate.

(12) All proposed replacement of missing elements within the architectural features shall be in kind. Only in instances where entire features are missing (e.g. scroll capitals along Third Street) shall be replaced with substitute material after review and approval by Department Preservation Staff.

Exterior Paint: Exterior paint of the cast iron pilasters will be selected to either closely match the existing historic materials or will be complementary to the existing building facades.

(13) Prior to application of the exterior paint finish on the cast iron, a paint analysis shall be performed on representative samples after proper cleaning of the existing materials for review and approval by Department Preservation Staff.

Sheet Metal: The existing entablature with paired scrolled brackets, block modillions and architectural sheet metal cornice is proposed to be retained. Failing paint, rust and corrosion will be removed, and all elements will be repainted. As proposed, cornice openings where fire escape is removed will be repaired and the cornice at the southwest corner of the building where the west annex addition will be removed is proposed to be repaired in-kind or replaced with substitute materials to complete the original return at the roofline. However, the Department recommends that the cornice be repaired in-kind. The use of substitute material is not appropriate at this location due to potential material incompatibility that could result in galvanic corrosion, weathering differently than surrounding historic materials, and further damage to the historic fabric.

(14) Substitute materials shall not be used to repair the existing cornice or replace missing cornice details and instead shall be replaced in-kind.

Substitute Materials: Aside from the cornice repair, using substitute materials for features that are

missing or damaged beyond repair is acceptable and may be found to be in conformance with the *Secretary's Standards* provided that the work is done consistent with *Preservation Brief 16 - Use of Substitute Materials on Historic Building Exteriors* and the following conditions are met:

(15) A mock-up of any replacement material proposed shall be reviewed and approved by Department Preservation Staff prior to installation.

(16) Specifications and shop drawings for all replacement of the exterior materials on the Aronson Building shall be included in the architectural addendum for review and approval by Department Preservation Staff.

(17) The replacement material shall closely match the characteristics of the historic material. The shop drawings for any replacement material proposed shall be included in the architectural addendum and are subject to review and approval by Department Preservation Staff to ensure that the replacement features, if applicable, closely match all exterior profiles, dimensions, and detailing of the historic features as well as match the color, tone, and texture from a representative range of cleaned samples from the building

(18) Prior to the production of the building features proposed to be replaced with substitute materials and the approval of the architectural addendum, Department Preservation Staff shall review site mock-ups of the replacement materials, including a mock-up of all exterior finish.

New Window Openings: In addition to the proposed removal of the 1978 non-historic addition along the north façade, existing doors, windows and grilles will also be removed from the north elevation. Existing openings within the party wall will be patched utilizing brick salvaged from the new openings. The common red brick along the north wall will be inspected, repaired, cleaned, and repointed. New selective openings will be made within the north wall with approximately 70% of the existing wall area retained. In response to the ARC comments and feedback, the new openings above the ground level will be organized in a regular pattern and will be comprised of aluminum framed windows expressed as simple punched openings. The windows will be setback approximately 14′ 5″ from the northeast corner at floors 4 through 10, and approximately 27′ at floors 1 through 3 to expose more of the existing brick finish.

The new windows will be compatible in size, fenestration pattern, and organization yet distinguishable from the original fabric of the Aronson Building through the use of contemporary detailing and materials. Staff believes the framing finish and material should match those proposed on the storefront along the Third and Mission Streets as well as the north façade to ensure consistency and compatibility. As such, the Department believes that as conditioned, the approach proposed by the Project Sponsor is in conformance with the *Secretary's Standards and Article 11.*

(19) The frames and finishes of the new windows proposed on the upper floors of the north façade shall match those proposed for the storefronts along the Third and Mission Street facades as well as the storefronts on the north façade.

Rooftop Addition: The existing non-historic structures on the roof will be demolished and the Aronson Building roof will be rehabilitated to function as a residential amenity outdoor terrace/roof garden for the adjacent new tower. A new structural roof diaphragm will provide a seismic upgrade and support required for the exterior cornice, parapet anchorage, landscaped roof terrace and new solarium. New 3′ 6″ high transparent glass perimeter railings/windscreens along the Third and Mission Street facades is

proposed and will be setback approximately 1' 6" from the existing parapet wall. The continuation of the railing/windscreen along the north (secondary) façade is proposed be 10' in height to address wind issues. The 10' high portion of the railing/windscreen along the north façade will be setback 5' from the parapet wall to ensure that it does not read as a full height addition at the face of the building and to minimize its view from across Third Street.

The new one-story solarium structure will be setback 23' from the Third Street façade, 27' from the Mission Street façade and 21' from the north facade The solarium will be comprised of glazing that matches the proposed storefronts on the Third and Mission Street facades in terms of material, divisions, frame profile and depth. In addition, in response to the ARC feedback, the exterior finish of the proposed solarium will comprise of masonry and metal material with colors complementary to the existing Aronson Building. The roof of the solarium will include both an area that is planted and a glass roof area. The roof will also include a small private outdoor terrace that will be used exclusively by the tower residents. Due to the 10-story height of the existing Aronson Building, and adjacent buildings, as well as the substantial setbacks provided, the new one-story solarium construction will be minimally visible from the public right-of-way. In conformance with the *Secretary's Standards,* the proposed vertical addition will be clearly differentiated but compatible with the scale and character of the building through setbacks, massing, and use of contemporary cladding materials.

(20) Final design, including details and finish material samples of the proposed solarium and glass railing/windscreen on the roof shall be reviewed and approved by Department Preservation Staff.

Adjacent Tower: After the demolition of the 1978 ten-story, non-historic addition along the west (secondary) façade, a new tower will be built adjacent to the Aronson Building. Unused openings within the party wall will be patched, utilizing salvaged brick that is removed for new openings. The existing common red brick along the west wall will be inspected, repaired, cleaned, repointed, and seismically upgraded as required. Salvaged bricks will be used in areas where brick needs to be replaced.

The new tower is designed to read as an entirely separate building, consistent with one of the key requirement for additions to historic resources in dense urban locations in *Preservation Brief 14: :New Exterior Additions to Historic Buildings: Preservation Concerns".* In addition, the new tower volume will be setback approximately 6' from the southwest corner to expose the existing red brick wall and allow the two buildings to be expressed independently. Furthermore, the proposed 6' setback will ensure that the existing cornice along the Mission Street façade will not be impacted by the adjacent tower construction and will allow the return of the cornice along the west wall. The existing tower volume will cantilever approximately 7' over the existing Aronson Building starting at the 12th floor and be setback approximately 15' from the south façade of the Aronson Building. As proposed, the cantilevered portion of the tower over the Aronson Building. Given the distance clear space provided between the roof floor level of the Aronson Building and the bottom of the cantilever portion of the new tower, the visual separation between the two structures is continued.

New exterior and interior connections between the tower and existing Aronson Building will be established for programmatic and structural requirements, while still maintaining a visual separation between the two buildings. As fully described in the attached memorandum (Exhibit J) prepared by Page & Turnbull dated February 14, 2013 (revised 2/22/13), the Aronson Building is proposed to be seismically

upgraded by either of the following two approaches:

- The Aronson building will be seismically independent and separated by a seismic joint with an air space in between the two buildings; or
- The Aronson Building will be laterally connected to the new tower at all floor and roof levels and allow the building to move together during a seismic event, a design in which the tower and Aronson Building will not be structurally isolated but will remain visibly independent of one another.

Based on the above-mentioned memo, both approaches will not result in any exterior visual impacts to the Aronson Building and no character-defining features of the Aronson Building will be removed with either seismic upgrade approaches. Furthermore, the seismic performance will be the same in both approaches and both approaches will result in an equal level of protection of the Aronson Building with neither approach increasing the likelihood of earthquake damage to the historic Aronson Building.

In addition, Mitigation Measure M-NO-2c: Vibration Monitoring and Management Plan, of the Mitigation Monitoring and Reporting Program for the 706 Mission Street – Mexican Museum Project Environmental Impact Report pertaining to the potential for direct physical damage to the Aronson Building resulting from vibration during construction of the proposed project tower will ensure the protection of the Aronson Building.

The proposed conceptual design of the project tower will be contemporary in architectural vocabulary and will not include overt historic references. This approach visually distinguishes the proposed tower from the existing Aronson Building, allowing the proposed tower to appear as a new building adjacent to the historic Aronson Building rather than as an addition to the Aronson Building.

The use of historically appropriate colors and in-kind materials for the restoration and rehabilitation of the Aronson Building will ensure that the project will not detrimentally change or alter significant character-defining features of the resource. The palette of finish colors and materials for the new construction are also compatible with, yet differentiated, from the features, materials, and design of the historic Aronson Building, and with the site's overall historic character. Furthermore, new storefronts and windows on the primary (Third and Mission Street) elevations will be compatible with the original design of the Aronson Building in terms of proportions, profiles and configuration.

ENVIRONMENTAL REVIEW STATUS

An Environmental Impact Report (EIR) and Mitigation Monitoring and Reporting Program (MMRP) have been prepared for the 706 Mission Street Project. The Final EIR was certified by the Planning Commission on March 21, 2013. A copy of the Final EIR was sent transmitted to the Historic Preservation Commission on March 7, 2013 and may be accessed online at http://sfmea.sfplanning.org/2008.1084E_RTC1.pdf. The Historic Preservation Commission must consider the EIR before acting on the proposed project and must adopt findings under the California Environmental Quality Act and adopt the MMRP as conditions of approval if it decides to approve the proposed Permit to Alter.

The EIR analysis identified potentially significant environmental impacts, including site-specific and cumulative effects of the project in accordance with the provisions set forth in the CEQA Guidelines. The

EIR identified potentially significant impacts in some areas. The EIR prepared for the project evaluated the proposed rehabilitation of the Aronson Building and also evaluated the compatibility of the proposed new construction on site.

Under CEQA, no mitigation measures are required for impacts that are less than significant. As more fully described in the Final EIR the proposed alterations to the Aronson Building under the proposed project will retain and preserve character-defining features of the Aronson Building. New alterations will be differentiated from, yet compatible with, the old. As such, the proposed project will conform to the Secretary's Standards and will therefore have less-than-significant impact on the Aronson Building historic resource under CEQA Guidelines 15064.5(b)(3).

Furthermore, as fully detailed in the EIR, the design of the proposed tower will not result in a substantial adverse change in the significant of the Aronson Building historical resource. As such, no mitigation measures are necessary to address historic resource impacts to the Aronson Building from the proposed tower portion of the project.

Mitigation Measure M-NO-2c: Vibration Monitoring and Management Plan, in the EIR address the potential for direct physical damage to the Aronson Building resulting from vibration during construction of the proposed project tower.

Mitigation measures have been adopted to reduce impacts to Cultural and Paleontological Resources, Noise, Air Quality, and Hazards and Hazardous Materials to a less than significant level. With the required mitigation measures, all potential project impacts, with the exception of identified significant impacts that cannot be avoided or reduced to a less-than-significant level as described below, will be avoided or reduced to a less-than-significant level.

The EIR identified that the proposed project's tower design would cause significant and unavoidable impacts related to Wind and Shadow. The Planning Commission certified the Final EIR for the project on March 21, 2013. All mitigation measures identified in the Final EIR are included in the Mitigation Monitoring and Reporting Program attached to the draft motion.

PLANNING DEPARTMENT RECOMMENDATION

Planning Department staff recommends ADOPTION of CEQA findings and the MMRP and APPROVAL WITH CONDITIONS of the proposed project as it appears to meet the provisions of Article 11 of the Planning Code regarding Major Alteration to a Category I (Significant) Building and the *Secretary of the Interior Standards for Rehabilitation* with the following conditions:

Storefront

(1) Construction details of the proposed storefront and entrance doors that indicate all exterior profiles and dimensions shall be based on historic photograph documentation and shall and are subject to review and approval prior to the approval of the architectural addendum by the Department Preservation Staff.

(2) All storefront finishes shall have a non-metallic powder coated or painted finish. All color and finish samples for storefronts will be submitted to Department Preservation Staff for review and approval as part of the architectural addendum.

Entryway

(3) The final design incorporating any historic fabric if discovered and, including shop drawings for the new contemporary arched opening proposed at the Mission Street shall be based on photographic or physical evidence and shall be included in the architectural addendum for review and approval by Department Preservation Staff.

(4) All exterior materials and finish samples shall be reviewed and approved by Department Preservation Staff prior to fabrication and prior to the approval of site permit or architectural addendum.

Canopy

(5) Final design, including finish and materials to match proposed storefronts, and shop drawings for the attachment details of the canopies at the Third Street entry and north façade shall be reviewed and approved by Department Preservation Staff prior to fabrication and prior to the architectural addendum.

(6) Attachment details of the proposed canopies indicating that the canopies will be attached in a manner that will avoid damage to the historic fabric shall be submitted for review and approval by Department Preservation Staff prior to approval of the architectural addendum.

Signage

(7) The sign program for the Aronson Building, including lighting proposed, shall be submitted for review and approval by staff under a new (Minor) Permit to Alter at a later date.

Existing Windows

(8) The replacement windows for the non-historic windows on the Third and Mission Street elevations shall be wood windows that closely match the configuration, material, and all exterior profiles and dimensions of the historic windows based on historic photographic evidence.

Exterior Repairs

(9) Documentation indicating the results of a thorough façade inspection shall be submitted for review and approval by Department Preservation Staff. The façade inspection document shall clearly identify the extent of damage and the parts that will be repaired, replaced in kind or those that are damaged beyond repair, requiring replacement with substitute materials.

Colusa Sandstone

(10) Cleaning of the Colusa sandstone shall be conducted consistent with the masonry cleaning practice outlined in Preservation Brief 1 – Cleaning and Water-Repellent Treatments for Historic Masonry Buildings. The coating or paint type, color, and layering on the Colusa sandstone shall be researched before attempting its removal. Analysis of the nature of any unsound materials or paint to be removed from the sandstone shall be submitted to Department Preservation Staff for review and approval. In addition, initial testing shall be done on a small obscure location on the façade. All existing coatings shall be removed from the sandstone by gentlest means possible. A mock-up of proposed coating shall be conducted prior to selection of a product to ensure that coating shall not alter the natural finish, color or texture of the stone.

Terra Cotta

(11) Cleaning of the terra cotta shall be conducted consistent with the masonry cleaning practice outlined in Preservation Brief 1 – Cleaning and Water-Repellent Treatments for Historic Masonry Buildings, which include but are not limited to, exercising extreme care in the cleaning of brick and conducting mock-ups to ensure no damage will occur as a result of cleaning. In addition, cleaning of the terra cotta shall proceed with the gentlest means, which may require several mock-ups prior to selection of the proper techniques as determined by a qualified preservation architect.

Architectural Cast Iron

(12) All proposed replacement of missing elements within the architectural features shall be in kind. Only in instances where entire features are missing (e.g. scroll capitals along Third Street) shall be replaced with substitute material after review and approval by Department Preservation Staff.

Exterior Paint

(13) Prior to application of the exterior paint finish on the cast iron, a paint analysis shall be performed on representative samples after proper cleaning of the existing materials for review and approval by Department Preservation Staff.

Sheet Metal

(14) Substitute materials shall not be used to repair the existing cornice or replace missing cornice details and instead shall be replaced in-kind.

Substitute Materials

(15) A mock-up of any replacement material proposed shall be reviewed and approved by Department Preservation Staff prior to installation.

(16) Specifications and shop drawings for all replacement of the exterior materials on the Aronson Building shall be included in the architectural addendum for review and approval by Department Preservation Staff.

(17) The replacement material shall closely match the characteristics of the historic material. The shop drawings for any replacement material proposed shall be included in the architectural addendum and are subject to review and approval by Department Preservation Staff to ensure that the replacement features, if applicable, closely match all exterior profiles, dimensions, and detailing of the historic features as well as match the color, tone, and texture from a representative range of cleaned samples from the building

(18) Prior to the production of the building features proposed to be replaced with substitute materials and the approval of the architectural addendum, Department Preservation Staff shall review site mock-ups of the replacement materials, including a mock-up of all exterior finish.

New Window Openings

(19) The frames and finishes of the new windows proposed on the upper floors of the north façade shall match those proposed for the storefronts along the Third and Mission Street facades as well as the storefronts on the north façade.

Rooftop Addition

(20) Final design, including details and finish material samples of the proposed solarium and glass railing/windscreen on the roof shall be reviewed and approved by Department Preservation Staff.

ATTACHMENTS

A. Draft Motion with attached CEQA Findings and Mitigation Monitoring and Reporting Program
B. Parcel Map
C. Sanborn Map
D. Aerial Photo
E. Zoning Map
F. Site Photos
G. Architectural Review Committee Letter
H. Major Permit to Alter Application and Plans
I. Historic Structure Report, prepared by Page & Turnbull (December 2010)
J. Memo from Page & Turnbull dated February 14, 2013 (revised 2/22/13)
K. Link to Final Environmental Impact Report http://www.sf-planning.org/index.aspx?page=1828

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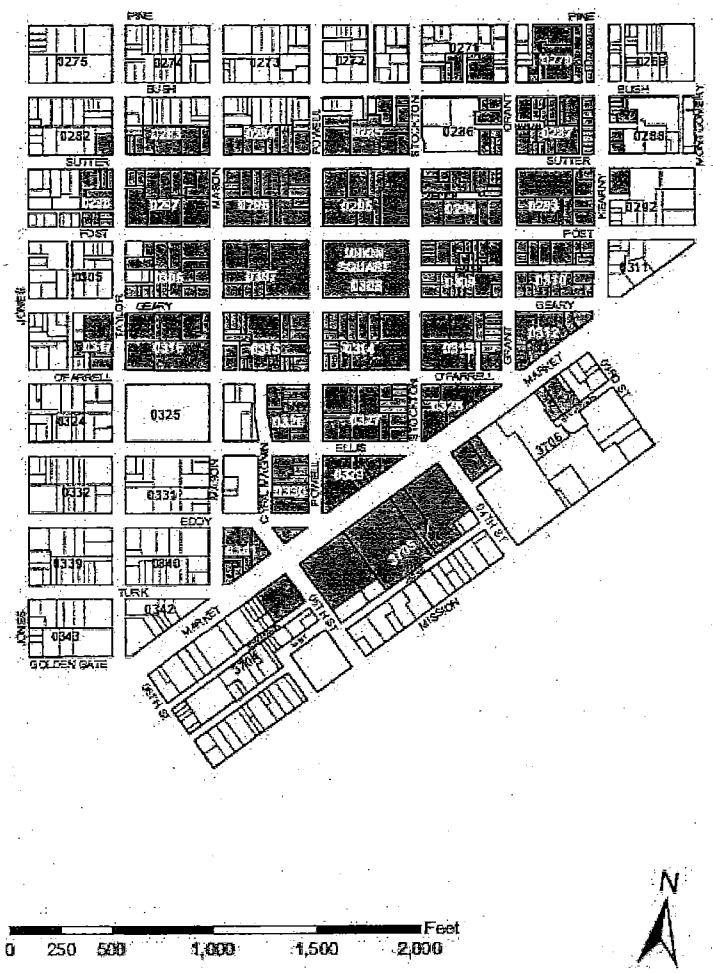
EXHIBIT 3

KEARNY-MARKET-MASON-SUTTER CONSERVATION DISTRICT



APPENDIX F TO ARTICLE 11
NEW MONTGOMERY-MISSION-SECOND STREET CONSERVATION DISTRICT

SEC. 1. FINDINGS AND PURPOSES.

It is hereby found that the area known and described in this appendix as the New Montgomery-Mission-Second Street area is a subarea within the C-3 District, that possesses concentrations of buildings that together create a subarea of architectural and environmental quality and importance which contributes to the beauty and attractiveness of the City. It is further found that the area meets the standards for designation of a Conservation District as set forth in Section 1103 of Article 11 and that the designation of said area as a Conservation District will be in furtherance of and in conformance with the purposes of Article 11 of the City Planning Code.

This designation is intended to promote the health, safety, prosperity and welfare of the people of the City through the effectuation of the purposes set forth in Section 1101 of Article 11 and the maintenance of the scale and character of the New Montgomery-Mission-Second Street area by:

(a) The protection and preservation of the basic characteristics and salient architectural details of structures insofar as these characteristics and details are compatible with the Conservation District;

(b) Providing scope for the continuing vitality of the District through private renewal and architectural creativity within appropriate controls and standards;

(c) Preservation of the scale and character of the District separate from the prevailing larger scale of the financial district and permitted scale in the new Special Development District.

(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

SEC. 2. DESIGNATION.

Pursuant to Section 1103.1 of Article 11 of the City Planning Code (Part II, Chapter XI of the San Francisco Municipal Code), the New Montgomery-Mission-Second Street area is hereby designated as a Conservation District.

(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

SEC. 3. LOCATION AND BOUNDARIES.

The location and boundaries of the New Montgomery-Mission-Second Street Conservation District shall be as designated on the New Montgomery-Second Street Conservation District Map, the original of which is on file with the Clerk of the Board of Supervisors under File 223-84-4, which Map is hereby incorporated herein as though fully set forth, and a facsimile of which is reproduced hereinbelow.

(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

SEC. 4. RELATION TO CITY PLANNING CODE.

(a) Article 11 of the City Planning Code is the basic law governing preservation of buildings and districts of architectural importance in the C-3 District of the City and County of San Francisco. This Appendix is subject to and in addition to the provisions thereof.

(b) Except as may be specifically provided to the contrary, nothing in this Appendix shall supersede, impair or modify any City Planning Code provisions applicable to property in the New Montgomery-Mission-Second Street Conservation District including, but not limited to, regulations controlling uses, height, bulk, coverage, floor area ratio, required open space, off-street parking and signs.

(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

SEC. 5. JUSTIFICATION.

The characteristics of the Conservation District justifying its designation are as follows:

(a) **History of the District.** The core of the New Montgomery-Mission-Second Street Conservation District is a product of the post-1906 reconstruction of downtown San Francisco. Rebuilt between 1906 and 1933 this district represents a collection of masonry commercial loft buildings that exhibit a high level of historic architectural integrity and create a cohesive district of two-to-eight story masonry buildings of similar scale, massing, setback, materials, fenestration pattern, style, and architectural detailing.

This corridor forms one of the earliest attempts to extend the uses of the financial and retail districts to the South of Market area. Since Montgomery Street was the most important commercial street in the 1870's, New Montgomery Street was planned as a southern extension from Market Street to the Bay. Opposition from landowners south of Howard Street, however, prevented the street from reaching its original bayside destination. William Ralston, who was instrumental in the development of the new street, built the Grand Hotel and later the Palace Hotel at its Market Street intersection. A wall of large hotels on Market Street actually hindered the growth of New Montgomery Street and few retail stores and offices ventured south of Market Street. The unusually wide width of Market Street acted as a barrier between areas to the north and south for many years.

A small number of office buildings were built on New Montgomery Street as far south as Atom Alley (now Natoma Street) after the fire. Many buildings were completed in 1907, and most of the street assumed its present character by 1914.

At 74 New Montgomery Street, the Call newspaper established its first headquarters. A noteworthy addition to the streetscape was the Pacific Telephone and Telegraph Building. At the time of its completion in 1925, it was the largest building on the West Coast devoted to the exclusive use of one firm. Until the 1960's, the office district on New Montgomery Street was the furthest extension of the financial district into the South of Market area. More characteristic were warehouses and businesses which supported the nearby office district. For example, the Furniture Exchange at the northwest corner of New Montgomery and Howard Streets, completed in 1920, was oriented to other wholesale and showroom uses along Howard Street.

One block to the east, Second Street had a different history from New Montgomery Street. The future of Second Street as an extension of the downtown depended upon the southward extension of the street through the hill south of Howard Street. At one time there was even a proposal to extend Second Street north in order to connect with Montgomery Street. The decision to extend Montgomery Street south rather than Second Street north due to the high cost of the Second Street Cut, however, discouraged retail and office growth on the street. As a result, by the 1880's Second Street was established as a wholesaling rather than retail or office area. In the 1920's, Second Street contained a wide mixture of office support services. These included printers, binderies, a saddlery, a wholesale pharmaceutical outlet, and a variety of other retail stores and smaller offices. Industrial uses were commonly located on the alleyways such as Minna and Natoma and on Second Street, south of Howard Street.

Howard Street between 1st and 3rd Street became a popular and convenient extension for retail and wholesale dealers after 1906. As with Mission Street, the area still contains a number of smaller commercial loft structures that represent some of the best examples within the district, such as the Volker Building at 625 Howard Street, the Crellin Building at 583 Howard Street, and the Sharon Estate Building at 667 Howard Street.

The transformation of much of the area within the boundaries of the New Montgomery-Mission-Second Street Conservation District into a southerly extension of downtown was reflected in the large number of multi-story structures built along both Mission and Market streets. The intersection of 3rd and Mission evolved into the most important intersections in the survey area, bracketed on three corners by important early skyscrapers, including the rebuilt Aronson Building on the northwest corner, the Williams Buildings on the southeast corner, and the Gunst Building (demolished) on the southwest corner.

(b) **Basic Nature of the District.** New Montgomery Street is characterized by large buildings that often occupy an entire section of a block defined by streets and alleys or a major portion of these subblocks. The buildings are of a variety of heights, but the heights of most of the buildings range from five to eight stories. Second Street is characterized by smaller, less architecturally significant buildings, but, because of their continuous streetwall, they form a more coherent streetscape. Without some sort of protection for the less significant buildings, the quality of the district would be lost due to pressure from the expanding office core.

(c) **Architectural Character.** Most of the contributing buildings are designed in the American Commercial Style and feature facades divided into a tripartite arrangement consisting of a base, shaft, and capital. Although the scale and size of the structures on New Montgomery Street are somewhat monumental, the area remains attractive for pedestrians. There are a number of outstanding buildings concentrated on New Montgomery, such as the Palace Hotel, the Pacific Telephone and Telegraph Building tower, and the Sharon Building. Ornamentation of district contributors is most often Renaissance-Baroque with later examples of Spanish, Colonial, Gothic Revival Styles, and Art Deco. Examples of the styles range from the Gothic skyscraper massing and Art Deco detailing of the Pacific Telephone and Telegraph Building to the Renaissance Palazzo style of the Palace Hotel. The primary building materials are earthtone bricks, stone or terra cotta, with ornamental details executed in a variety of materials including terra cotta, metal, stucco and stone.

With the exceptions of corner buildings, Second Street, Mission and Howard Streets have a smaller, more intimate scale. While on New Montgomery Street, buildings typically occupy an entire subblock, on Second Street, three or four small buildings will occupy the same area. The buildings are generally mixed-use office and retail structures, two-to-seven stories in height, with Renaissance-influenced ornament.

The two streets are unified by several elements, including an architectural vocabulary which draws from similar historical sources, similar materials, scale, fenestration, color, stylistic origins, texture, and ornament.

(d) **Uniqueness and Location.** The District is located close to the central core of the financial district and is adjacent to an area projected for the future expansion. It is one of the few architecturally significant areas remaining largely intact in the South of Market area.

(e) **Visual and Functional Unity.** The District has a varied character ranging from the small and intimate on the alley

streets to a more monumental scale on New Montgomery. In spite of this wide range, the district forms a coherent entity due to the buildings' common architectural vocabulary and the rhythm of building masses created by the District's intersecting alleys.

(f) **Dynamic Continuity.** The District is an active part of the downtown area, and after some years of neglect is undergoing reinvestment, which is visible in the rehabilitation of the Pacific Telephone Building, and the repair and rehabilitation of other buildings in the District.

(g) **Benefits to the City and Its Residents.** The District is a microcosm of twentieth century commercial architecture, ranging from low-level speculative office blocks to the City's premier hotels and executive offices of the time. The District now houses a variety of uses from inexpensive restaurants and support commercial uses, such as printers, to executive offices. The area retains a comfortable human scale, which will become increasingly important as neighboring areas of the South of Market become more densely developed.

(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

SEC. 6. FEATURES.

The exterior architectural features of the New Montgomery-Mission-Second Street District are as follows:

(a) **Massing and Composition.** Almost without exception, the buildings in the New Montgomery-Mission-Second Conservation District are built to the front property line and occupy the entire site. Most buildings are either square or rectangular in plan, some with interior light courts to allow sunlight and air into the interiors of buildings. Nearly all cover their entire parcels, and their primary facades face the street. Building massings along New Montgomery and Second Streets have different directional orientations. For the most part, the large buildings on New Montgomery Street are horizontally oriented, since they are built on relatively large lots, often occupying an entire blockface. Their horizontal width often exceeds their height. The buildings on Second Street are built on much smaller lots, and hence have a vertical orientation. An exception on New Montgomery is the tower of the Pacific Telephone and Telegraph Building, whose soaring verticality is unique for that street.

To express the mass and weight of the structure, masonry materials are used on multi-dimensional wall surfaces with texture and depth, which simulates the qualities necessary to support the weight of a load-bearing wall.

Despite their differing orientation, almost all buildings share a two or three-part compositional arrangement. In addition, buildings are often divided into bays which establish a steady rhythm along the streets of the District. The rhythm is the result of fenestration, structural articulation or other detailing which breaks the facade into discrete segments. A common compositional device in the District is the emphasis placed upon either the end bays or the central bay.

(b) **Scale.** More than two-thirds of the contributing buildings are three-to-eight story brick or concrete commercial loft buildings constructed during the five years after the 1906 Earthquake and Fire. The scale of the District varies from the small buildings on Howard, Mission, Natoma, and Second Streets, such as the Phoenix Desk Company Building at 666 Mission Street, the Burdette Building at 90 Second Street, and the Emerison Flag Company Building at 161 Natoma Street; to medium-scaled structures on Mission and New Montgomery Streets, such as the Veronica Building at 647 Mission Street, and the Standard Building at 111 New Montgomery Street; to large-scale buildings on New Montgomery Street, such as the Pacific Telephone and Telegraph Building at 140 New Montgomery. On New Montgomery Street, the large facades are not commonly divided into smaller bays, establishing a medium scale when combined with the five- to eight-story height of the buildings. Similarly, the use of elaborate ornament on many of the buildings breaks their large facades into smaller sections and accordingly reduces their scale. Second Street is characterized by much smaller buildings with more frequent use of vertical piers whose scale is very intimate for the South of Market area.

(c) **Materials and Color.** Various forms of masonry are the predominant building materials in the district. A number of buildings on the northern end of New Montgomery use brown or buff brick. Terra cotta is also used as a facing material, and is frequently glazed to resemble granite or other stones. On Second and Mission Streets, several buildings are faced in stucco. To express the mass and weight of the structure, masonry materials are often rusticated at the ground and second story to increase the textural variation and sense of depth. Several buildings along Howard Street are noteworthy because they are clad in brick in warm earth tones, exhibit fine masonry craftsmanship, and remain unpainted.

The materials are generally colored light or medium earth tones, including white, cream, buff, yellow, and brown. Individual buildings generally use a few different tones of one color.

(d) **Detailing and Ornamentations.** Buildings range from industrial brick and stucco office/warehouses to ornately decorated office buildings. The details on the latter buildings are generally of Classical/Renaissance derivation and include projecting cornices and belt courses, rustication, columns and colonnades, and arches. Industrial commercial buildings are noted by their utilitarian nature, with limited areas or ornament applied at the cornice entablature and around windows.

(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

SEC. 7. STANDARDS AND GUIDELINES FOR REVIEW OF NEW CONSTRUCTION AND CERTAIN ALTERATIONS.

(a) **Standards.** All construction of new buildings and all major alterations, which are subject to the provisions of Sections 1110, 1111 through 1111.6 and 1113, shall be compatible with the District in general with respect to the building's composition and massing, scale, materials and colors, and detailing and ornamentation, including those features described in Section 6 of this Appendix. Emphasis shall be placed on compatibility with those buildings in the area in which the new or altered building is located. In the case of major alterations, only those building characteristics that are affected by the proposed alteration shall be considered in assessing compatibility. Signs on buildings in conservation districts are subject to the provisions of Section 1111.7.

The foregoing standards do not require, or even encourage, new buildings to imitate the styles of the past. Rather, they require the new to be compatible with the old. The determination of compatibility shall be made in accordance with the provisions of Section 309.

(b) **Guidelines.** The guidelines in this subsection shall be used in assessing compatibility.

(1) **Composition and Massing.** New construction should maintain the character of surrounding buildings by relating to their prevailing height, mass, proportions, rhythm and composition.

In addition to the consideration of sunlight access for the street, an appropriate streetwall height is established by reference to the prevailing height of the buildings on the block and especially that of adjacent buildings. The prevailing height of buildings on New Montgomery Street is between five and eight stories while buildings on Second Street commonly range from three to six stories. A setback at the streetwall height can permit additional height above the setback up to the height limit without breaking the continuity of the street wall.

Almost all existing buildings are built to the property or street line. This pattern, except in the case of carefully selected open spaces, should not be broken since it could damage the continuity of building rhythms and the definition of streets.

Proportions for new buildings should be established by the prevailing streetwall height and the width of existing buildings. On New Montgomery Street, the historic pattern of large lot development permits new buildings to have a horizontal orientation. In order to ensure that an established set of proportions is maintained on Second Street, new construction should break up facades into discrete elements that relate to prevailing building masses. The use of smaller bays and multiple building entrances are ways in which to relate the proportions of a new building with those of existing buildings.

The design of a new structure should repeat the prevailing pattern of two- and three-part vertical compositions. One-part buildings without bases do not adequately define the pedestrian streetscape and do not relate well to the prevailing two- and three-part structures.

(2) **Scale.** The existing scale can be accomplished in a variety of ways, including: a consistent use of size and complexity of detailing with regard to surrounding buildings, continuance of existing bay widths, maintenance of the existing streetwall height, and the use of a base element (of similar height) to maintain the pedestrian environment. Large wall surfaces, which increase a building's scale, should be broken up through the use of vertical piers, detailing and textural variation to reduce the scale of Second Street.

Existing fenestration (windows, entrances) and rhythms which have been established by lot width or bay width should be repeated in new structures. The spacing and size of window openings should follow the sequence set by historic structures. Large glass areas should be broken up by mullions so that the scale of glazed areas is compatible with that of neighboring buildings. Casement and double-hung windows should be used where possible since most existing buildings use these window types.

(3) **Materials and Colors.** The use of masonry and stone materials or materials that appear similar (such as substituting concrete for stone) can link two disparate structures, or harmonize the appearance of a new structure with the architectural character of a Conservation District. The preferred surface materials for this District are brick, stone, terra cotta and concrete (simulated to look like terra cotta or stone).

The texture of surfaces can be treated in a manner so as to emphasize the bearing function of the material, as is done with rustication on the Rialto Building. Traditional light colors should be used in order to blend in with the character of the district. Dissimilar buildings may be made more compatible by using similar or harmonious colors, and to a lesser extent, by using similar textures.

(4) **Detailing and Ornamentation.** A new building should relate to the surrounding area by picking up elements from surrounding buildings and repeating them or developing them for new purposes. The new structure should incorporate prevailing cornice lines or belt courses. A variety of Renaissance/Baroque, Gothic and Moderne ornament in the District provides sources for detailing in new buildings in order to strengthen their relationship. Similarly shaped forms can be used as detailing without directly copying historical ornament.

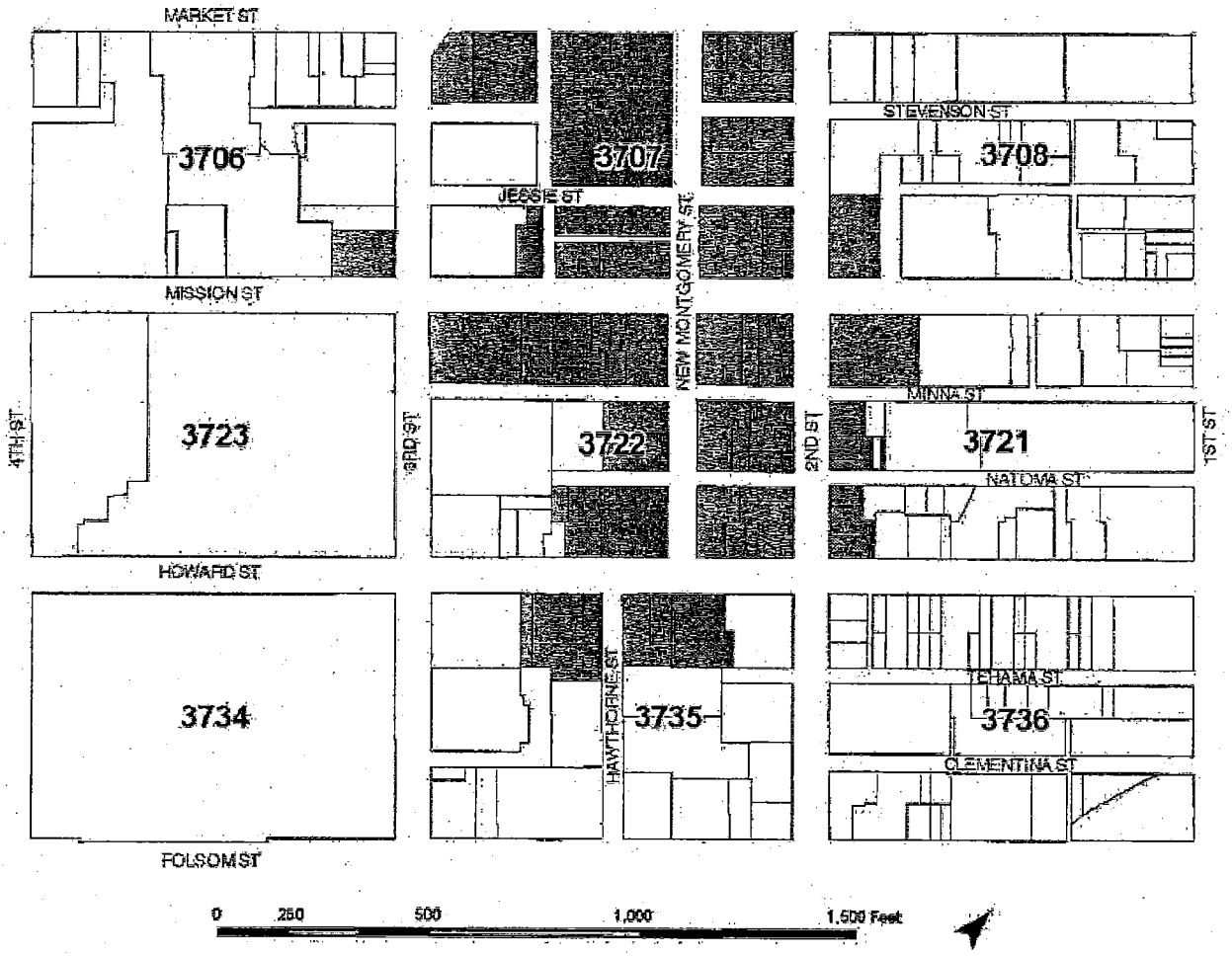
(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

SEC. 8. TDR; ELIGIBILITY OF CATEGORY V BUILDINGS.

Category V Buildings in that portion of the New Montgomery-Mission-Second Street Conservation District which is in the 150-S Height District as shown on Sectional Map 1H of the Zoning Map are eligible for the transfer of TDR as provided in Section 1109(c).

(Added Ord. 414-85, App. 9/17/85; amended by Ord. 182-12, File No. 120665, App. 8/8/2012, Eff. 9/7/2012)

New Montgomery-Mission-Second Street Conservation District



APPENDIX G TO ARTICLE 11
COMMERCIAL-LEIDESDORFF CONSERVATION DISTRICT

SEC. 1. FINDINGS AND PURPOSES.

It is hereby found that the area known and described in this Appendix as the Commercial-Leidesdorff area is a Subarea within the C-3 District that possesses concentrations of buildings that together create a Subarea of architectural quality and importance which contributes to the beauty and attractiveness of the City. It is further found that the area meets the standards for designation of a Conservation District as set forth in Section 1103 of Article 11 and that the designation of said area as a Conservation District will be in furtherance of and in conformance with the purposes of Article 11 of the City Planning Code.

This designation is intended to promote the health, safety, prosperity and welfare of the people of the City through the effectuation of the purposes set forth in Section 1101 of Article 11 and the maintenance of the scale and character of the Commercial-Leidesdorff area by:

(a) The protection and preservation of the basic characteristics and salient architectural details of structures insofar as these characteristics and details are compatible with the Conservation District;

(b) Providing scope for the continuing vitality of the District through private renewal and architectural creativity,

EXHIBIT 4

FILE NO. 120665 Substituted 7/10/2012 ORDINANCE NO. 182-12

[Planning Code - Transit Center District Plan]

Ordinance: 1) amending the San Francisco Planning Code by amending and adding sections consistent with the Transit Center District Plan, including the establishment of the Transit Center District Plan open space and transportation fees and the expansion and renaming of the New Montgomery-Mission-Second Street Conservation District, and 2) making findings, including environmental findings and findings of consistency with the General Plan, as proposed for amendment, and Planning Code Section 101.1.

NOTE: Additions are *single-underline italics Times New Roman*; deletions are ~~*strike-through italics Times New Roman*~~. Board amendment additions are double-underlined; Board amendment deletions are ~~strikethrough normal~~.

Be it ordained by the People of the City and County of San Francisco:

Section 1. Findings.

(a) California Environmental Quality Act Findings.

(1) The Planning Commission, in Motion No. 18628 certified the Final Environmental Impact Report for the Transit Center District Plan and related actions as in comply with the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.). A copy of said Motion is on file with the Clerk of the Board of Supervisors in File No. 120665 and is incorporated herein by reference.

(2) On May 24, 2012, the Planning Commission conducted a duly noticed public hearing and, by Motion No. 18629, adopted findings pursuant to the California Environmental Quality Act for the Transit Center District Plan and related actions. A copy of Planning Commission Resolution No. 18629, including its attachment and mitigation monitoring and reporting program, is on file with the Clerk of the Board of Supervisors in File No. 120665 and

is incorporated herein by reference. The Board of Supervisors hereby adopts the Planning Commission's environmental findings as its own.

(b) Historic Preservation Commission Findings, General Plan Consistency, and Other Findings.

(1) On May 24, 2012, the Planning Commission held a duly noticed public hearing on the attached Planning Code amendments. At said meeting, the Planning Commission, in Resolution No. 18631, recommended to this Board the adoption of the Planning Code amendments related to the Transit Center District Plan. A copy of said Planning Commission Resolution is on file with the Clerk of the Board of Supervisors in File No. 120665 and is incorporated herein by reference.

(2) At its May 24, 2012 meeting, the Planning Commission, in Resolution No. 18631, also recommended to the Historic Preservation Commission that it support the proposed amendments to Article 11 of the Planning Code, including the addition of certain properties to the amended New Montgomery-Mission-Second Street Conservation District that also will be listed in the City's Zoning Map.

(3) On June 6, 2012, the Historic Preservation Commission held a duly noticed public hearing on the amendments proposed herein to Article 11 of the Planning Code, including the addition of certain properties to the amended New Montgomery-Mission-Second Street Conservation District that also will be listed in the City's Zoning Map. At said meeting, the Historic Preservation Commission adopted Resolution Nos. 679, 680, and 681 that recommended to the Board of Supervisors that it adopt these amendments. Copies of said Historic Preservation Commission Resolutions are on file with the Clerk of the Board of Supervisors in File No. 120665 and are incorporated herein by reference.

(4) Pursuant to Planning Code Section 302, this Board of Supervisors finds that this Ordinance will serve the public necessity, convenience, and welfare for the reasons set forth

in Planning Commission Resolution No.18631, and incorporates those reasons herein by reference.

(5) The Board of Supervisors finds that this Ordinance is, on balance, consistent with the General Plan as proposed for amendment and the Priority Policies of Planning Code Section 101.1(b) for the reasons set forth in Planning Commission Resolution No. 18631, and incorporates those reasons herein by reference.

(6) Notwithstanding any contrary technical requirements that may exist in the Planning or Administrative Codes, the Board hereby finds that the Planning Department provided adequate notice for all documents and decisions, including environmental documents, related to the Transit Center District Plan. This finding is based on the extensive mailed, posted, electronic, and published notices that the Planning Department provided. In addition, all notification requirements for amendments to Article 11 were conducted in conformance with the version of Article 11 of the Planning Code in effect on May 2, 2012, the day the Historic Preservation Commission initiated the amendments proposed herein to Article 11. The Board hereby determines that said amendments are exempt from the current notification requirements of Article 11 of the Planning Code as amended by an Ordinance pending before the Board of Supervisors in Clerk of the Board of Supervisors File No. 123031. The draft recommendations and justification for the expansion of the Conservation District and the designation of architecturally significant buildings under Article 11 of the Planning Code was published and made available to the public in November of 2009. Beginning in 2007, community outreach and owner notification regarding the Transit Center District Plan has provided a number of opportunities for owner input through at least twelve (12) publicly-noticed workshops, hearings, and presentations. Copies of all notices and other public materials related to the Transit Center District Plan and the amendments to Article 11 set forth

herein are available for review through the Custodian of Records at the Planning Department, 1650 Mission Street, San Francisco.

Section 2. The San Francisco Planning Code is hereby amended by amending Sections 102.5, 102.9, 102.11, 123, 132.1, 136, 138, 151.1, 152.1, 155, 155.4, 156, 163, 201, 210.3, 215, 216, 217, 218, 218.1, 219, 220, 221, 222, 223, 224, 225, 226, 248, 260, 270, 272, 303, 309, 321, 412.1, 427, 1103.1, and Appendices A, C, D, and F to Article 11 and adding Sections 424.6, 424.7, 424.8, to read as follows:

SEC. 102.5. DISTRICT.

A portion of the territory of the City, as shown on the Zoning Map, within which certain regulations and requirements or various combinations thereof apply under the provisions of this Code. The term "district" shall include any use, special use, height and bulk, or special sign district. The term "R District" shall mean any RH-1(D), RH-1, RH-1(S), RH-2, RH-3, RM-1, RM-2, RM-3, RM-4, RTO, RTO-M, RC-1, RC-2, RC-3, RC-4 or RED District. The term "C District" shall mean any C-1, C-2, C-3, or C-M District. The term "RTO District" shall be that subset of R Districts which are the RTO and RTO-M District. The term "M District" shall mean any M-1 or M-2 District. The term "PDR District" shall mean any PDR-1-B, PDR-1-D, PDR-1-G, or PDR-2 District. The term "RH District" shall mean any RH-1(D), RH-1, RH-1(S), RH-2, or RH-3 District. The term "RM District" shall mean any RM-1, RM-2, RM-3, or RM-4 District. The term "RC District" shall mean any RC-1, RC-2, RC-3, or RC-4 District. The term "C-3 District" shall mean any C-3-O, *C-3-O(SD)*, C-3-R, C-3-G, or C-3-S District. For the purposes of Section 128 and Article 11 of this Code, the term "C-3 District" shall also include the Extended Preservation District designated on Section Map 3SU of the Zoning Map. The term "NC District" shall mean any NC-1, NC-2, NC-3, NC-T, NC-S, and any Neighborhood Commercial District and Neighborhood Commercial Transit District identified by street or area name in Section 702.1. The term "NCT" shall mean any district listed in Section 702.1(b),

accordance with Section 409. This fee shall be paid into the Transit Center District Open Space Fund, as described in Sections 424.6 et seq. of this Article. Said fee shall be used for the purpose of acquiring, designing, and improving public open space, recreational facilities, and other open space resources, which is expected to be used solely or in substantial part by persons who live, work, shop or otherwise do business in the Transit Center District.

SEC. 1103.1. CONSERVATION DISTRICT DESIGNATIONS.

The following Conservation Districts are hereby designated for the reasons indicated in the appropriate Appendix:

(a) The Kearny-Market-Mason-Sutter Conservation District is hereby designated as set forth in Appendix E.

(b) The New Montgomery-*Mission*-Second Street Conservation District is hereby designated as set forth in Appendix F.

(c) The Commercial-Leidesdorff Conservation District is hereby designated as set forth in Appendix G.

(d) The Front-California Conservation District is hereby designated as set forth in Appendix H.

(e) The Kearny-Belden Conservation District is hereby designated as set forth in Appendix I.

(f) The Pine-Sansome Conservation District is hereby designated as set forth in Appendix J.

APPENDIX F TO ARTICLE 11 - NEW MONTGOMERY-*MISSION*-SECOND STREET CONSERVATION DISTRICT.

SEC. 1. FINDINGS AND PURPOSES.

It is hereby found that the area known and described in this appendix as the New Montgomery-*Mission*-Second Street area is a subarea within the C-3 District, that possesses

concentrations of buildings that together create a subarea of architectural and environmental quality and importance which contributes to the beauty and attractiveness of the City. It is further found that the area meets the standards for designation of a Conservation District as set forth in Section 1103 of Article 11 and that the designation of said area as a Conservation District will be in furtherance of and in conformance with the purposes of Article 11 of the City Planning Code.

This designation is intended to promote the health, safety, prosperity and welfare of the people of the City through the effectuation of the purposes set forth in Section 1101 of Article 11 and the maintenance of the scale and character of the New Montgomery-Mission-Second Street area by:

(a) The protection and preservation of the basic characteristics and salient architectural details of structures insofar as these characteristics and details are compatible with the Conservation District;

(b) Providing scope for the continuing vitality of the District through private renewal and architectural creativity within appropriate controls and standards;

(c) Preservation of the scale and character of the District separate from the prevailing larger scale of the financial district and permitted scale in the new Special Development District.

SEC. 2. DESIGNATION.

Pursuant to Section 1103.1 of Article 11 of the City Planning Code (Part II, Chapter XI of the San Francisco Municipal Code), the New Montgomery-*Mission*-Second Street area is hereby designated as a Conservation District.

SEC. 3. LOCATION AND BOUNDARIES.

The location and boundaries of the New Montgomery-Mission-Second Street Conservation District shall be as designated on the New Montgomery-*Mission*-Second Street

Conservation District Map, the original of which is on file with the Clerk of the Board of Supervisors under File 223-84-4, which Map is hereby incorporated herein as though fully set forth, and a facsimile of which is reproduced herein below.

SEC. 4. RELATION TO CITY PLANNING CODE.

(a) Article 11 of the City Planning Code is the basic law governing preservation of buildings and districts of architectural importance in the C-3 District of the City and County of San Francisco. This Appendix is subject to and in addition to the provisions thereof.

(b) Except as may be specifically provided to the contrary, nothing in this Appendix shall supersede, impair or modify any City Planning Code provisions applicable to property in the New Montgomery-*Mission*-Second Street Conservation District including, but not limited to, regulations controlling uses, height, bulk, coverage, floor area ratio, required open space, off-street parking and signs.

SEC. 5. JUSTIFICATION.

The characteristics of the Conservation District justifying its designation are as follows:

(a) **History of the District.** *The core of the New Montgomery-Mission-Second Street Conservation District is a product of the post-1906 reconstruction of downtown San Francisco. Rebuilt between 1906 and 1933 this district represents a collection of masonry commercial loft buildings that exhibit a high level of historic architectural integrity and create a cohesive district of two-to-eight story masonry buildings of similar scale, massing, setback, materials, fenestration pattern, style, and architectural detailing.*

This area forms one of the earliest attempts to extend the uses of the financial and retail districts to the South of Market area. Since Montgomery Street was the most important commercial street in the 1870's, New Montgomery Street was planned as a southern extension from Market Street to the Bay. Opposition from landowners south of Howard Street,

however, prevented the street from reaching its original bayside destination. William Ralston, who was instrumental in the development of the new street, built the Grand Hotel and later the Palace Hotel at its Market Street intersection. A wall of large hotels on Market Street actually hindered the growth of New Montgomery Street and few retail stores and offices ventured south of Market Street. The unusually wide width of Market Street acted as a barrier between areas to the north and south for many years.

A small number of office buildings were built on New Montgomery Street as far south as Atom Alley (now Natoma Street) after the fire. Many buildings were completed in 1907, and most of the street assumed its present character by 1914. At 74 New Montgomery Street, the Call newspaper established its first headquarters. A noteworthy addition to the streetscape was the Pacific Telephone and Telegraph Building. At the time of its completion in 1925, it was the largest building on the West Coast devoted to the exclusive use of one firm. Until the 1960's, the office district on New Montgomery Street was the furthest extension of the financial district into the South of Market area. More characteristic were warehouses and businesses which supported the nearby office district. For example, the Furniture Exchange at the northwest corner of New Montgomery and Howard Streets, completed in 1920, was oriented to other wholesale and showroom uses along Howard Street.

One block to the east, Second Street had a different history from New Montgomery Street. The future of Second Street as an extension of the downtown depended upon the southward extension of the street through the hill south of Howard Street. At one time there was even a proposal to extend Second Street north in order to connect with Montgomery Street. The decision to extend Montgomery Street south rather than Second Street north due to the high cost of the Second Street Cut, however, discouraged retail and office growth on the street. As a result, by the 1880's Second Street was established as a wholesaling rather than retail or office area. In the 1920's, Second Street contained a wide

mixture of office support services. These included printers, binderies, a saddlery, a wholesale pharmaceutical outlet, and a variety of other retail stores and smaller offices. Industrial uses were commonly located on the alleyways such as Minna and Natoma and on Second Street, south of Howard Street.

Howard Street between 1st and 3rd Street became a popular and convenient extension for retail and wholesale dealers after 1906. As with Mission Street, the area still contains a number of smaller commercial loft structures that represent some of the best examples within the district, such as the Volker Building at 625 Howard Street, the Crellin Building at 583 Howard Street, and the Sharon Estate Building at 667 Howard Street.

The transformation of much of the area within the boundaries of the New Montgomery-Mission-Second Street Conservation District into a southerly extension of downtown was reflected in the large number of multi-story structures built along both Mission and Market streets. The intersection of 3rd and Mission evolved into the most important intersections in the survey area, bracketed on three corners by important early skyscrapers, including the rebuilt Aronson Building on the northwest corner, the Williams Buildings on the southeast corner, and the Gunst Building (demolished) on the southwest corner.

(b) **Basic Nature of the District.** New Montgomery Street is characterized by large buildings that often occupy an entire section of a block defined by streets and alleys or a major portion of these subblocks. The buildings are of a variety of heights, but the heights of most of the buildings range from five to eight stories. Second Street is characterized by smaller, less architecturally significant buildings, but, because of their continuous streetwall, they form a more coherent streetscape. Without some sort of protection for the less significant buildings, the quality of the district would be lost due to pressure from the expanding office core.

(c) **Architectural Character.** *Most of the contributing buildings are designed in the American Commercial Style and feature facades divided into a tripartite arrangement consisting of a base, shaft, and capital.* Although the scale and size of the structures on New Montgomery Street are somewhat monumental, the area remains attractive for pedestrians. The street has *There are* a number of outstanding buildings concentrated on New Montgomery, such as the Palace Hotel, the Pacific Telephone *and Telegraph Building* tower, and the Sharon Building. *Ornamentation of district contributors is most often Renaissance-Baroque with later examples of Spanish, Colonial, Gothic Revival Styles, and Art Deco. Examples of t*~~T~~he styles range from the Gothic skyscraper massing and Art Deco detailing of the Pacific Telephone and Telegraph Building to the Renaissance Palazzo style of the Palace Hotel. The primary building materials are earthtone bricks, stone or terra cotta, with ornamental details executed in a variety of materials including terra cotta, metal, stucco and stone.

With the exceptions of corner buildings, Second Street, *Mission and Howard Streets have* has a smaller, more intimate scale. While on New Montgomery Street, buildings typically occupy an entire subblock, on Second Street, three or four small buildings will occupy the same area. The buildings are generally mixed-use office and retail structures, *two-to-seven* ~~*three to five*~~ stories in height, with Renaissance-influenced ornament.

The two streets are unified by several elements, including an architectural vocabulary which draws from similar historical sources, similar materials, scale, fenestration, color, stylistic origins, texture, and ornament.

(d) **Uniqueness and Location.** The District is located close to the central core of the financial district and is adjacent to an area projected for the future expansion. It is one of the few architecturally significant areas remaining largely intact in the South of Market area.

(e) **Visual and Functional Unity.** The District has a varied character ranging from the small and intimate on the alley streets to a more monumental scale on New

Montgomery. In spite of this wide range, the district forms a coherent entity due to the buildings' common architectural vocabulary and the rhythm of building masses created by the District's intersecting alleys.

(f) **Dynamic Continuity.** The District is an active part of the downtown area, and after some years of neglect is undergoing reinvestment, which is visible in the rehabilitation of the Pacific Telephone and Telegraph Building, and the repair and rehabilitation of other buildings in the District.

(g) **Benefits to the City and Its Residents.** The District is a microcosm of twentieth century commercial architecture, ranging from low-level speculative office blocks to the City's premier hotels and executive offices of the time. The District now houses a variety of uses from inexpensive restaurants and support commercial uses, such as printers, to executive offices. The area retains a comfortable human scale, which will become increasingly important as neighboring areas of the South of Market become more densely developed.

SEC. 6. FEATURES.

The exterior architectural features of the New Montgomery-*Mission*-Second Street District are as follows:

(a) **Massing and Composition.** Almost without exception, the buildings in the New Montgomery-*Mission*-Second Conservation District are built to the front property line and occupy the entire site. *Most buildings are either square or rectangular in plan, some with interior light courts to allow sunlight and air into the interiors of buildings. Nearly all cover their entire parcels, and their primary facades face the street.* Building massings along New Montgomery and Second Streets have different directional orientations. For the most part, the large buildings on New Montgomery Street are horizontally oriented, since they are built on relatively large lots, often occupying an entire blockface. Their horizontal width often exceeds their height.

The buildings on Second Street are built on much smaller lots, and hence have a vertical orientation. An exception on New Montgomery is the tower of the Pacific Telephone *and Telegraph* Building, whose soaring verticality is unique for that street.

To express the mass and weight of the structure, masonry materials are used on multi-dimensional wall surfaces with texture and depth, which simulates the qualities necessary to support the weight of a load-bearing wall.

Despite their differing orientation, almost all buildings share a two or three-part compositional arrangement. In addition, buildings are often divided into bays which establish a steady rhythm along the streets of the District. The rhythm is the result of fenestration, structural articulation or other detailing which breaks the facade into discrete segments. A common compositional device in the District is the emphasis placed upon either the end bays or the central bay.

(b) **Scale.** ~~*The scale of the District varies from the small buildings on Second Street to medium-scaled structures on New Montgomery Street. On the latter street,*~~ *More than two-thirds of the contributing buildings are three-to-eight story brick or concrete commercial loft buildings constructed during the five years after the 1906 Earthquake and Fire. The scale of the District varies from the small buildings on Howard, Mission, Natoma, and Second Streets, such as the Phoenix Desk Company Building at 666 Mission Street, the Burdette Building at 90 Second Street, and the Emerison Flag Company Building at 161 Natoma Street; to medium-scaled structures on Mission and New Montgomery Streets, such as the Veronica Building at 647 Mission Street, and the Standard Building at 111 New Montgomery Street; to large-scale buildings on New Montgomery Street, such as the Pacific Telephone and Telegraph Building at 140 New Montgomery. On New Montgomery Street*, the large facades are not commonly divided into smaller bays, establishing a medium scale when combined with the five- to eight-story height of the buildings. Similarly, the use of elaborate ornament on many of the buildings breaks their large facades into smaller sections and

accordingly reduces their scale. Second Street is characterized by much smaller buildings with more frequent use of vertical piers whose scale is very intimate for the South of Market area.

(c) **Materials and Color.** Various forms of masonry are the predominant building materials in the district. A number of buildings on the northern end of New Montgomery use brown or buff brick. Terra cotta is also used as a facing material, and is frequently glazed to resemble granite or other stones. On Second *and Mission* Street*s*, *several* many buildings are faced in stucco or painted masonry. To express the mass and weight of the structure, masonry materials are often rusticated at the ground and second story to increase the textural variation and sense of depth. *Several buildings along Howard Street are noteworthy because they are clad in brick in warm earth tones, exhibit fine masonry craftsmanship, and remain unpainted.*

The materials are generally colored light or medium earth tones, including white, cream, buff, yellow, and brown. Individual buildings generally use a few different tones of one color.

(d) **Detailing and Ornamentations.** Buildings range from industrial brick and stucco office/warehouses to ornately decorated office buildings. The details on the latter buildings are generally of Classical/Renaissance derivation and include projecting cornices and belt courses, rustication, columns and colonnades, and arches. Industrial commercial buildings are noted by their utilitarian nature, with limited areas or ornament applied at the cornice entablature and around windows.

SEC. 7. STANDARDS AND GUIDELINES FOR REVIEW OF NEW CONSTRUCTION AND CERTAIN ALTERATIONS.

(a) Standards. All construction of new buildings and all major alterations, which are subject to the provisions of Article 11 Sections 1110, 1111 through 1111.6 and 1113, shall be compatible with the District in general with respect to the building's composition and

massing, scale, materials and colors, and detailing and ornamentation, including those features described in Section 6 of this Appendix. Emphasis shall be placed on compatibility with those buildings in the area in which the new or altered building is located. In the case of major alterations, only those building characteristics that are affected by the proposed alteration shall be considered in assessing compatibility. Signs on buildings in conservation districts are subject to the provisions of Article 11 Section 1111.7.

The foregoing standards do not require, or even encourage, new buildings to imitate the styles of the past. Rather, they require the new to be compatible with the old. The determination of compatibility shall be made in accordance with the provisions of Section 309.

(b) **Guidelines.** The guidelines in this subsection shall be used in assessing compatibility.

(1) **Composition and Massing.** New construction should maintain the character of surrounding buildings by relating to their prevailing height, mass, proportions, rhythm and composition.

In addition to the consideration of sunlight access for the street, an appropriate streetwall height is established by reference to the prevailing height of the buildings on the block and especially that of adjacent buildings. The prevailing height of buildings on New Montgomery Street is between five and eight stories while buildings on Second Street commonly range from three to six stories. A setback at the streetwall height can permit additional height above the setback up to the height limit without breaking the continuity of the street wall.

Almost all existing buildings are built to the property or street line. This pattern, except in the case of carefully selected open spaces, should not be broken since it could damage the continuity of building rhythms and the definition of streets.

Proportions for new buildings should be established by the prevailing streetwall height and the width of existing buildings. On New Montgomery Street, the historic pattern of large lot development permits new buildings to have a horizontal orientation. In order to ensure that an established set of proportions is maintained on Second Street, new construction should break up facades into discrete elements that relate to prevailing building masses. The use of smaller bays and multiple building entrances are ways in which to relate the proportions of a new building with those of existing buildings.

The design of a new structure should repeat the prevailing pattern of two- and three-part vertical compositions. One-part buildings without bases do not adequately define the pedestrian streetscape and do not relate well to the prevailing two- and three-part structures.

(2) **Scale.** The existing scale can be accomplished in a variety of ways, including: a consistent use of size and complexity of detailing with regard to surrounding buildings, continuance of existing bay widths, maintenance of the existing streetwall height, and the use of a base element (of similar height) to maintain the pedestrian environment. Large wall surfaces, which increase a building's scale, should be broken up through the use of vertical piers, detailing and textural variation to reduce the scale of Second Street.

Existing fenestration (windows, entrances) and rhythms which have been established by lot width or bay width should be repeated in new structures. The spacing and size of window openings should follow the sequence set by historic structures. Large glass areas should be broken up by mullions so that the scale of glazed areas is compatible with that of neighboring buildings. Casement and double-hung windows should be used where possible since most existing buildings use these window types.

(3) **Materials and Colors.** The use of masonry and stone materials or materials that appear similar (such as substituting concrete for stone) can link two disparate

structures, or harmonize the appearance of a new structure with the architectural character of a Conservation District. The preferred surface materials for this District are brick, stone, terra cotta and concrete (simulated to look like terra cotta or stone).

The texture of surfaces can be treated in a manner so as to emphasize the bearing function of the material, as is done with rustication on the Rialto Building. Traditional light colors should be used in order to blend in with the character of the district. Dissimilar buildings may be made more compatible by using similar or harmonious colors, and to a lesser extent, by using similar textures.

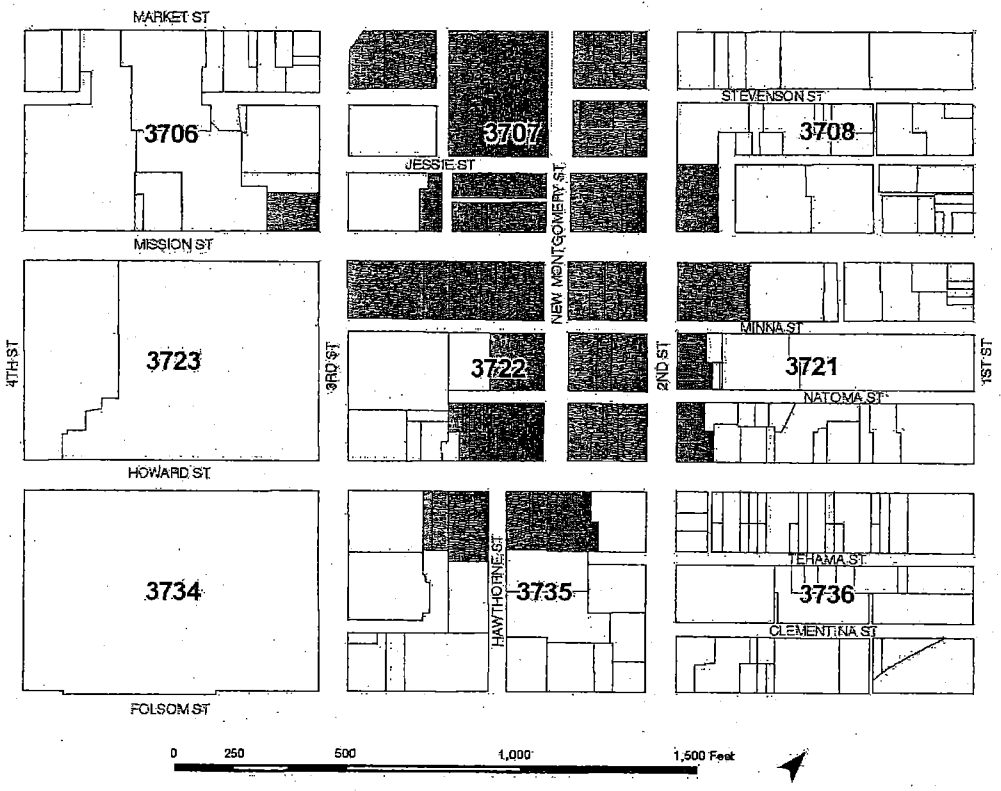
(4) **Detailing and Ornamentation.** A new building should relate to the surrounding area by picking up elements from surrounding buildings and repeating them or developing them for new purposes. The new structure should incorporate prevailing cornice lines or belt courses. A variety of Renaissance/Baroque, Gothic and Moderne ornament in the District provides sources for detailing in new buildings in order to strengthen their relationship. Similarly shaped forms can be used as detailing without directly copying historical ornament.

SEC. 8. TDR; ELIGIBILITY OF CATEGORY V BUILDINGS.

Category V Buildings in that portion of the New Montgomery-*Mission*-Second Street Conservation District which is in the 150-S Height District as shown on Sectional Map 1H of the Zoning Map are eligible for the transfer of TDR as provided in Section 1109(c).

NOTE TO EDITOR: Delete existing Map in Appendix F and replace with the following Map:

New Montgomery-Mission-Second Street Conservation District



Appendix A TO ARTICLE 11 - Category I Buildings

CATEGORY I BUILDINGS			
Address of Building	Block	Lot(s)	Name of Building
22 Battery	266	6	Postal Telegraph
98 Battery	266	8	Levi Strauss
99 Battery	267	1	Donahoe
100 Bush	267	4	Shell
130 Bush	267	9	Heineman
200 Bush	268	2	Standard Oil
225 Bush	289	1, 7	Standard Oil
381 Bush	288	17	Alto
445 Bush	287	25	Pacific States
460 Bush	270	33	Fire Station No. 2
564 Bush	271	12	Notre Dame des Victoires

158 California	236	5	Marine
240 California	237	9	Tadich's Grill (Buich)
260 California	237	11	Newhall
301 California	261	1	Robert Dollar Bldg.
341 California	261	10A	Harold Dollar Bldg.
400 California	239	3	Bank of California
433 California	260	16	Insurance Exchange
465 California	260	15	Merchants Exchange
554 Commercial	228	22	
564 Commercial	228	23	
569 Commercial	228	11	PG&E Station J
119 Ellis	330	23	Continental Hotel
42 - 50 Fell	814	10	
67 Fifth	3705	21, 23	Pickwick Hotel
231 First	3737	23	
234 First	3736	6	Phillips
54 Fourth	3705	4	Keystone Hotel
150 Franklin	834	12	Whiteside Apts.
251 Front	237	1	DeBernardi's
2 Geary	310	6	
10 Geary	310	5	Schaidt
28 Geary	310	8	Rosenstock
108 Geary	309	4	Marion
120 Geary	309	5	E. Simon
132 Geary	309	6	Sacs
166 Geary	309	10	Whittell
285 Geary	314	12	St. Paul
293 Geary	314	11	Lincoln
301 Geary	315	1	Elkan Gunst
415 Geary	316	1A	Geary Theater
445 Geary	316	18A	Curran Theater
491 Geary	316	13	Clift Hotel
501 Geary	317	1	Bellvue Apt.
42 Golden Gate	343	2	Golden Gate Theater
200 Golden Gate	345	4	YMCA
1 Grant	313	8	Security Pacific Bank
17 Grant	313	7	Zobel
50 Grant	312	8	Ransohoff-Liebes
201 Grant	294	6	Shreve
220 Grant	293	8	Phoenix
233 Grant	294	5	
301 Grant	286	5	Myers
311 Grant	286	4	Abramson
333 Grant	286	2	Home Telephone
334 Grant	287	17	Beverly Plaza Hotel
101 Howard	3740	1	Folger Coffee
1049 Howard	3731	74	
125 Hyde	346	3B	Rulf's File Exchange

16 Jessie	3708	22	One Ecker
1 Jones	349	3	Hibernia Bank
25 Kearny	310	4	O'Bear
49 Kearny	310	2	Rouillier
153 Kearny	293	2	Bartlett Doe
161 Kearny	293	1	Eyre
200 Kearny	288	11	
201 Kearny	287	8	
251 Kearny	287	1	Charleston
333 Kearny	270	2	Macdonough
344 Kearny	269	9	Harrigan Weidenmuller
346 Kearny	269	27p	
362 Kearny	269	27p	
222 Leidesdorff	228	6	PG&E Station J
1 Market	3713	6	Southern Pacific
215 Market	3711	18	Matson
245 Market	3711	14A	Pacific Gas & Electric
540 Market	291	1	Flatiron
562 Market	291	5	Chancery
576 Market	291	5B	Finance
582 Market	291	6	Hobart
641 Market	3722	69	
660 Market	311	5	
673 Market	3707	51	Monadnock
691 Market	3707	57	Hearst
704 Market	312	10	Citizen's Savings
722 Market	312	9	Bankers Investment
744 Market	312	6	Wells Fargo
760 Market	328	1	Phelan
783 Market	3706	48	Humboldt
801 Market	3705	1	Pacific
835 Market	3705	43	Emporium
870 Market	329	5	Flood
901 Market	3704	1	Hale Brothers
938 Market	341	5	
948 Market	341	6	Mechanics Savings
982 Market	342	17	Warfield Theater
1000 Market	350	1	San Christina
1072 Market	350	4	Crocker Bank
1095 Market	3703	59	Grant
1100 Market	351	1	Hotel Shaw
1182 Market	351	22	Orpheum Theater
1301 Market	3508	1	Merchandise Mart
34 Mason	341	7	Rubyhill Vineyard
101 Mason	331	6	Hotel Mason
120 Mason	330	13	Kowalsky Apts.
602 Mason	284	12	

83 McAllister	351	32	Methodist Book Concern
100 McAllister	348	6	Hastings Dormitory
132 McAllister	348	7	Argyle Hotel
447 Minna	3725	76	
54 Mint	3704	34	McElnoy
66 Mint	3704	12	Remedial Loan
1 Mission	3715	1	Audiffred
647 Mission	3722	69	
1018 Mission	3703	81	Kean Hotel
130 Montgomery	289	6	French Bank
149 Montgomery	288	1	Alexander
220 Montgomery	268	6 - 8	Mills
235 Montgomery	269	1	Russ
300 Montgomery	260	10	Bank of America
315 Montgomery	259	21	California Commercial Union
400 Montgomery	239	9	Kohl
405 Montgomery	240	3	Financial Center
500 Montgomery	228	13	American-Asian Bank
520 Montgomery	228	15	Paoli's
552 Montgomery	228	28, 29	Bank of America
116 Natoma	3722	6	N. Clark
147 Natoma	3722	13	Underwriter Fire
39 New Montgomery	3707	35	Sharon
74 New Montgomery	3707	33	Call
79 New Montgomery	3707	14	
116 New Montgomery	3722	71	Rialto
134 New Montgomery	3722	8	Pacific Telephone
201 Ninth	3729	82	
20 O'Farrell	313	10	Kohler-Chase
235 O'Farrell	3261	8	Hotel Barclay
301 Pine	268	1	Pacific Stock Exchange
333 Pine	268	16	Chamber of Commerce
348 Pine	260	8	Dividend
57 Post	311	13	Mechanic's Institute
117 Post	310	22	O'Connor Moffat
126 Post	293	5	Rochat Cordes
165 Post	310	20	Rothchild
175 Post	310	19	Liebes
180 Post	293	7	Hastings
201 Post	309	1	Head
225 Post	309	27	S. Christian
275 Post	309	22	Lathrop

278 Post	294	11	Joseph Fredericks
340 Post	295	5	Bullock & Jones
442 Post	296	8	Chamberlain
450 Post	296	9	Elk's Club
470 Post	296	10	Medico-Dental
491 Post	307	9	1st Congregational Church
524 Post	297	5	Olympic Club
600 Post	298	6	Alvarado Hotel
1 Powell	330	5	Bank of America
200 Powell	314	7	Omar Khayyam's
301 Powell	307	1	St. Francis Hotel
432 Powell	295	8	Sir Francis Drake
433 Powell	296	5	Chancellor Hotel
449 Powell	296	1	Foetz
540 Powell	285	9	Elk's Club Old
114 Sansome	267	10	Adam Grant
155 Sansome	268	1A	Stock Exchange Tower
200 Sansome	261	7	American International
201 Sansome	260	5	Royal Globe Insurance
221 Sansome	260	4	
231 Sansome	260	3	TC Kierloff
233 Sansome	260	2	Fireman's Fund
400 Sansome	229	3	Federal Reserve
401 Sansome	228	4	Sun
407 Sansome	228	3	
71 - 85 Second	3708	19	Pacific Bell Building
121 Second	3721	71	Rapp
132 Second	3722	3	
133 Second	*3721*	*51*	*Morton L. Cook*
141 Second	3721	50	
6 Seventh	3702	1	Odd Fellow's
106 Sixth	3726	2	
201 Sixth	3732	124	Hotel Argonne
111 Stevenson	3707	44	Palace Garage
46 Stockton	328	4	J. Magnin
101 Stockton	314	2	Macy's
234 Stockton	309	20	Schroth's
600 Stockton	257	12	Metropolitan Life Ins. Co.
108 Sutter	288	7	French Bank
111 Sutter	292	1	Hunter-Dulin
130 Sutter	288	27	Hallidie
216 Sutter	287	9	Rose

255 Sutter	293	9	White House
256 Sutter	287	11	Sather
266 Sutter	287	12	Bemiss
301 Sutter	294	1	Hammersmith
312 Sutter	286	7	Nutall
391 Sutter	294	15	Galen
445 Sutter	295	10p	Pacific Gas & Electric
447 Sutter	295	10p	Pacific Gas & Electric
450 Sutter	285	6	Medical-Dental
500 Sutter	284	4	Physician's
609 Sutter	297	1	Marines Memorial
620 Sutter	283	4A	
640 Sutter	283	22	Metropolitan
403 Taylor	317	3	Hotel California
624 Taylor	297	7	Bohemian Club
701 Taylor	282	4A	
2 Turk	340	4	Oxford Hotel
11 Van Ness	834	4	Masonic Temple
700-706 Mission (86 Third)	*3706*	*93*	*Mercantile or Aronson*
145 Natoma	*3722*	*14*	

Appendix C TO ARTICLE 11 - Category III Buildings

CATEGORY III BUILDINGS			
Address of Building	Block	Lot(s)	Name of Building
566 Bush	271	24	Notre Dame des Victoires Rectory
608 Commercial	277	48	Original U.S. Mint & Subtreasury
33 Drumm	235	5	
37 Drumm	235	19	
51 Grant	313	3	Eleanor Green
342 Howard	3719	8	
657 Howard	3735	41	San Francisco News
667 Howard	3735	39	
1097 Howard	3731	42	Blindcraft
1234 Howard	3728	14	Guilfoy Cornice
96 Jessie	3708	32	
703 Market	3706	1	Central Tower
1083 Market	3703	61	
1582 Market	836	10	Miramar Apts.
658 Mission	3707	20	
678 Mission	3703	21	Builders' Exchange Building
1087 Mission	3726	106	

Transportation and Street Improvement Fee dedicated to addressing Transit Delay Mitigation and $2 (two) million of the Transit Center District Plan Open Space Fee shall not be eligible for in-kind credit against TCDP Impact Fees payments. Further, the Board hereby requires, as a condition of the In-Kind Agreement, that the City Planning Director enter into an Agreement with the TJPA that stipulates that if the TJPA does not allocate and obligate the Tower Developer's TCDP Impact Fee revenues to the improvements as set forth above and identified in the Agreement, the City shall allocate the amount of Impact Fee revenue equivalent to the unallocated and unobligated amount so that such revenues are available for: (i) other improvements consistent with the purpose of the respective Impact Fees, or, (ii) as determined by the Planning Commission and based on recommendation by the Interagency Plan Implementation Committee, used by the TJPA to fund alternative improvements consistent with the purposes of the Impact Fees.

(b) **Previously Entitled Projects.** Notwithstanding Section 123 as proposed for amendment, any unbuilt project that obtained Planning Commission approval January 1, 2012 may apply Transferrable Development Rights (TDR) to exceed a floor area ratio of 9.0:1 and shall be eligible for partial waiver of certain impact fees as described in Section 424.7.2(c)(3) and 424.7.2(c)(5).

Section 4. Effective Date. This ordinance shall become effective 30 days from the date of passage.

Section 5. This section is uncodified. In enacting this Ordinance, the Board intends to amend only those words, phrases, paragraphs, subsections, sections, articles, numbers, punctuation, charts, diagrams, or any other constituent part of the Planning Code that are explicitly shown in this legislation as additions, deletions, Board amendment additions, and Board amendment deletions in accordance with the "Note" that appears under the official title of the legislation.

APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: _____
John D. Malamut
Deputy City Attorney

City and County of San Francisco
Tails
Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 120665 **Date Passed:** July 31, 2012

Ordinance: 1) amending the San Francisco Planning Code by amending and adding sections consistent with the Transit Center District Plan, including the establishment of the Transit Center District Plan open space and transportation fees and the expansion and renaming of the New Montgomery-Mission-Second Street Conservation District, and 2) making findings, including environmental findings and findings of consistency with the General Plan, as proposed for amendment, and Planning Code Section 101.1.

July 16, 2012 Land Use and Economic Development Committee - RECOMMENDED

July 24, 2012 Board of Supervisors - PASSED, ON FIRST READING

Ayes: 10 - Avalos, Campos, Chiu, Chu, Cohen, Elsbernd, Kim, Mar, Olague and Wiener
Excused: 1 - Farrell

July 31, 2012 Board of Supervisors - FINALLY PASSED

Ayes: 10 - Avalos, Campos, Chiu, Chu, Cohen, Elsbernd, Farrell, Mar, Olague and Wiener
Absent: 1 - Kim

File No. 120665

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 7/31/2012 by the Board of Supervisors of the City and County of San Francisco.

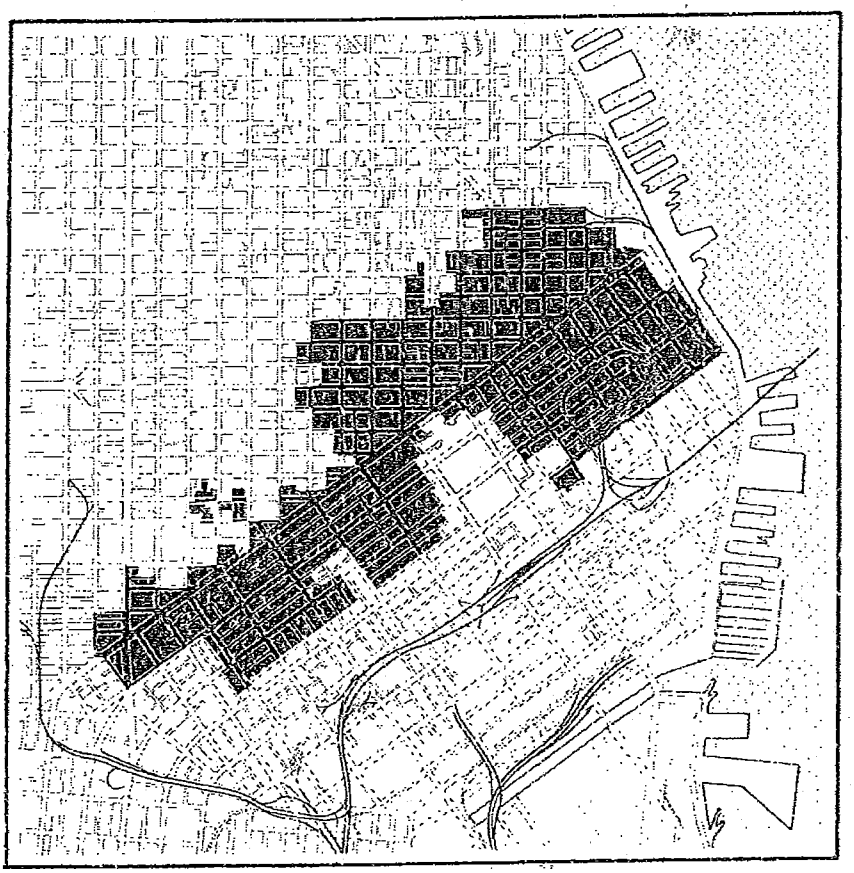
Angela Calvillo
Clerk of the Board

Mayor

8/8/12
Date Approved

EXHIBIT 5

DOWNTOWN



DOWNTOWN

DOWNTOWN

DOWNTOWN

AN AREA PLAN OF THE MASTER PLAN OF
THE CITY AND COUNTY OF SAN FRANCISCO



DOWNTOWN

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THE CITY AND COUNTY OF SAN FRANCISCO

DEPARTMENT OF CITY PLANNING

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SUMMARY OF OBJECTIVES AND POLICIES

SPACE FOR COMMERCE

OBJECTIVE 1

MANAGE ECONOMIC GROWTH AND CHANGE TO ENSURE ENHANCEMENT OF THE TOTAL CITY LIVING AND WORKING ENVIRONMENT.

POLICY 1

Encourage development which produces substantial net benefits and minimizes undesirable consequences. Discourage development which has substantial undesirable consequences which cannot be mitigated.

OBJECTIVE 2

MAINTAIN AND IMPROVE SAN FRANCISCO'S POSITION AS A PRIME LOCATION FOR FINANCIAL, ADMINISTRATIVE, CORPORATE, AND PROFESSIONAL ACTIVITY.

POLICY 1

Encourage prime downtown office activities to grow as long as undesirable consequences of such growth can be controlled.

POLICY 2

Guide location of office development to maintain a compact downtown core and minimize displacement of other uses.

OBJECTIVE 3

IMPROVE DOWNTOWN SAN FRANCISCO's POSITION AS THE REGION'S PRIME LOCATION FOR SPECIALIZED RETAIL TRADE.

POLICY 1

Maintain high quality, specialty retail shopping facilities in the retail core.

POLICY 2

Encourage the retail businesses which serve the shopping needs of less affluent downtown workers and local residents.

POLICY 3

Preserve retail service businesses in upper floor offices in the retail district.

POLICY 4

Limit the amount of downtown retail space outside the retail district to avoid detracting from its economic vitality.

POLICY 5

Meet the convenience needs of daytime downtown workers.

OBJECTIVE 4

ENHANCE SAN FRANCISCO'S ROLE AS A TOURIST AND VISITOR CENTER.

POLICY 1

Guide the location of new hotels to minimize their adverse impacts on circulation, existing uses, and scale of development.

OBJECTIVE 5

RETAIN A DIVERSE BASE OF SUPPORT COMMERCIAL ACTIVITY IN AND NEAR DOWNTOWN.

POLICY 1

Provide space for support commercial activities within the downtown and in adjacent areas.

OBJECTIVE 6

WITHIN ACCEPTABLE LEVELS OF DENSITY, PROVIDE SPACE FOR FUTURE OFFICE, RETAIL, HOTEL, SERVICE AND RELATED USES IN DOWNTOWN SAN FRANCISCO.

POLICY 1

Adopt a downtown land use and density plan which establishes subareas of downtown with individualized controls to guide the density and location of permitted land use.

SPACE FOR HOUSING

OBJECTIVE 7

EXPAND THE SUPPLY OF HOUSING IN AND ADJACENT TO DOWNTOWN.

POLICY 1

Promote the inclusion of housing in downtown commercial developments.

POLICY 2

Facilitate conversion of underused industrial and commercial areas to residential use.

OBJECTIVE 8

PROTECT RESIDENTIAL USES IN AND ADJACENT TO DOWNTOWN FROM ENCROACHMENT BY COMMERCIAL USES.

POLICY 1

Restrict the demolition and conversion of housing in commercial areas.

POLICY 2

Preserve existing residential hotels.

OPEN SPACE

OBJECTIVE 9

PROVIDE QUALITY OPEN SPACE IN SUFFICIENT QUANTITY AND VARIETY TO MEET THE NEEDS OF DOWNTOWN WORKERS, RESIDENTS, AND VISITORS.

POLICY 1

Require usable indoor and outdoor open space, accessible to the public, as part of new downtown development.

POLICY 2

Provide different kinds of open space downtown.

POLICY 3

Give priority to development of two categories of highly valued open space; sunlit plazas and parks.

POLICY 4

Provide a variety of seating arrangements in open spaces throughout downtown.

POLICY 5

Improve the usefulness of publicly owned rights-of-way as open space.

OBJECTIVE 10

ASSURE THAT OPEN SPACES ARE ACCESSIBLE AND USABLE.

POLICY 1

Develop an open space system that gives every person living and working downtown access to a sizable sunlit open space within convenient walking distance.

POLICY 2

Encourage the creation of new open spaces that become a part of an interconnected pedestrian network.

POLICY 3

Keep open space facilities available to the public.

POLICY 4

Provide open space that is clearly visible and easily reached from the street or pedestrian way.

POLICY 5

Address the need for human comfort in the design of open spaces by minimizing wind and maximizing sunshine.

OBJECTIVE 11

PROVIDE CONTRAST AND FORM BY CONSCIOUSLY TREATING OPEN SPACE AS A COUNTERPOINT TO THE BUILT ENVIRONMENT.

POLICY 1

Place and arrange open space to complement and structure the urban form by creating distinct openings in the otherwise dominant streetwall form of downtown.

POLICY 2

Introduce elements of the natural environment in open space to contrast with the built-up environment.

PRESERVING THE PAST

OBJECTIVE 12

CONSERVE RESOURCES THAT PROVIDE CONTINUITY WITH SAN FRANCISCO'S PAST.

POLICY 1

Preserve notable landmarks and areas of historic, architectural, or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

POLICY 2

Use care in remodeling significant older buildings to enhance rather than weaken their original character.

POLICY 3

Design new buildings to respect the character of older development nearby.

URBAN FORM

Height and Bulk

OBJECTIVE 13

CREATE AN URBAN FORM FOR DOWNTOWN THAT ENHANCES SAN FRANCISCO'S STATURE AS ONE OF THE WORLD'S MOST VISUALLY ATTRACTIVE CITIES.

POLICY 1

Relate the height of buildings to important attributes of the city pattern and to the height and character of existing and proposed development.

POLICY 2

Foster sculpturing of building form to create less overpowering buildings and more interesting building tops, particularly the tops of towers.

POLICY 3

Create visually interesting terminations to building towers.

POLICY 4

Maintain separation between buildings to preserve light and air and prevent excessive bulk.

Sunlight and Wind

OBJECTIVE 14

CREATE AND MAINTAIN A COMFORTABLE PEDESTRIAN ENVIRONMENT.

POLICY 1

Promote building forms that will maximize the sun access to open spaces and other public areas.

POLICY 2

Promote building forms that will minimize the creation of surface winds near the base of buildings.

Building Appearance

OBJECTIVE 15

TO CREATE A BUILDING FORM THAT IS VISUALLY INTERESTING AND HARMONIZES WITH SURROUNDING BUILDINGS.

POLICY 1

Ensure that new facades relate harmoniously with nearby facade patterns.

POLICY 2

Assure that new buildings contribute to the visual unity of the city.

POLICY 3

Encourage more variation in building facades and greater harmony with older buildings through use of architectural embellishments and bay or recessed windows.

Streetscape

OBJECTIVE 16

CREATE AND MAINTAIN ATTRACTIVE, INTERESTING URBAN STREETSCAPES

POLICY 1

Conserve the traditional street to building relationship that characterizes downtown San Francisco.

POLICY 2

Provide setbacks above a building base to maintain the continuity of the predominant streetwalls along the street.

POLICY 3

Maintain and enhance the traditional downtown street pattern of projecting cornices on smaller buildings and projecting belt courses on taller buildings.

POLICY 4

Use designs and materials and include activities at the ground floor to create pedestrian interest.

POLICY 5

Encourage the incorporation of publicly visible art works in new private development and in various public spaces downtown.

MOVING ABOUT

MOVING TO AND FROM DOWNTOWN

OBJECTIVE 17

DEVELOP TRANSIT AS THE PRIMARY MODE OF TRAVEL TO AND FROM DOWNTOWN.

POLICY 1

Build and maintain rapid transit lines from downtown to all suburban corridors and major centers of activity in San Francisco.

POLICY 2

Expand existing non-rail transit service to downtown.

POLICY 3

Establish exclusive transit lanes on bridges, freeways and city streets where significant transit service exists.

POLICY 4

Coordinate regional and local transportation systems and provide for interline transit transfers.

POLICY 5

Provide for commuter bus loading at off-street terminals and at special curbside loading areas at non-congested locations.

POLICY 6

Make convenient transfers possible by establishing common or closely located terminals for local and regional transit systems.

POLICY 7

Continue ferries and other forms of water-based transportation as an alternative method of travel between San Francisco and the north bay.

OBJECTIVE 18

ENSURE THAT THE NUMBER OF AUTO TRIPS TO AND FROM DOWNTOWN WILL NOT BE DETRIMENTAL TO THE GROWTH OR AMENITY OF DOWNTOWN.

POLICY 1

Do not increase (and where possible reduce) the existing automobile capacity of the bridges, highways and freeways entering the city.

POLICY 2

Provide incentives for the use of transit, carpools and vanpools, and reduce the need for new or expanded automobile parking facilities.

POLICY 3

Discourage new long-term commuter parking spaces in and around downtown. Limit long-term parking spaces serving downtown to the number that already exists.

POLICY 4

Locate any new long-term parking structures in areas peripheral to downtown. Any new peripheral parking structures should: be concentrated to make transit service efficient and convenient; be connected to transit shuttle service to downtown; provide preferred space and rates for van and car pool vehicles.

POLICY 5

Discourage proliferation of surface parking as an interim land use, particularly where sound residential, commercial or industrial buildings would be demolished.

OBJECTIVE 19

PROVIDE FOR SAFE AND CONVENIENT BICYCLE USE AS A MEANS OF TRANSPORTATION.

POLICY 1

Include facilities for bicycle users in governmental, commercial, and residential developments.

POLICY 2

Accommodate bicycles on regional transit facilities and important regional transportation links.

POLICY 3

Provide adequate and secure bicycle parking at transit terminals.

MOVING AROUND DOWNTOWN

OBJECTIVE 20

PROVIDE FOR THE EFFICIENT, CONVENIENT AND COMFORTABLE MOVEMENT OF PEOPLE AND GOODS, TRANSIT VEHICLES AND AUTOMOBILES WITHIN THE DOWNTOWN.

POLICY 1

Develop the downtown core as an automobile control area.

POLICY 2

Organize and control traffic circulation to reduce congestion in the core caused by through traffic and to channel vehicles into peripheral parking facilities.

POLICY 3

Locate drive-in, automobile-oriented, quick-stop and other auto-oriented uses on sites outside the office retail, and general commercial districts of downtown.

POLICY 4

Improve speed of transit travel and service by giving priority to transit vehicles where conflicts with auto traffic occur, and by establishing a transit preferential streets system.

POLICY 5

Develop shuttle transit systems to supplement trunk lines for travel within the greater downtown area.

POLICY 6

Maintain a taxi service adequate to meet the needs of the city and to keep far as reasonable.

POLICY 7

Encourage short-term use of existing parking spaces within and adjacent to the downtown core by converting all-day commuter parking to short-term parking in areas of high demand. Provide needed additional short-term parking structures in peripheral locations around but not within the downtown core, preferably in the short-term parking belt.

POLICY 8

Make existing and new accessory parking available to the general public for evening and weekend use.

OBJECTIVE 21

IMPROVE FACILITIES FOR FREIGHT DELIVERIES AND BUSINESS SERVICES.

POLICY 1

Provide off-street facilities for freight loading and service vehicles on the site of new buildings sufficient to meet the demands generated by the intended uses. Seek opportunities to create new existing buildings.

POLICY 2

Discourage access to off-street freight loading and service vehicle facilities from transit preferential streets, or pedestrian-oriented streets and alleys.

POLICY 3

Encourage consolidation of freight deliveries and night-time deliveries to produce greater efficiency and reduce congestion.

POLICY 4

Provide limited loading spaces on street to meet the need for peak period or short-term small deliveries and essential services, and strictly enforce their use.

POLICY 5

Require large new hotels to provide off-street passenger loading and unloading of tour buses.

OBJECTIVE 22

IMPROVE THE DOWNTOWN PEDESTRIAN CIRCULATION SYSTEM, ESPECIALLY WITHIN THE CORE, TO PROVIDE FOR EFFICIENT, COMFORTABLE, AND SAFE MOVEMENT.

POLICY 1

Provide sufficient pedestrian movement space.

POLICY 2

Minimize obstructions to through pedestrian movement on sidewalks in the downtown core.

POLICY 3

Ensure convenient and safe pedestrian crossings.

POLICY 4

Create a pedestrian network in the downtown core area that includes streets devoted to or primarily oriented to pedestrian use.

POLICY 5

Improve the ambience of the pedestrian environment.

SEISMIC SAFETY

OBJECTIVE 23

REDUCE HAZARDS TO LIFE SAFETY AND MINIMIZE PROPERTY DAMAGE AND ECONOMIC DISLOCATION RESULTING FROM FUTURE EARTHQUAKES

POLICY 1

Apply a minimum level of acceptable risk to structures and uses of land based upon the nature of the use, importance of the use to public safety and welfare, and density of occupancy.

POLICY 2

Initiate orderly abatement of hazards from existing buildings and structures, while preserving the architectural design character of important buildings.

POLICY 3

Require geologic or soil engineering site investigation and compensating structural design based on findings for all new structures in special geologic study areas.

POLICY 4

Review and amend at regular intervals all relevant public codes to incorporate the most current knowledge and highest standards of seismic design, and support seismic research through appropriate actions by all public agencies.

DOWNTOWN

INTRODUCTION

This is the area plan for Downtown San Francisco. It contains objectives and policies to guide decisions affecting the downtown area. It also contains some of the background to the objectives and policies and some of the key actions to implement them; they are described more extensively in the separate publication of the Plan.

The Downtown Plan grows out of an awareness of the public concern in recent years over the degree of change occurring downtown — and of the often conflicting civic objectives between fostering a vital economy and retaining the urban patterns and structures which collectively for the physical essence of San Francisco.

The Plan foresees a downtown known the world over as a center of ideas, services and trade and as a place for stimulating experiences. In essence, downtown San Francisco should encompass a compact mix of activities, historical values, and distinctive architecture and urban forms that engender a special excitement reflective of a world city.

SPACE FOR COMMERCE

OBJECTIVES AND POLICIES

OBJECTIVE 1

MANAGE ECONOMIC GROWTH AND CHANGE TO ENSURE ENHANCEMENT OF THE TOTAL CITY LIVING AND WORKING ENVIRONMENT.

POLICY 1

Encourage development which produces substantial net benefits and minimizes undesirable consequences. Discourage development which has substantial undesirable consequences which cannot be mitigated.

The Downtown Plan recognizes the need to create jobs, especially for San Franciscans, and to continue San Francisco's role as an international center of commerce and services. New jobs to enhance these city functions, to expand employment opportunities, and to provide

added tax resources, make downtown growth at a reasonable scale a desirable course for the city.

Downtown provides the principal source of new jobs for city residents. Currently, 56 percent of the 280,000 existing downtown jobs are held by San Franciscans. New jobs are expected to provide opportunities at all skill and wage levels. A likely distribution of new jobs by occupation is: professional, technical, administrative, managerial, about 50%; clerical, sales, and service, about 40%; crafts, operatives, and other, about 10%. A likely distribution of new jobs by wages and salaries is: less that $15,000, about 25%; $15,000-$24,999 about 34%; $25,000-$49,999 about 30%; and $50,000 and above about 11%.

The City Planning Commission now requires the sponsors of new downtown buildings to notify the city at least six months prior to project completion, of prospective building tenants and job opportunities, particularly entry level positions. This information is used to design and structure job training programs and help direct those seeking employment to job opportunities. These efforts should be intensified with new methods initiated to increase the percentage of new jobs going to San Franciscans.

The focus of the Plan is to allow appropriate growth but to manage vigorously its effects — preventing building where change would diminish the city's character or livability. The maximum potential for growth under the recommended Plan is considerably less than under the current Planning Code. The existing Code permits a level of growth far in excess of what can be realistically expected or, more importantly, what is desirable. Under the Plan's proposals the downtown growth rate for offices is projected to be slowed significantly, from an average of 1.6 million square feet per year to 840 thousand square feet per year.

It is the premise of the Plan that if the transportation and housing policies and targets, its recommendations for the height, bulk, and density of buildings, and open space features are followed, this lower rate of growth projected for the city can continue without adverse consequences. On the other hand, if this Plan or proposals similar in nature or intent are not followed, the growth rate may need to be slowed as a matter of deliberate public policy.

Key sections of the Plan identify what must be done to absorb new job growth in San Francisco, particularly in two critical supporting systems — transportation and housing. The Plan contains these basic targets: an annual average of 1,000 to 1,500 housing units should be built to reduce the effects of increased employment on the housing market. It also indicates that ridesharing must be expanded to a point where the number of persons commuting by auto or van increases from 1.48 to 1.66 persons per vehicles. The use of transit by downtown workers must increase from 60% to 67% of all work trips in order to avoid unacceptable levels of congestion.

The Residence Element of the Master Plan lays out a course by which the housing targets may be achieved. The Moving About Chapter of this Plan lays out a course by which the transportation targets may be achieved. The Transit Development Fee assessing new office construction $5 per foot to assist in expanding public transit, and the Office Housing Production Program requiring housing assistance in proportion to office space added will assist in meeting these targets.

Few issues stimulate as much public debate as do downtown development and implications of growth in new office construction.

The C-3 districts of downtown San Francisco represent the largest concentration of commercial activity and employment in the Bay Region. There are four principal kinds of commercial uses downtown: office, retail, hotel, and support commercial. The demand for these various types of space and the implications of accommodating that demand are primary concerns of this Plan.

OFFICE SPACE

Background

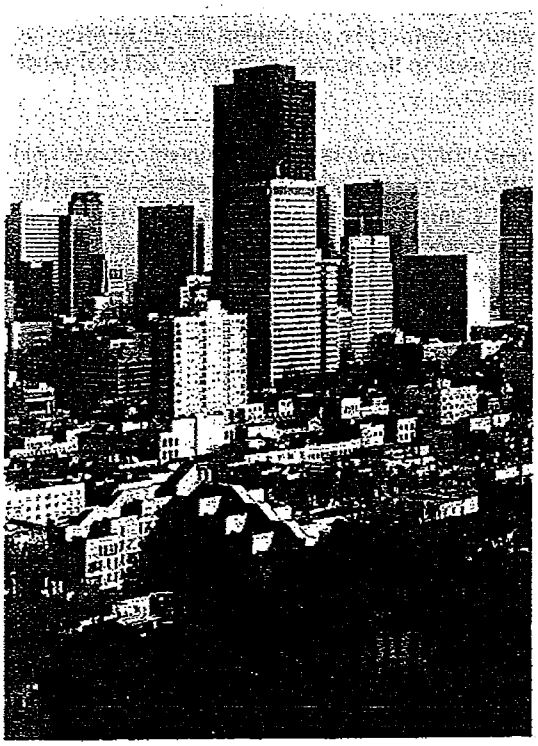
Office space in downtown San Francisco provides the city and Bay Area with an active source of employment and a strong economic base that generates activity and employment in other sectors of the local and regional economy. More than 60 million square feet of office space combine with about 40 million square feet of retail, hotel, housing, cultural, institutional, industrial and other related space in the C-3 district. This total of over 100 million square feet of space provides employment opportunities for more than 280,000 city and Bay Area residents.

A wide variety of business activities are conducted in downtown office space. Corporate headquarters, financial institutions, insurance companies, major utilities, business and professional services occupy more than 42

million square feet in the primary office (C-3-O) district. Over 220,000 office workers are employed in a wide range of managerial, professional, clerical, and less skilled occupations serving international, national, regional and local markets. These activities include executive, administrative and information processing functions. Rental rates for space in this district are among the highest in the region, reflecting the desirability of this location.

In addition to office space in the C-3-O district, almost five million square feet of office space are located in the C-3-R district. Another nine million square feet are in the C-3-G district, and five million square feet are in the C-3-S district. In addition to the primary office activities, office space in these areas contains government services, wholesaling, display, customer services, import-export trade, and retail service businesses.

The supply of downtown office space has shown unprecedented growth in recent years. During the 17 years between 1965 and 1981 office building construction in the city more than doubled, growing from 26 million square feet to 55 million square feet. This represents an average annual growth rate of more than 1.7 million square feet per year. Most of this space was built in the C-3 districts.



Most of the rapid growth has occurred in the C-3-O district, where corporate, administrative, managerial, real estate, advertising and public relations firms value the prestige and image of a location in downtown San Francisco and benefit from close physical proximity and face-to-face contacts. Demand for C-3-O locations has remained strong. Competition for space in the more desirable locations has supported higher rents, spurred new construction, and expanded the size of the office district. As this has occurred, those office activities such as smaller businesses which are more sensitive to the cost of a central location have shifted to peripheral locations. They have brought pressure for conversion of non-office uses—such as retail, housing, and light industry—to office space. Other office activities particularly susceptible to automation and requiring buildings with large floor areas (such as information processing or "back office" functions) have sought more outlying sites and in some cases have chosen locations outside the C-3 districts to meet their space needs.

In addition to concern about displacement of non-office activities and loss of large "back office" activities, rapid growth of downtown office space has led to concern about the physical scale of development and its effect on urban form including skyline, sunlight and wind, open space, preservation of architecturally important buildings, and transportation.

As long as potential problems in these areas are avoided, downtown will remain the primary location for those activities of commerce attracted to San Francisco for its "image," its accessibility, close association with similar firms, support commercial services available, the variety of restaurants, entertainment, clubs, hotels, retail services, and the generally urbane quality of the environment.

OBJECTIVES AND POLICIES

OBJECTIVE 2

MAINTAIN AND IMPROVE SAN FRANCISCO'S POSITION AS A PRIME LOCATION FOR FINANCIAL, ADMINISTRATIVE, CORPORATE, AND PROFESSIONAL ACTIVITY.

Almost two-thirds of the city's new permanent jobs in recent years have been located in the downtown financial district. This growth — primarily in finance, insurance, real estate activities, and business services

reflects the city's strong competitive advantage in this sector. Since the office sector is the city's major provider of employment opportunities, it is essential that its vitality remain at a high level.

POLICY 1

Encourage prime downtown office activities to grow as long as undesirable consequences of such growth can be controlled.

Downtown office space expansion during the last two decades has greatly shaped the city economically and physically. This growth, while supporting the economic vitality of the city, has not been without environmental and aesthetic costs. As public facilities become strained, the marginal costs and benefits may indicate limits to growth. Furthermore, the social and environmental costs must be weighed against economic benefits. The costs include:

- Effects of overly-large office on the scale and character of the city;
- Destruction and replacement of buildings of significant architectural merit;
- Reduction in remaining areas of sunshine reaching streets and publicly accessible open space;
- Effects of street level winds on the pedestrian;
- Effects of commuter traffic on downtown congestion, air pollution, energy use, and consumption of land for parking;
- Overburdened public transit systems that connect the downtown to the city and surrounding region;
- Increased traffic noise;
- Effect of increased employment demand on existing services and increased pressures on a limited housing supply; and
- Conversion of existing housing, retail, and service commercial space to office space.

In order for economic and job growth resulting from office space development to continue, these adverse effects must be kept within acceptable limits.

The proposed policies and actions in this Plan are aimed at eliminating, reducing, or controlling the negative effects brought about by further accommodation of downtown office space. The Plan addresses these potential consequences by recommending substantial changes in downtown zoning. These would control the height and bulk of new buildings, as well as encourage the preservation of significant existing buildings. The Plan also contains policies for improving transportation, improving the pedestrian environment, and adding more open space for those who work downtown.

These proposals and others are discussed in greater detail in subsequent chapters of the Downtown Plan.

POLICY 2

Guide location of office development to maintain a compact downtown core and minimize displacement of other uses.

San Francisco is fortunate to have an extremely well-served, compact downtown office core area that also provides opportunities for growth. The scale of the downtown district plays an important role in attracting employment in the finance, insurance, and real estate industries.

A compact downtown ensures its economic strength and desirability, and makes it easier to service with public transit. Land use controls should continue to encourage growth in a way that enhances the concentration of the downtown office district.

RETAIL SPACE

Background

Downtown San Francisco's proposed C-3 districts currently contain nearly $8.2 million square feet of retail shops and restaurants serving residents, workers, and visitors. This space provides employment opportunities for 23,000 retail workers, mostly in sales and service occupations.

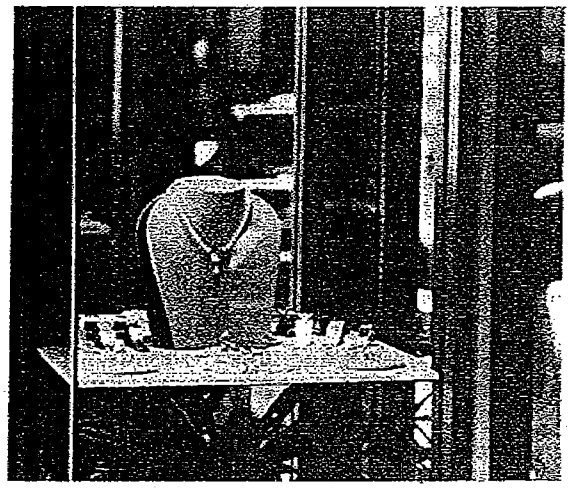
Retail functions are distributed throughout downtown. The greatest concentration of retail and personal serv-

ices is in the retail core, generally bounded by Powell, Sutter, Kearny and Market. This area is the center for specialized comparison retail shopping within the Bay Area. It contains nearly 3.4 million square feet of retail stores and restaurants, including six major retailers, each with more than 100,000 square feet.

The Union Square area contains many of the city's finest shops and hotels and, along with Manhattan's Fifth Avenue and Chicago's Michigan Avenue, is one of the strongest downtown retail districts in the country.

The downtown office core contains two million square feet of retail establishments. Embarcadero Center and the Crocker Galleria are major shopping destinations. However, most of the retail space is located in the lower floor of office buildings.

Retail activity in the Market-Van Ness area serves office workers of the Civic Center area and patrons of nearby performing arts facilities.



Retail trade in the C-3-S zone occupies about 650,000 square feet of space. This is a relatively small proportion of the total space in the district, largely because it has low residential and daytime employment densities and at present no major visitor attractions except the newly opened Moscone Convention Center. Retail activity in the area is expected to increase sharply as the Yerba Buena Center develops.

At least two other major activities locate near retail activity. Branch banks, providing what are traditionally called retail banking functions, occupy approximately 1.3 million square feet of ground floor space in the C-3 districts. Retail services, such as hairdressers, travel agencies, and medical professionals, occupy approximately three million square feet in downtown San Francisco. A large number of these services are located in upper story office space in the C-3-R district.

Growth has caused some decentralization and fragmentation of the traditional retail core. Embarcadero Center and Crocker Galleria are examples if sizable new retail development outside the Union Square area. Tourist and visitor-oriented retail growth has extended from Fisherman's Wharf and Chinatown to Pier 39 and some neighborhood commercial districts, such as Union Street. Visitor-oriented trade is expected for the new Yerba Buena shops and restaurants and the Ferry Building now proposed for renovation. Even with these changes, activity near Union Square remains strong, with the recent completion of two large, high-quality clothing stores: Saks Fifth Avenue and Neiman-Marcus.

Throughout the C-3 districts, smaller-scale, pedestrian-oriented streets are becoming lined with restaurants, shops, and lounges. These commercial-recreation streets, such as Maiden Lane, Belden, and Front between California and Sacramento, are important attributes of the downtown.

Despite the health of retail trade downtown, rapid growth of office space and a diminishing supply of available land in the office core north of Market have led to concern about encroachment of office development into the traditional retail areas. Upper story space traditionally used by retail services could easily be converted for office users able to pay higher rents. Conversions from retail to office space, such as those of the former Sloan's and Livingston's, give rise to the concern.

OBJECTIVES AND POLICIES

OBJECTIVE 3

IMPROVE DOWNTOWN SAN FRANCISCO's POSITION AS THE REGION'S PRIME LOCATION FOR SPECIALIZED RETAIL TRADE.

Factors responsible for San Francisco's significant downtown retail trade district include a large number of specialized and attractive shops, proximity to a large, relative affluent workday population, high usage by city and Bay Area residents, accessibility via an extensive regional and citywide transit system, and the nearby location of major hotels serving a large visitor population. This combination of factors must be maintained and improved to keep the downtown retail sector prosperous.

POLICY 1

Maintain high quality, specialty retail shopping facilities in the retail core.

The downtown retail shopping area has developed into a compact, highly accessible specialty retail center for the Bay Area. The concentration of quality stores and merchandise allows the retail area to function as a regional, as well as a citywide attraction. The appeal of this district is enhanced by the sunny pedestrian environment in and around Union Square. The city should ensure that further development retains the area's compactness and does not endanger the pleasant environmental setting.

Only growth compatible with existing uses and reinforcing the retail function should be encouraged. Similarly, circulation within the area, and awareness of physical design amenities should be observed in promoting development of the downtown retail sector.



POLICY 2

Encourage the retail businesses which serve the shopping needs of less affluent downtown workers and local residents.

While the retail district has become a specialized specialty shopping center with higher priced merchandise it need not be exclusively such a center. It can and should continue to serve the needs of lower income shoppers as well. Continued location of stores offering lower priced merchandise should also be encouraged in the retail district and throughout downtown.

POLICY 3

Preserve retail service businesses in upper floor offices in the retail district.

Personal services such as hairdressers, travel agents, and medical professionals are an important component of the downtown retail sector. Ample space should be provided for such uses.

POLICY 4

Limit the amount of downtown retail space outside the retail district to avoid detracting from its economic vitality.

It is important to ensure that the convenience shopping needs of office workers and nearby residents are met and that ground floor retail frontage and pedestrian amenities are provided throughout downtown.

However, too much retail space in too many scattered locations could weaken the retail district since its major strength is its concentration of uses.

POLICY 5

Meet the convenience needs of daytime downtown workers.

Nearly 280,000 people work in the C-3 district is downtown San Francisco. Many eat in nearby restaurants, shop for convenience items during their lunch breaks, or use various retail and personal services. It is important that these shops, restaurants, and services be easily accessible to many workers who may have limited time available during the work day.

HOTEL SPACE

Background

Visitor trade constitutes an important economic base and job source for San Franciscans. It generates substantial revenues in many related economic areas, including transportation, general merchandising, eating and drinking places, other retail trade, personal services, and entertainment and recreation. By far the largest expenditures by visitors are for hotels, followed by restaurants and retail purchases.

Downtown San Francisco's C-3 districts have more than 60 visitor hotels occupying about nine million gross square feet and offering more than 16,000 rooms. These hotels range in size from the San Francisco Hilton with 1,728 rooms to small bed-and-breakfast inns with ten or fewer rooms. However, most have between 100 and 250 rooms. These hotels cater to conventioneers and tour groups, as well as to individual business travelers and tourists. Most of the hotels in the C-3 district are clustered in the C-3-G and C-3-R districts around Union Square and to the west.



OBJECTIVES AND POLICIES

OBJECTIVE 4

ENHANCE SAN FRANCISCO'S ROLE AS A TOURIST AND VISITOR CENTER.

POLICY 1

Guide the location of new hotels to minimize their adverse impacts on circulation, existing uses, and scale of development.

Hotels and other visitor - oriented uses naturally tend to locate in geographical proximity to one another just as other sectors of the economy. Proximity to other hotels, restaurants, convention facilities, business appointments, sightseeing interests, other retail, and entertainment enhances visitor appeal. However, too great a concentration of large hotels can overwhelm the scale and character of an existing district or create unmanageable traffic problems. Unchecked pressure to develop additional tourist hotels in mixed residential and commercial neighborhoods can lead to conversion of existing dwelling units for tourist accommodations, as well as alter the presentation of ground floor retail activities.

While it is important to allow hotels to locate in visitor activity areas, downtown San Francisco is compact enough for large new hotels to locate in the South of Market near the convention center and still take advantage of many visitor services located north of Market.

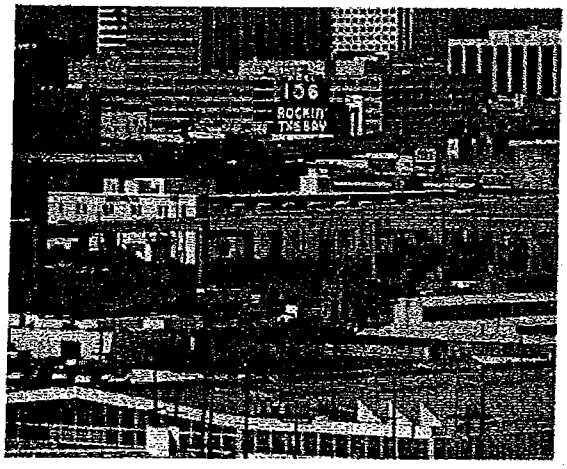
SUPPORT COMMERCIAL SPACE

Background

Support commercial involves a broad spectrum of functions, including business services, sale and repair of office equipment, printing, wholesaling, distribution, delivery services, blueprinting, and maintenance services. It also involves the so-called back office functions, such as billing, data processing, record storage, and drafting and secondary office functions for sales, wholesale, and distribution activities. Like other categories of commercial space, these functions are distributed throughout the C-3 district and in adjacent areas surrounding the downtown. They also tend to cluster and are more prevalent in the lower rent and lower rise structures at the periphery of the C-3 district.

Between 1960 and 1980 San Francisco's employment growth has been principally in services; finance, insurance, and real estate; and transportation, communications, and utilities. These jobs are primarily office jobs. Employment growth has caused considerable pressure to develop vacant land for offices, and to convert existing space to office space. These pressures have affected parts of downtown that have traditionally provided non-office support-commercial employment.

A considerable amount of support commercial activities exist in the C-3-G and C-3-S zones between Market and Folsom Street and west of Fourth Street. These contain a number of major back office and information processing buildings where bank and insurance companies conduct data processing and billing functions. They also include numerous smaller firms carrying on a wide range of diverse commercial activities — printing, photo processing, vehicle maintenance, warehousing, paper warehousing, and machinery sales and service. It is unlikely that the support commercial activity in this area will be displaced by prime office functions during the foreseeable future. However, some conversion of older buildings to office space may occur.



OBJECTIVES AND POLICIES

OBJECTIVE 5

RETAIN A DIVERSE BASE OF SUPPORT COMMERCIAL ACTIVITY IN AND NEAR DOWNTOWN.

POLICY 1

Provide space for support commercial activities within the downtown and in adjacent areas.

The strength of the prime office activities concentrated downtown is dependent upon a wide range of support commercial activities nearby. These activities provide a substantial number of jobs and enhance the overall economic vitality of the city and promote diversity in employment. Land use policies should assure the availability of adequate space for these activities.

LOCATION AND DENSITY OF COMMERCIAL SPACE

Background

Each of the four main downtown commercial functions--office, retail, hotel and support commercial--occurs to some extent throughout the entire downtown, but each has one predominant location where most activities are clustered. These concentrations of office, retail, hotel, and support commercial space coincide roughly with the boundaries and primary functions of the four existing downtown use districts.

OBJECTIVES AND POLICIES

OBJECTIVE 6

WITHIN ACCEPTABLE LEVELS OF DENSITY, PROVIDE SPACE FOR FUTURE OFFICE, RETAIL, HOTEL, SERVICE AND RELATED USES IN DOWNTOWN SAN FRANCISCO.

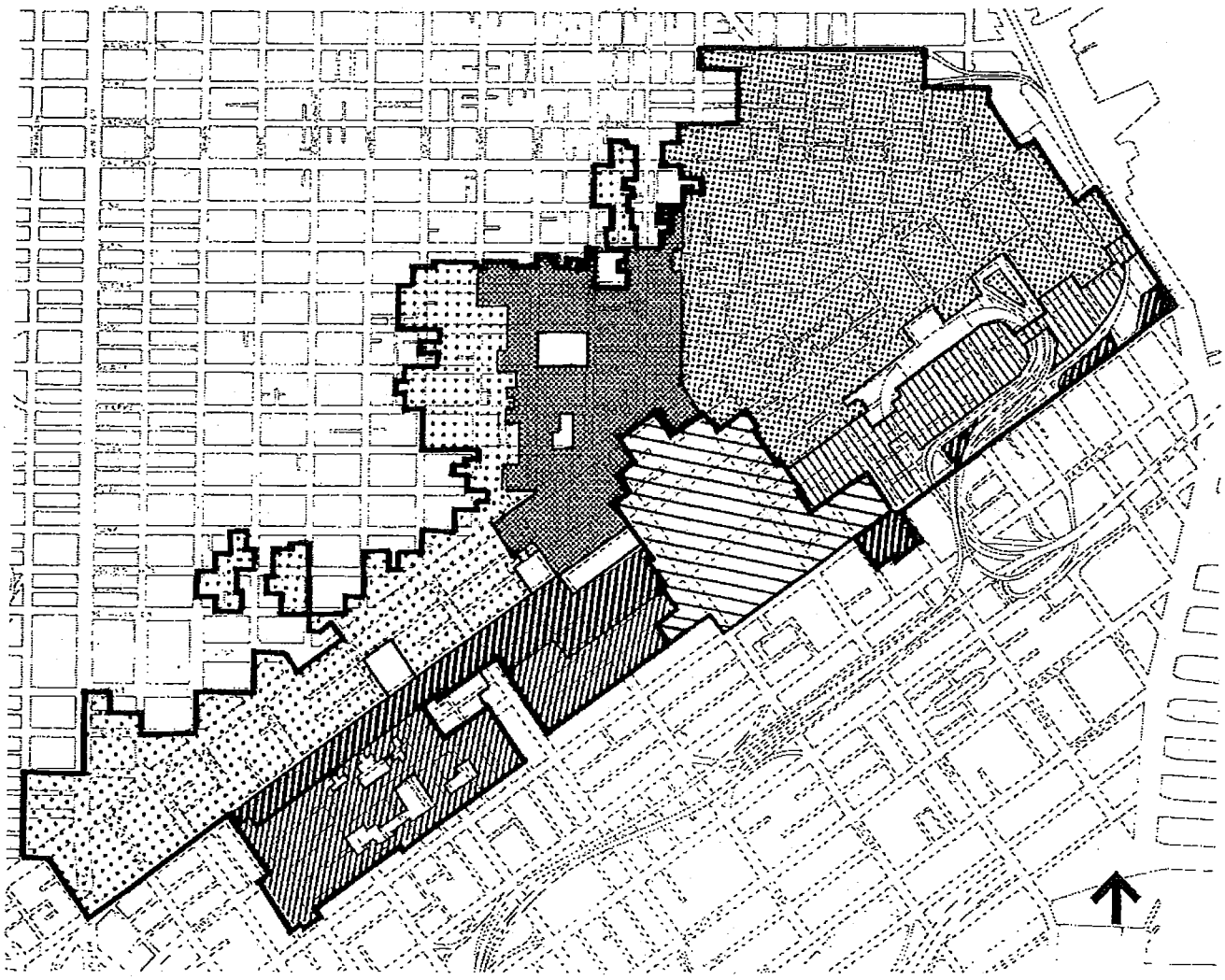
POLICY 1

Adopt a downtown land use and density plan which establishes subareas of downtown with individualized controls to guide the density and location of permitted land use.

Doing business downtown is convenient because activities, services, goods, and amenities are closely spaced. Variety in close proximity is the hallmark of major urban centers. Equally important is the relative balance among various groups of activities. Business support services are no less important than prime office space. Hotels, retail stores, banks, personal services, wholesaling, repair services, restaurants, and cultural activities contribute to the mixture and strength downtown. They help make it a desirable place to do business and a desirable place to work.

Commercial activities are grouped in clusters downtown. The financial core of banks and office buildings is concentrated on Montgomery, California, and lower Market. The retail core is centered around Union Square. Hotels, theaters, clubs and restaurants are clustered around Mason, Powell, and Geary. Distances between these centers are short, but the edges of each are somewhat blurred with overlapping uses from adjacent activity centers.

These clusters should be reinforced, each maintaining its predominant activity without losing the essential urban qualities that a mix of uses provides. Major office towers can be constructed on sites remaining in the financial core north and south of Market and in an expanded area south of Market centered on the Transbay Bus Terminal. Concentrating office towers in these locations protects the fine scale and rich mix of uses in Chinatown, Jackson Square, Kearny Street, Union Square, Mid-Market, North of Market-Tenderloin, and the hotel-entertainment area near Mason Street.



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DOWNTOWN LAND USE AND DENSITY PLAN

Map 1

Predominant Commercial Use Type		Building Commercial Intensity Density*	Height	Appropriate Zoning District
	Downtown Office	FAR 9:1		C-3-O
	Downtown Office	6:1		C-3-O (SD)
	Downtown Retail	6:1		C-3-R
	Downtown General Commercial	6:1		C-3-G
	Downtown Service	5:1		C-3-S
	Downtown Service, Industrial Housing Conservation	2:1 office, 5:1 other		C-3-S (SU)
	Mixed Use	See Yerba Buena Center Redevelopment Plan		

*Unused FAR may be transferred from preservation sites to development sites up to a maximum FAR of 18:1 in the C-3-O and C-3-O (SD) districts and up to one and one half times the basic FAR in the C-3-R, C-3-G and C-3-S districts. See Preservation of the Past Chapter.

Support commercial and secondary office demand can be absorbed in a number of locations: Market Street west of Fifth Street, portions of the south of Market west of YBC, the Van Ness corridor, Second Street corridor south of the C-3 district, Jackson Square, and the northern waterfront. A major new source of space for support commercial and secondary office may also be provided at Mission Bay.

The principal hotel functions are encouraged as part of Yerba Buena Center. The Plan proposes to protect and encourage major retailing along Market Street from Powell to Kearny, in the Union Square area, and along Sutter, Post, Grant, and Kearny Streets.

In addition to supporting large clusters of activities within an overall mix, lively street level activity with ground floor retail uses should be provided throughout the downtown. New development should be permitted and encouraged within the context of transitional values of fine-scale, architectural design, pedestrian-oriented active street life with a mixture of uses, sunlit sidewalks and open space, and respect for the quality of the existing development.

Key Implementing Actions

Modify C-3 use districts to conform to the Downtown Land Use and Density Plan (Map 1).

DOWNTOWN OFFICE
(C-3-O DISTRICT)

Lower the base FAR; Revise district boundaries; Encourage public serving uses on the ground floor.

DOWNTOWN RETAIL
(C-3-R DISTRICT)

Lower the base FAR; Revise district boundaries; Make retail uses the primary uses of the ground floor; Generally limit offices to those providing services to the general public and permit large scale offices only by conditional use; Permit hotels only by conditional use.

DOWNTOWN GENERAL COMMERCIAL
(C-3-G DISTRICT)

Allow residential uses above the base FAR as conditional uses; Revise district boundaries; Encourage provision of retail and personal service uses along the ground floor street frontage; Protect existing housing.

DOWNTOWN SUPPORT
(C-3-S DISTRICT)

Lower the base FAR; Allow residential uses above the base FAR as conditional uses; Revise district boundaries; Require ground floor retail along the street frontage; Protect existing housing.

SPACE FOR HOUSING

Background

Housing close to downtown contributes greatly to downtown vitality, helping to ensure that it remains active after working hours.

Housing downtown consists of apartments, condominiums, and residential hotels.

Residential hotels are concentrated in Chinatown, North of Market, and South of Market along Sixth Street. More than two-thirds of the city's 20,500 residential hotel units are in the downtown area.

Apartment buildings are concentrated west of downtown. Many of these buildings have ground floor commercial uses. Smaller duplexes and sixplexes are located along some of the narrower interior streets South of Market. New construction in the last decade has involved primarily large-scale condominium projects at the edges of the downtown commercial districts.

The nearly completed Golden Gateway redevelopment project contains about 1,400 new housing units in close proximity to downtown. Several major office projects include upper story housing.

As the downtown office district continues to grow, the pressure to demolish housing or convert is to nonresidential uses will increase. The pressure to some extent comes from commercial and retail activities that need nearby locations to serve downtown business and workers. Areas most affected are the South of Market (west of the Yerba Buena Center), North of Market (Tenderloin), Chinatown, and North Beach neighborhoods.

To preserve the scale and character of outlying neighborhoods and promote the vitality of downtown, most new housing should be located adjacent to downtown in underused industrial and commercial areas. At the same time, the existing housing supply in and adjacent to downtown should be protected from demolition or conversions to nonresidential use.

OBJECTIVES AND POLICIES

OBJECTIVE 7

EXPAND THE SUPPLY OF HOUSING IN AND ADJACENT TO DOWNTOWN.

POLICY 1

Promote the inclusion of housing in downtown commercial developments.

Mixed residential/office building development near the heart of downtown would provide needed housing and add vitality to an area that lacks life at night and on weekends. Various incentives should be provided in appropriate cases to encourage housing in the downtown area. Housing in excess of base FAR should be permitted in the Downtown General and Downtown Support Districts.



POLICY 2

Facilitate conversion of underused industrial and commercial areas to residential use.

Opportunities exist for major new residential development in certain areas close to downtown, as shown on Map 2. New housing can be provided there without significant displacement of existing residential units or commercial or industrial activity. In some areas, entire new residential neighborhoods can be created. In others, housing can be introduced on vacant or underused sites adjacent to sites that are and will remain in active commercial or industrial use.

OBJECTIVE 8

PROTECT RESIDENTIAL USES IN AND ADJACENT TO DOWNTOWN FROM ENCROACHMENT BY COMMERCIAL USES.

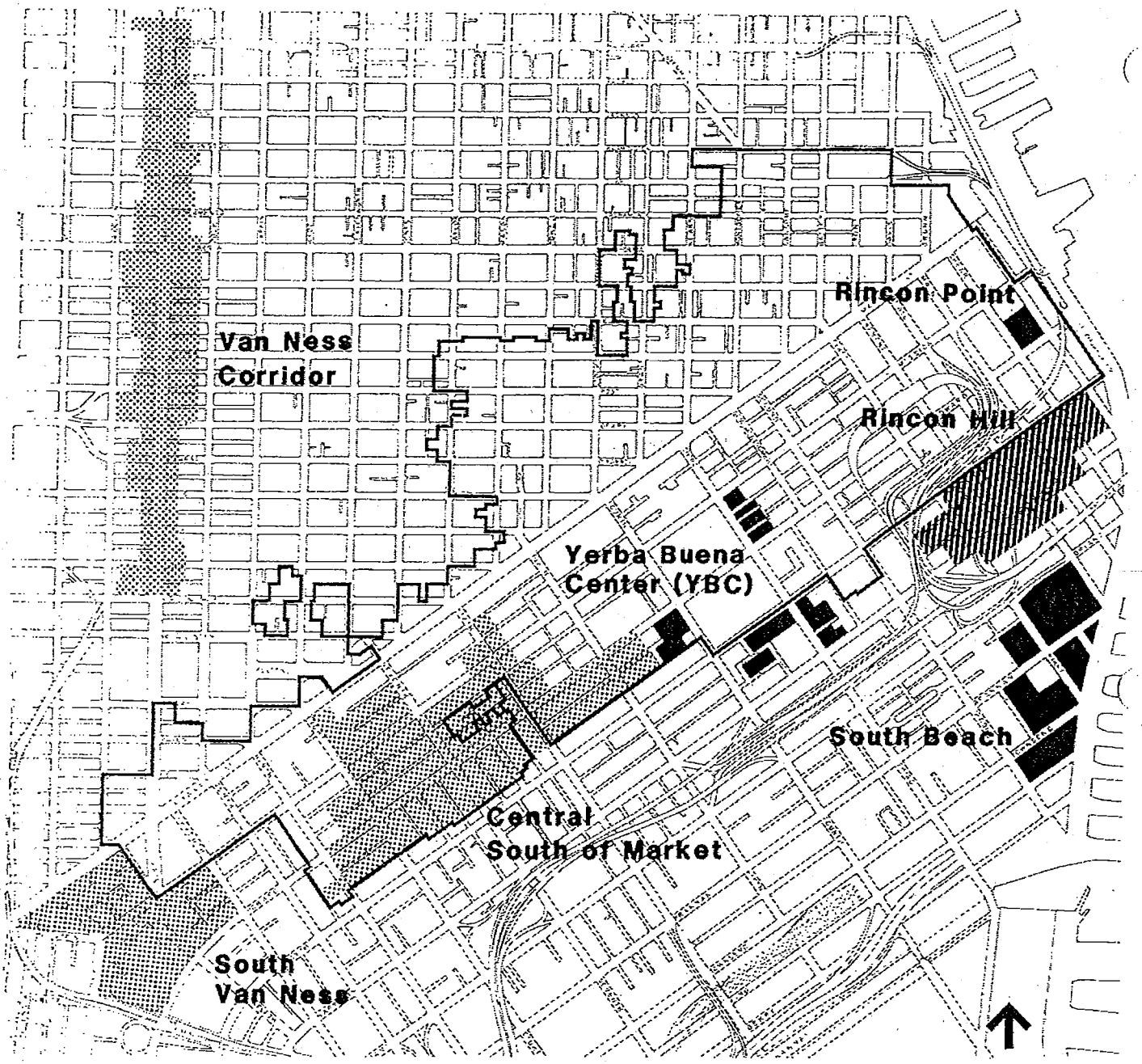
Residential units existing near downtown are the city's major source of inexpensive housing and are virtually irreplaceable given the cost of new construction and reduced public resources. Therefore, retention of units in and adjacent to the downtown is a key component of the city's housing program.

POLICY 1

Restrict the demolition and conversion of housing in commercial areas.

Many parts of San Francisco were developed before zoning regulations separated various types of land uses. As a result, many thousands of housing units were built in and around downtown in areas also containing many commercial uses. Many of these areas are currently zoned commercial. Most of these housing units are sound or rehabilitable and are relatively inexpensive. They represent a significant, irreplaceable portion of the city's housing supply. Yet in many cases, because of their location, it may be profitable to convert them to a nonresidential use or demolish them and use the property for nonresidential use.

In commercial areas where there is a concentration of residential use, a form of mixed residential-commercial zoning should be adopted. Conversions of upper floor housing units to nonresidential use should be subject to



AREAS FOR NEW HOUSING NEAR DOWNTOWN

Map 2

- Redevelopment Agency Housing Sites
- Areas To Be Rezoned For Housing
- Potential Housing Areas For Study
- Proposed C-3 District Boundary

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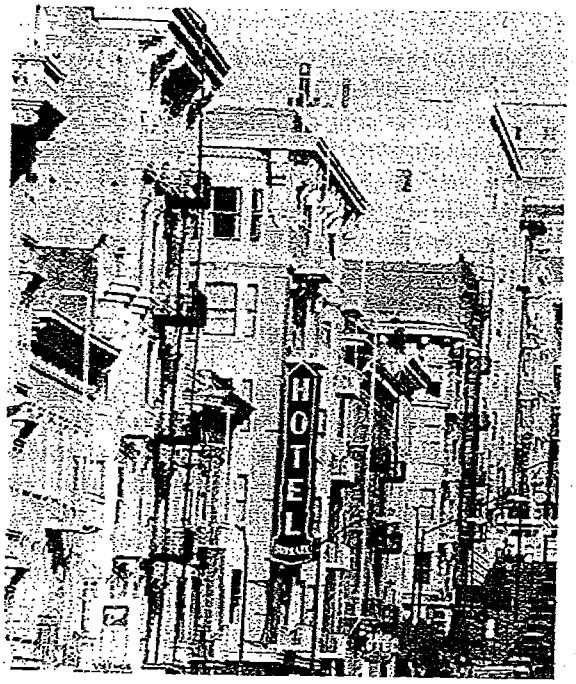
conditional use review. The City Planning Commission would require evidence that the public benefits of the alternative use are more desirable that retaining the housing.

In commercial areas where the housing is more scattered, it may be more appropriate to regulate only the demolition or conversion of existing units rather than create a special use district which would cover new as well as existing uses.



POLICY 2

Preserve existing residential hotels.

Residential hotels represent a unique, irreplaceable resource for many thousands of lower-income households. Most of these hotels are close to downtown and are subject to continuing pressures for conversion or demolition. As San Francisco grows as a tourist center, residential hotels have been converted to tourist use, either permanently or during the tourist season. Some hotels have been demolished to make way for new commercial development. The loss of these units as housing for permanent residents should be discouraged.

OPEN SPACE

Background

Adequate open space is of vital importance to the desirability of downtown San Francisco as a place to visit, work, or live. As a forest becomes denser, it becomes more difficult to find a sunlit meadow. Similarly, in San Francisco's downtown, sunshine and wind protection, which are essential to the personal comfort of open space users, become of prime importance in the planning for downtown open space.

The Open Space chapter calls for preservation and enhancement of existing open spaces and creation of additional open space through public and private efforts. These open spaces would be connected by a pedestrian network.

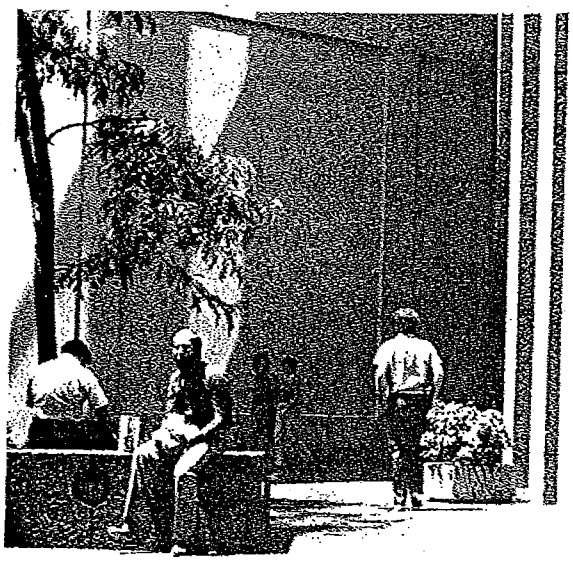
The Plan envisions a downtown that will develop over the next two decades with substantial enhancement of open space. It further envisions the development of a system of linked, sunny open spaces around the high-density downtown core. To the east is the waterfront, and the ample open spaces to be provided between Piers 9 and 24. Pier 7 will become an open space pier. Piers 1 through 5 will have generous shoreline access. The Ferry Building complex will provide additional plazas and sitting areas adjacent to the already generous Justin Herman Plaza and related spaces.

A 4.8-acre Park-Rincon Point Park will be added next to the shoreline promenade between the Agriculture Building and Pier 24. To the north are Sidney Walton Park and the parks on Maritime Plaza. On the west are Portsmouth Square, St. Mary's Square, and Union Square, as well as the sunny streets of the retail district. Major new open space will be added in the Yerba Buena Center project on the central blocks, centered on six acres of park and plaza in the block bounded by Third, Fourth, Mission and Howard Streets.

A major gap in this open space system exists on the southern edge of the downtown core where there is no significant usable open space. A major park or chain of parks and open spaces should be created in the area behind Transbay Terminal. This area is in the open space deficiency area shown on Map 3 and is approximately midway between the proposed Yerba Buena Gardens and Rincon Point Park.

There are a number of possibilities. In the half block bounded by Howard, Fremont, First and bus ramps the allowable density for the block could all be utilized in the northwesterly portion of the block leaving most of the rest of the block for an urban park. If Caltrans acquires the partial blocks immediately behind the Transbay Terminal for an underground extension of the Caltrains commuter Muni service could be moved behind the Terminal with the park on a platform above it, and all or part of the area in front of the terminal could be converted to a plaza. A number of smaller parks and open spaces are also vital ingredients in the overall network. Many of these deserve sunlight protection. They include Hallidie Plaza, Crocker Plaza, the proposed Crocker View and Sun Terrace at 1 Montgomery Street, Mechanics Plaza, and Belden and Front Streets—which could be closed at lunch time exclusively for people.

Opportunities exist to introduce more adequate space for people through continued creative uses of public rights-of-way. Smaller open spaces could be developed, including plazas, garden parks, greenhouse spaces, and "snippets"—small sunny sitting areas. In short, the Plan calls for spaces for people to sit, relax, watch, and enjoy the city.



The first block of Sansome Street could be closed to traffic (except MUNI and emergency vehicles), and redesigned to relate to Citicorp's atrium space under construction at One Sansome, as well as to the Crown Zellerbach Plaza. The end of Second Street between Market and Stevenson could similarly be closed, and connected to open space at the 595 Market Building.

Existing plazas that are uninviting and underused because of shadow, wind, and lack of amenities could be retrofitted with windbreaks, partial glass enclosures, fixed and movable seating, food service, entertainment and water.

This Plan envisions a downtown where almost everyone will be within 900 feet (approximately the length of two east-west blocks north of Market Street) of a publicly accessible space to sit, to eat a brown-bag lunch, to people-watch, to be out of the stream of activity but within sight of its flow. Many of these spaces would be small and privately owned. The height of new buildings adjacent to major spaces would be controlled by the provisions of Proposition K and similar but more flexible criteria to protect sunlight.

Some spaces would be without direct sunlight and the solar heat it provides. These would be made more comfortable through wind protection, partial or total glass enclosure, and through light reflected from surrounding light-colored buildings.

The Plan recognizes that not every space can be permanently assured of direct sunlight at all times. Open space must be balanced with Space for Commerce and Space for Housing. Consequently, height zones, bulk controls, architectural guidelines, and open space guidelines all work together to create a vital, comfortable, and economically vigorous downtown.

A survey of persons using downtown open space was undertaken to establish the service areas of existing parks and plazas which generally meet the proposed standards. The areas falling outside these services areas are considered deficient, and a special effort should be made to create significant open spaces in those areas.

OBJECTIVES AND POLICIES

OBJECTIVE 9

PROVIDE QUALITY OPEN SPACE IN SUFFICIENT QUANTITY AND VARIETY TO MEET THE NEEDS OF DOWNTOWN WORKERS, RESIDENTS, AND VISITORS.

Open space will become increasingly important as the number of persons in downtown grows. Meeting the demand for additional open space in the face of intense competition for land requires both private and public sector action. It also requires imagination, commitment, and a general acknowledgement that open space is essential to the downtown environment.

POLICY 1

Require usable indoor and outdoor open space, accessible to the public, as part of new downtown development.

As development intensifies, greater pressure is placed on the limited downtown park space. New private development should assist in meeting the demand for open spaces that it will create. In newly developing suburban areas, it has become common practice to require developers to contribute to the provision of public facilities, the demand for which is created in part by the development site. San Francisco's Planning Code currently requires that open space be provided to serve residential uses. Open space is obtained either by specifying a maximum lot coverage or by requiring that open area be provided at a certain ratio per dwelling unit, depending on the zoning district and density of development. A requirement to provide needed open space should be extended to non-residential uses in the downtown. Each development should be required to provide open space in a quantity that is directly proportional to the amount of nonresidential space in the building.

San Francisco's climate is such that only sunny, wind-protected outdoor sites are usable on most days of the year. Outdoor spaces should be oriented in relation to adjacent development so that there will be direct sunlight during periods of high usage. Prevailing wind patterns and local wind currents created by adjacent development should also be considered. Barriers to deflect unpleasant winds should be used where appropriate.

POLICY 2

Provide different kinds of open space downtown.

Different kinds of spaces should be provided downtown to assure that a variety of recreation and open space experiences are available to a diverse population. They might take the form of outdoor spaces such as a sun and view terrace, landscaped garden, a plaza or a park. They might also include "snippets" of open spaces — small, sunlit spaces designed to accommodate sitting — such as edges and niches at the base of a building. An attractively landscaped greenhouse structure is desirable in areas where the alternative is a shady, windy plaza.

Public semi-enclosed or enclosed spaces complement outdoor spaces and carry the garden idea into the interior of buildings. They provide the opportunity to relax, and gather around in pleasant, parklike surroundings when rainy, foggy and windy weather prevent the use of parks and plazas. Interior spaces may take the forms of atriums and indoor gardens and parks. In addition, sitting areas in gallerias and arcades, if carefully separated from the circulation space for shoppers or pedestrians, can act as a form of indoor park.

The designs of these facilities should consider the needs of various population groups. Wherever possible, provision should be made for those who desire a quiet secluded location as well as those who enjoy crowds and activity. Food and beverage service usually should be located in or adjacent to open spaces to facilitate public use and enjoyment.

The various kinds of open space should conform generally to the criteria stated in Table 1.

POLICY 3

Give priority to development of two categories of highly valued open space; sunlit plazas and parks.

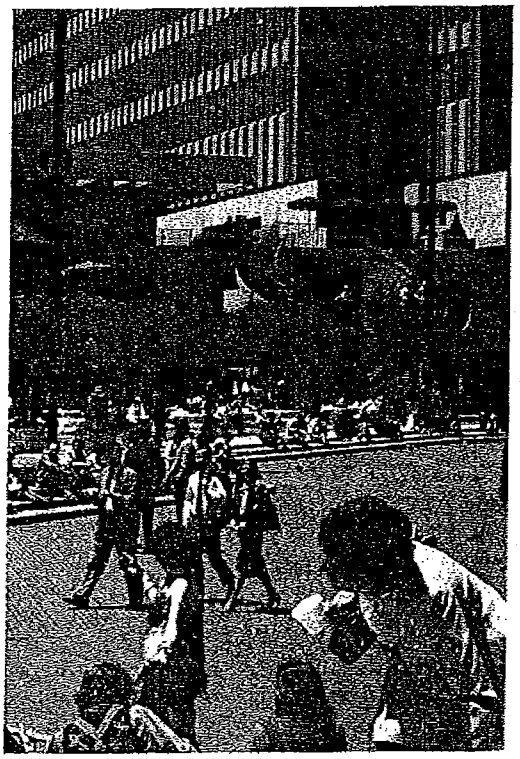
Providing ground level plazas and parks benefits the most people. If developed according to guidelines for access, sunlight design, facilities, and size, these spaces will join those existing highly prized spaces such as Redwood Park, Sidney Walton Park, Justin Herman Plaza, and the State Compensation Building Plaza.

Table 1 GUIDELINES FOR DOWNTOWN OPEN SPACE

	Urban Garden	Urban Park	Plaza	View and/or Sun Terrace	Greenhouse
Description	Intimate sheltered landscaped area.	Large open space with predominantly natural elements.	Primarily hard-surface space.	Wind-sheltered area on upper level.	Partially or fully glassed-in enclosure.
Size	1,200 to 10,000 sq.ft.	Minimum 10,000 sq.ft.	Minimum 7,000 sq.ft.	Minimum 800 sq.ft.	Minimum 1,000 sq.ft. Min. ceiling height 20 ft.
Location	On ground level, adjacent to sidewalk, through-block pedestrianway, or building lobby.		Southerly side of the building. Should not be near another plaza.	Second floor or above. View terraces should only be located in places which have spectacular views.	Locate in places too shady or windy to be used as open space.
Access	Accessible on at least one side of its perimeter.	Accessible from at least one street at Access from several locations encouraged. Park interior to be visible from entrances.	Accessible from a public street at grade or 3' above or below street level connected to street with generous stairs.	Accessible directly from the sidewalk or public corridors. Must provide adequate signage about location and public accessibility at street level, in hallways and elevators.	Accessible from street at grade or 3' above or below street level. Provide several entrances from public rights-of-way.
Seating,* Tables, Etc.	One seating space for each 25 sq.ft. of garden area. One half of seating to be movable. One table for each 400 sq.ft. of garden area.	Provide formal and informal seating, on sculptured lawn. Movable chairs desirable.	One linear foot of seating space per each linear foot of plaza perimeter. One half of seating to consist of benches.	One seating space for every 25 sq.ft. of terrace area.	One seating space for every 25 sq.ft. of floor area.
Landscaping, Design	Ground surface primarily of high quality paving material. Install plant material such as: trees, vines, shrubs, seasonal flowers to creat garden-like setting. Water feature desirable.	Provide lush landscape setting with predominantly lawn surfaces and planting such as: trees, shrubs, ground cover, flowers. Provide a water feature as major focus.	Landscaping is generally secondary to architectural elements. Use trees to strengthen spatial definition and to create peripheral areas of more intimate scale.	Terrace may take one of the following forms: o complex architectural setting which may include art works; o flower garden; o space with trees and other planting.	Interior surface may be a mixture of hard surfaces and planting areas. Water features are desirable.
Commercial Services, Food		Provide food service within or adjacent to the park. 20% of space may be used for restaurant seating taking up no more than 20% of the sitting facilities provided.	Provide retail space including food services in space around plaza. 20% of space may be used for restaurant seating taking up no more than 20% of the seating provided.	Provide food service on or adjacent to terrace.	Provide food service within greenhouse; 20% of greenhouse space may be used for restaurant seating occupying no more than 20% of the seating provided.
Sunlight and Wind	Sunlight to much of the occupied area at lunch time. Shelter from wind.	Sunlight to most of the occupied area from mid-morning to mid-afternoon. Shelter from wind.	Sunlight to much of the occupied area at lunch time. Shelter from wind.	Sunlight to most of the occupied area of terrace at lunch time. Shelter from wind.	Sunlight at lunch time highly desirable but not required.
Public Availability	8 AM to 6 PM Monday through Friday.	At all times.	At all times.	10 AM to 5 PM, Monday through Friday.	10 AM to 5 PM, Monday through Friday.
Other	Security gates, if provided, should be an integral part of the design.	Security gates, if provided, should be an integral part of the design.		In wind exposed locations provide glass enclosure to create comfortable environment.	Include large movable windows or walls to open up greenhouse in warm weather.

* Seating dimensions are as follows
Height : 12" to 36"; ideally 17"
Depth : 14" one-sided; 30-36" double sided.
Width : 30" of linear seating are counted as one seat

Snippet	Atrium	Indoor Park	Public Sitting Area in a Galleria	Public Sitting Area in an Arcade	Public Sitting Area in a Pedestrian Walkway
Small, sunny sitting space.	Glass-covered central open space in the interior of a building or block.	Interior open space where at least one wall facing the street consists entirely of glass.	Through-block, continuous, glass-covered pedestrian passage lined with retail shops and restaurants.	Continuous, covered passageway at street level, defined by building set back on one side and a row of columns along the front lot line.	Sitting area on a sidewalk of a pedestrian-oriented street in a lunchtime mall or in an exclusive pedestrian walkway.
Varying sizes permitted.	Minimum area 1500 sq.ft.; minimum ceiling height 30 ft.	Minimum area 1,000 sq.ft. Minimum ceiling height 20'. Area to be counted against open space requirement cannot exceed twice the area of the glass wall projected onto the floor plane.	Minimum average height 30 ft.; minimum clear area 12 ft. Only public sitting areas outside the circulation space which are buffered from it by various kinds of design elements will qualify.	Minimum clear width 10 ft.; minimum height 14 ft. Only public sitting areas which are delineated from the circulation space by appropriate means will qualify.	Varying sizes permitted.
On new or existing building site.	Interior of building or block.	Building interior adjacent to sidewalk or public open space.	In any approved galleria.	As identified in the Pedestrian Network Plan. Other locations must be approved.	As identified in the Pedestrian Network Plan. Other locations must be approved.
Accessible from public streets.	On street level or 3 ft. above or below street level. Accessible from one or more sidewalks through generous hallways. Space must be made available and inviting to the general public.	Accessible from street level. Provide several entrances to make the space inviting to the public.	Accessible from public right-of-way or open space at grade or 2 ft. above or below grade level of adjoining public area.	Accessible from sidewalks or public open space at grade level or 2 ft. above or below grade. Connect arcade to public space with continuous stairs.	
If functional for sitting and viewing, seating can be ledges, stairs, benches, chairs.	Provide one seating space for every 25 sq.ft. of floor area, one table for every 400 sq.ft. of floor area. At least one half of seating to consist of movable chairs.	Provide one seating space for every 25 sq.ft. of floor area, one table for every 400 sq.ft. of floor area. At least one half of seating to consist of movable chairs.	Provide sitting ledges, benches, movable chairs and tables in areas outside the pedestrian pathway. At least one half of seating should consist of movable chairs.	Place seating and tables outside the area of pedestrian flow.	If functional for sitting and viewing, seating can be ledges, benches, chairs.
Surface will predominantly be hard pavement. Add planting where appropriate.	Provide attractive paving material to create interesting patterns. Use rich plant material. Incorporate sculpture and/or water feature.	Provide attractive paving material to create interesting patterns. Use rich plant material. Incorporate sculpture and/or water feature.	Use rich paving materials in interesting patterns. Include sculpture or other works of art and water feature.	Arcades should be enhanced by creating attractive paving patterns with rich materials. Incorporate mosaics, murals or three dimensional elements into wall surfaces, coffering into ceiling surface. Include plant materials where appropriate.	Use rich paving material in interesting patterns. Include plant material
Encourage food vendors to locate in the vicinity.	Locate food service adjacent to the atrium; 20% of area may be used for restaurant seating taking up no more than 20% of the seating and tables provided.	Provide food service; 20% of area may be used for restaurant seating taking up no more than 20% of the seating and tables provided.	Both sides of galleria should be lined with retail shops and food services. Locate sitting areas near food services. Restaurant seating is not to take up more than 20% of sitting area.	Attractive retail shops, food services and restaurants should front on the arcade. 20% of sitting area to be used for restaurant seating, occupying no more than 20% of sitting facilities and tables provided.	Attractive shops, restaurants, cafes and food services should line the pedestrian walkways and lunchtime malls.
Sunlight to sitting areas at lunch time. Shelter from wind.	Mass buildings surrounding the atrium in such a way as to maximize sunshine in the atrium space.	Orient park to the southeast, south or southwest to insure sunlight at least during lunch time.	Mass buildings surrounding galleria in a way as to maximize sunlight into the galleria space.		Sunlight to the siting areas at lunchtime. In windy locations provide wind baffles.
At all times.	8 AM to 6 PM Monday through Friday.	8 AM to 6 PM Monday through Friday.	8 AM to 6 PM Monday through Friday.	At all times.	At all times
Credit each seat as 25 s.f. of open space. Buildings up to 100,000 g.s.f. may satisfy 100% of requirement with "snippets"; larger buildings may satisfy up to 20%.	Insure proper ventilation. At least 75% of roof area to be skylit.	Insure proper ventilation. Install heating to make space comfortable in cool weather. Construct glass wall to be fully or partially movable.	Security gates should be integrated into overall design and concealed when not in use. At least 75% of galleria roof shall consist of skylights. Insure ventilation.		Credit each seat as 25 s.f. of open space



POLICY 4

Provide a variety of seating arrangements in open spaces throughout downtown.

The popularity of an open space correlates highly with the amount of comfortable sitting space provided. To accommodate this common need, adequate seating should be required in new facilities in direct relationship to the size of the open space. Existing spaces without adequate seating should be retrofitted. Sitting places should be located up front near the action and secluded in the back, in the sun and in shaded areas. Their configurations should accommodate people in groups as well as those who want to sit alone.

Sitting space can be provided in may ways. Besides conventional bench-type seating, walls, steps, ledges, planters, and fountains can be designed imaginatively to invite people to sit. Movable chairs are particularly desirable because of the flexibility in seating arrangements they provide.

POLICY 5

Improve the usefulness of publicly owned rights-of-way as open space.

Recreation and open space use of publicly owned rights-of-way should be expanded and enhanced. The Market Street Beautification Project developed unneeded portions of street rights-of-way into plazas with sunny sitting areas. Similar opportunities exist elsewhere. For example, some lightly used streets and alleyways could be converted into lunchtime malls where outdoor dining could be moved into the street area. Where conditions permit, certain blocks might be converted into permanent plaza or park space. Figure 1 illustrates one example of how public rights-of-way might be combined with adjacent plazas to create a large open space.

OBJECTIVE 10

ASSURE THAT OPEN SPACES ARE ACCESSIBLE AND USABLE.

POLICY 1

Develop an open space system that gives every person living and working downtown access to a sizable sunlit open space within convenient walking distance.

Proximity is an important factor in the decision to frequent a park during lunch breaks. The average distance most people are willing to walk to a park or plaza is approximately 900 feet.

Map 3 indicates "deficiency" areas — areas not within 900 feet of an existing or proposed major open space — in which new open spaces should be created.

POLICY 2

Encourage the creation of new open spaces that become a part of an interconnected pedestrian network.

The individual parts of an open space system should be linked by an overall downtown pedestrian network. For example, the plazas and arcades of the 5 Fremont Building are natural extensions and components of a

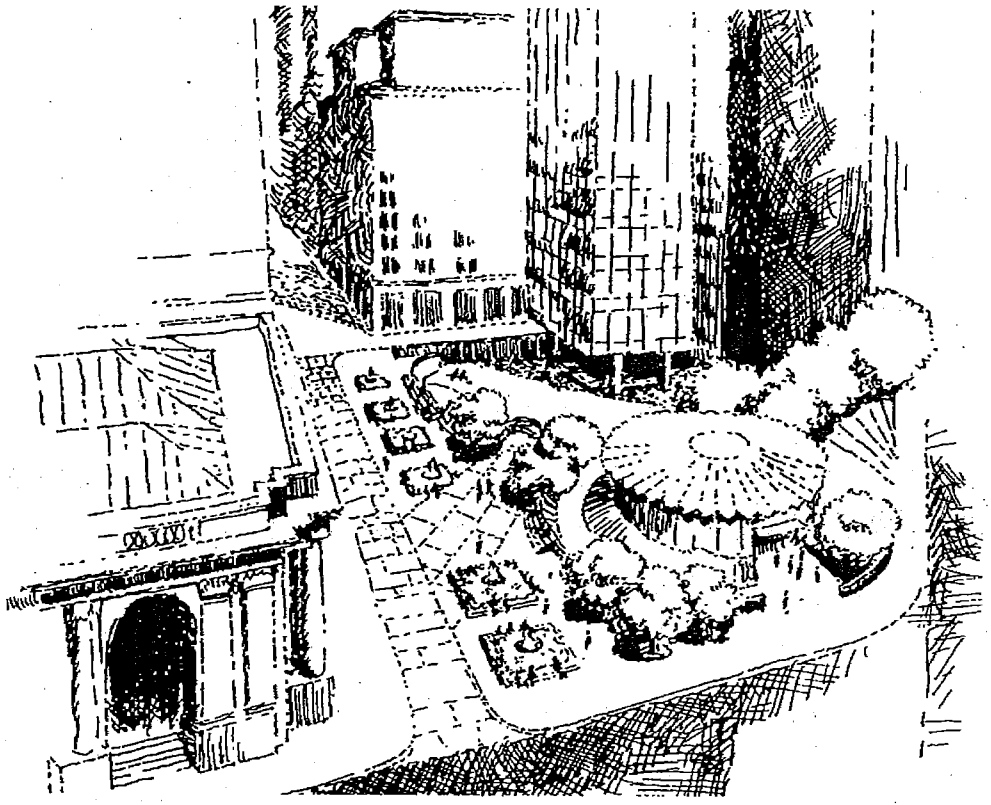


Figure 1 SANSOME STREET COMBINED WITH CROWN ZELLERBACH PLAZA

midblock pedestrian system connecting the Transbay Terminal to Market Street. Plazas and parks become pathways for trips as well as destinations for trips. Future sidewalk arcades, gallerias, and through-block pedestrianways should also contribute to the pedestrian network. This network is shown on Map 7 of the Moving About chapter.

POLICY 3

Keep open space facilities available to the public.

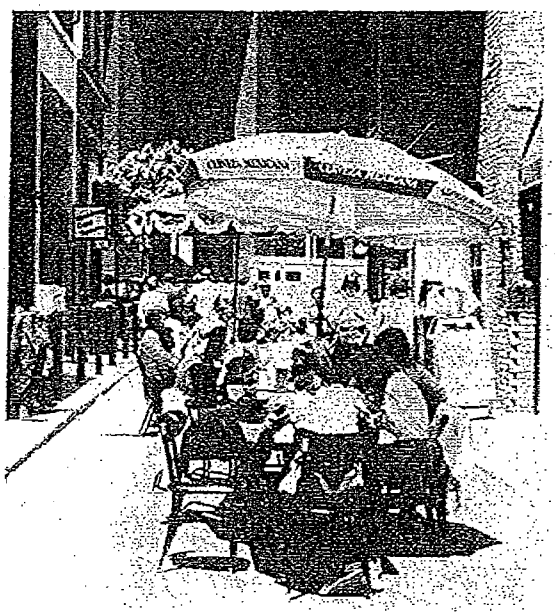
Locked gates or restricted passages negate the purpose of "open" space. All outdoor ground level features which are accessible from the public sidewalk, such as parks, plazas, snippets, and sitting areas in arcades, should always be open to the public during daylight hours. On the other hand, features which require entry through the building such as atriums, greenhouses, sitting areas in gallerias, sun and view terraces can more reasonably be restricted to normal business hours since office workers (shoppers, in the case of a galleria) are the primary users of the space.

POLICY 4

Provide open space that is clearly visible and easily reached from the street or pedestrian way.

Open spaces should be accessible, visible, and generally be at or near grade level to facilitate use. Plazas and parks more than three feet above or below grade are less inviting, and as a result, are less frequently used. Any plaza or park not at street level should be connected to the street system by wide, visible, and inviting stairways or ramps.

Terraces located on upper levels or on top of buildings should be readily accessible to the public. Their availability should be marked visibly at street level. Adequate signs in hallways and elevators should aid in locating the facility.



POLICY 5

Address the need for human comfort in the design of open spaces by minimizing wind and maximizing sunshine.

OBJECTIVE 11

PROVIDE CONTRAST AND FORM BY CONSCIOUSLY TREATING OPEN SPACE AS A COUNTERPOINT TO THE BUILT ENVIRONMENT.

The form of the built environment depends not only on buildings, but the space between them. In many instances, this space is provided by the streets and sidewalks that separate the buildings on either side. Within the grid of streets, properly designed open spaces — as notches or longer segments of blocks — provide relief to an otherwise dominant streetwall form.

Open space is an essential element of the urban form. It is frequently the most remembered and identified component of the urban landscape. For example, Union Square is an anchor physically and psychologically for the area surrounding it.

Conversely, open space in urban settings is dependent upon the built environment to frame, enclose, and define the space. This delicate relationship is characteristic of a quality urban environment.

POLICY 1

Place and arrange open space to complement and structure the urban form by creating distinct openings in the otherwise dominant streetwall form of downtown.

The traditional form of downtown San Francisco is one of structures built vertically from the sidewalk edge. This provides a continuous relationship of pedestrian to building facade. An occasional break in this pattern for a plaza, park, or building setback adds interest to the pedestrian experience. However, too-frequent application of these devices destroys the relationship and results in "towers in the park" removed from the immediate experience of the pedestrian. The provision of open space should be accomplished through conscious concern for the relationship between building mass and open space — with a view to strengthening the visual impact of both.

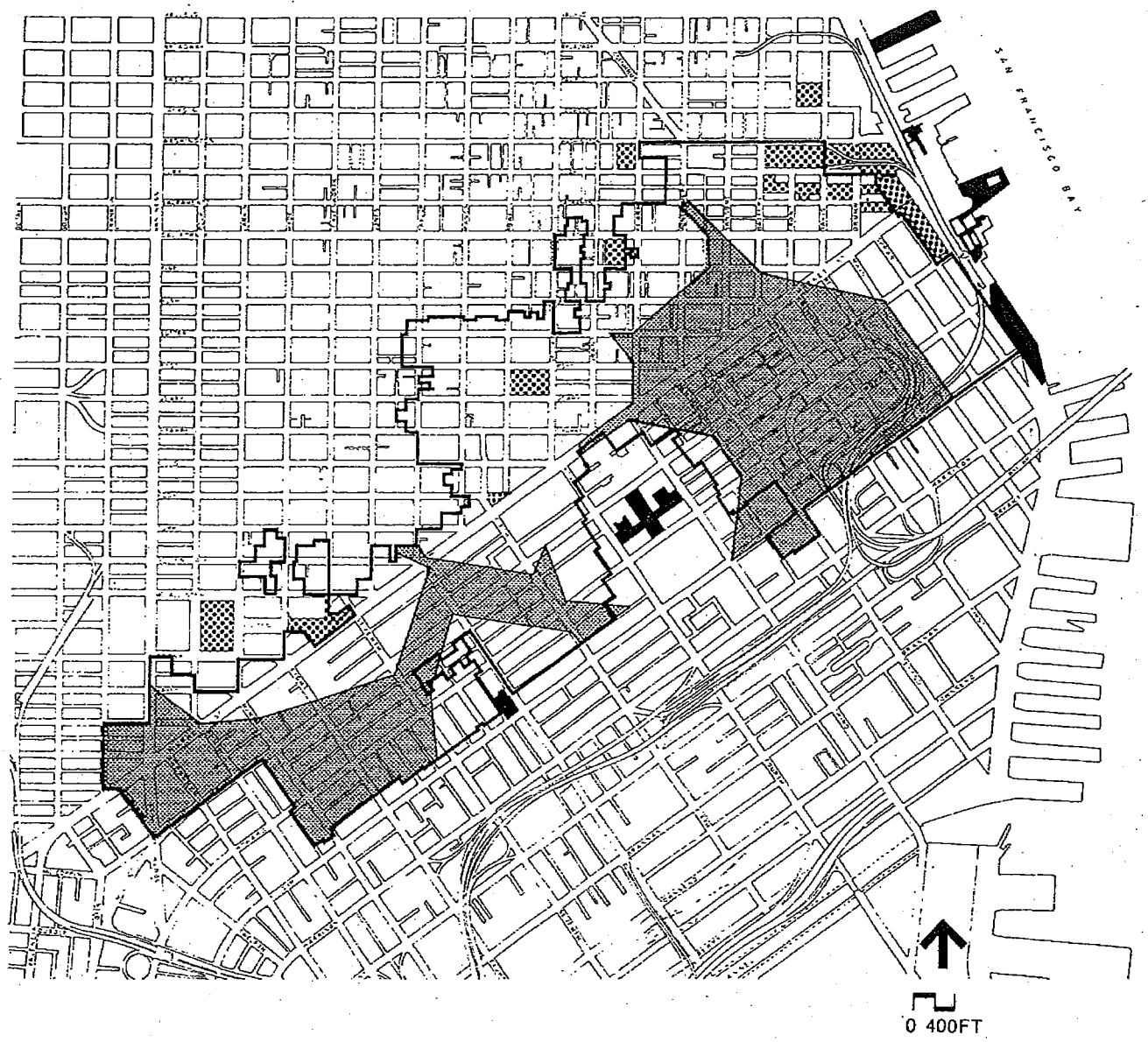
POLICY 2

Introduce elements of the natural environment in open space to contrast with the built-up environment.

Some spaces may be predominantly grass, shrubs, trees, and soft surface parks with a few paths and benches. Others may provide just a few plants, trees, and a fountain in an otherwise hard-surface plaza. However, all open spaces should provide some counterpoint of the natural environment to the dominant presence of the built environment of streets and buildings, if only an opened vista to the sky or water.

Key Implementing Actions

Require open space for most nonresidential uses; Allow the open space requirement of new buildings to be met off-site by developing open space on public land; Continue to acquire and develop new publicly owned open space to serve downtown residential areas; Acquire needed open space through use of eminent domain powers when other means fail.



MAJOR OPEN SPACES

Map 3

Existing Open Space

Open Space in the Planning Stage

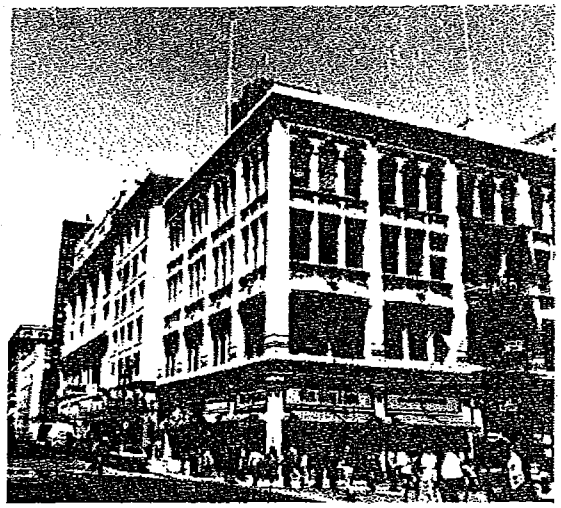
Area Deficient In Open Space
(Not Served By Existing Open Space Or
Open Space In The Planning Stage)

Proposed C-3 District Boundary

PRESERVING THE PAST

Background

Buildings in San Francisco's downtown were, until recently, the product of a short period lasting from 1906 until about 1930. After the earthquake and fire there was a rush to rebuild. By 1910, the area now considered the retail and financial districts was largely rebuilt with little evidence of the disaster remaining. Many of the new buildings were designed by architects trained in the same tradition (at the Ecole de Beaux Arts in Paris or under instructors trained there) and responding to a new building technology. As a result, the downtown had a coherent, unified appearance.



Downtown was characterized by light-colored, masonry-clad structures from six to twelve stories in height with rich, distinctive, and eclectic designs.

Conscious efforts were made to relate buildings to both the street and adjacent buildings by use of similar cornice and belt course lines, and sympathetic materials, scale and color. Large areas of glass, made possible by steel frame construction, were often used to allow light to penetrate into interiors. Buildings were constructed to the street and property lines, defining the street edge and producing a sense of enclosure. The relatively low structures incorporated a considerable amount of ornamentation and articulation, creating a pedestrian scale. Later development, up until the mid-1920s, continued this style and character.

During the late 1920s, though, many skyscrapers (for example, the Russ, Shell, and Pacific Telephone buildings) were of a more monumental size. But by use of a similar scale, style, materials, color, solid to glass ratio, detailing, and belt courses, they blended with buildings built right after the earthquake and fire.

From the Depression until the 1950s, no major buildings were constructed downtown. When construction resumed, buildings were of a much different character. Increasingly, they were much larger in scale than earlier buildings, often dark in color or with reflective glass, with few details to relate the building to pedestrians or to adjacent buildings. The new 'International Style' architecture made an office building a rectangular box with sheer, unornamented walls without setbacks or cornices. Continuity of the building form along the street was lost as buildings were set back and placed in plazas, each creating a "tower in a park."

In recent years, there has been increasing concern over the loss of older buildings and the failure of their replacements to blend into the established character of their surroundings.

OBJECTIVES AND POLICIES

OBJECTIVE 12

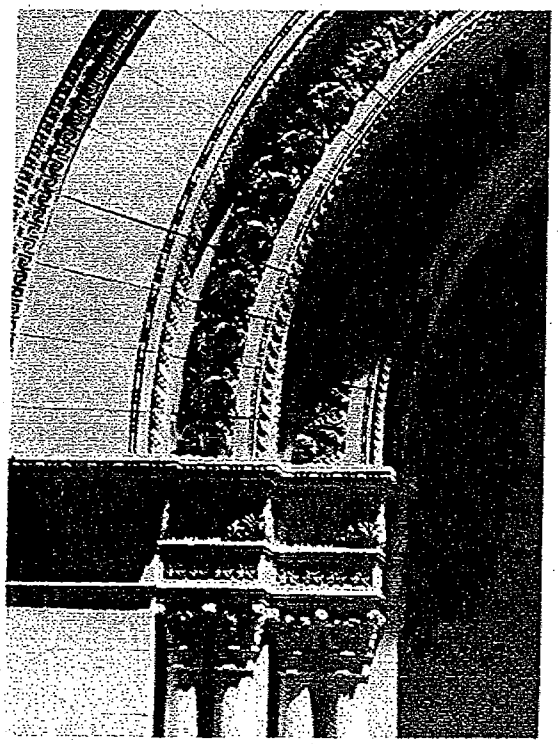
CONSERVE RESOURCES THAT PROVIDE CONTINUITY WITH SAN FRANCISCO'S PAST.

For San Francisco to retain its charm and human proportions, irreplaceable resources must not be lost or diminished. Past development, as represented by both significant buildings and by areas of established character, must be preserved. The value of these buildings and areas becomes increasingly apparent as more and more older buildings are lost.

POLICY 1

Preserve notable landmarks and areas of historic, architectural, or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

Older buildings that have significant historical associations, distinctive design, or characteristics exemplifying past styles of development should be permanently preserved. A continuing search should be made for new means to make landmarks preservation practical — physically and financially.



Criteria for judgment of historic value and design excellence should be more fully developed with attention to individual buildings, and to areas or districts. Efforts to preserve the character of individual landmarks should extend to their surroundings as well.

To some degree many other older structures are worthy of retention and public attention. Therefore, various kinds and levels of recognition are required, keeping in mind that the success of the preservation program depends upon the broad interest and involvement of property owners, improvement associations, and the public at large.

POLICY 2

Use care in remodeling significant older buildings to enhance rather than weaken their original character.

The character and style of older buildings of all types and degrees of merit can be needlessly hidden and thus diminished by misguided improvements. Architectural advice and, where necessary and feasible, the assistance of public programs should be readily available to property owners to assist them in retaining fidelity to the original design.

Along commercial streets, signs on building facades should be in keeping with the style and scale of the buildings and street, and should not obscure architectural lines and details.

POLICY 3

Design new buildings to respect the character of older development nearby.

Care should also be exercised in the design of new buildings proposed near landmarks or in older areas of distinctive character. New and old can stand next to one another with pleasing effects, but only if a similarity or successful transition is achieved in scale, building form, and proportion. The detail, texture, color, and material of the old should be repeated or complemented by the new.

Existing downtown buildings often provide strong facades that enclose the street space or public plazas. The character of these facades should also be respected. Building controls should assure that prevailing heights or building lines will not be interrupted by new construction.

Key Implementing Action

- Require retention of the highest quality buildings and preservation of their significant features. Provide incentives for retention of other highly rated buildings, and encourage retention of their significant features.

  Significant Buildings. Those buildings of the highest architectural and environmental importance—buildings whose demolition would constitute an irreplaceable loss to the quality and character of downtown—would be required to be retained. There are 251 of these buildings. They include all buildings classified as Buildings of Individual Importance and rated as excellent in architectural design, or very good in both architectural design and relationship to the environment.

  These buildings—referred to in the Plan as Significant Buildings—are divided into Category I and Category Ii, the difference being in the extent of alteration allowed. There are 209 significant buildings in Category and 42 significant buildings in Category II.

Significant buildings in Category II can accommodate, because of their depth, more substantial alteration of the back of the building without affecting the building's architectural qualities or appearance or their ability to function as separate structures. Most of these buildings are on deep interior lots with non-architecturally treated side and rear walls. The alteration could be a rear addition to the building visible from the street, a new, taller building cantilevered over the back of the building, or replacement of the rear of the building with a separate, taller structure. The addition or new building would be required to meet the guidelines for new construction in conservation districts.

Demolition of a Significant Building would be permitted only if public safety requires it or, in taking into account the value of TDR, the Building retains no substantial remaining market value.

Changes in the facade, or significant exterior features or interior features designated as landmarks would be reviewed for their consistency with the architectural character of the building by applying criteria, based in part on the Secretary of Interior's Standards for Rehabilitation.



Owners of significant buildings would be required to comply with all applicable codes, laws and regulations governing the maintenance of property in order to preserve the buildings from deliberate or inadvertent neglect.

Contributory Buildings. The Downtown Plan proposes to encourage, but not require, retention of other buildings contributing to the quality and character of downtown. These buildings, called contributory buildings, consist of two groups:

Category III

- Buildings classified as Buildings of Individual Importance and rated very good in architectural quality, but lower than very good in relationship to the environment, or rated excellent or very good in relationship to the environment, and located outside conservation districts. There are 16 of these buildings.

Category IV

- Buildings classified as Buildings of Individual Importance and rated excellent or very good in architectural quality, but lower than very good in relationship to the environment or rated very good in architectural quality and which are located in a conservation district. There are 15 of them.

- Buildings within a conservation district which are classified as Buildings of Contextual Importance. These contextual buildings are buildings that themselves are not as highly rated in architectural design and relationship to the environment as Buildings of Individual Importance, but do make a substantial contribution to the "quality" of an area that contains a number of highly-rated buildings and that is proposed to be given special protection as a conservation district.

While preservation of contributory buildings is desirable and would be encouraged by allowing their owners to transfer unused development rights, their importance is not so great as to justify a requirement that they be retained. Therefore, demolition and replacement or substantial alteration of such buildings would be allowed.

However, if the contributory building is in a conservation district, the design and scale of the modification or the replacement building would be reviewed to assure that the building approximately maintains the character of the district (see discussion of Conservation Districts below.)

Alteration of a contributory building that adversely affects the qualities for which it was given transferable development rights should make it no longer eligible for TDR. Therefore, alterations would have to meet the guidelines for significant buildings in order for the building to retain its transferable development rights.

Once development rights are transferred from a contributory building, alteration or demolition of the building would be regulated by the rules applicable to significant buildings.

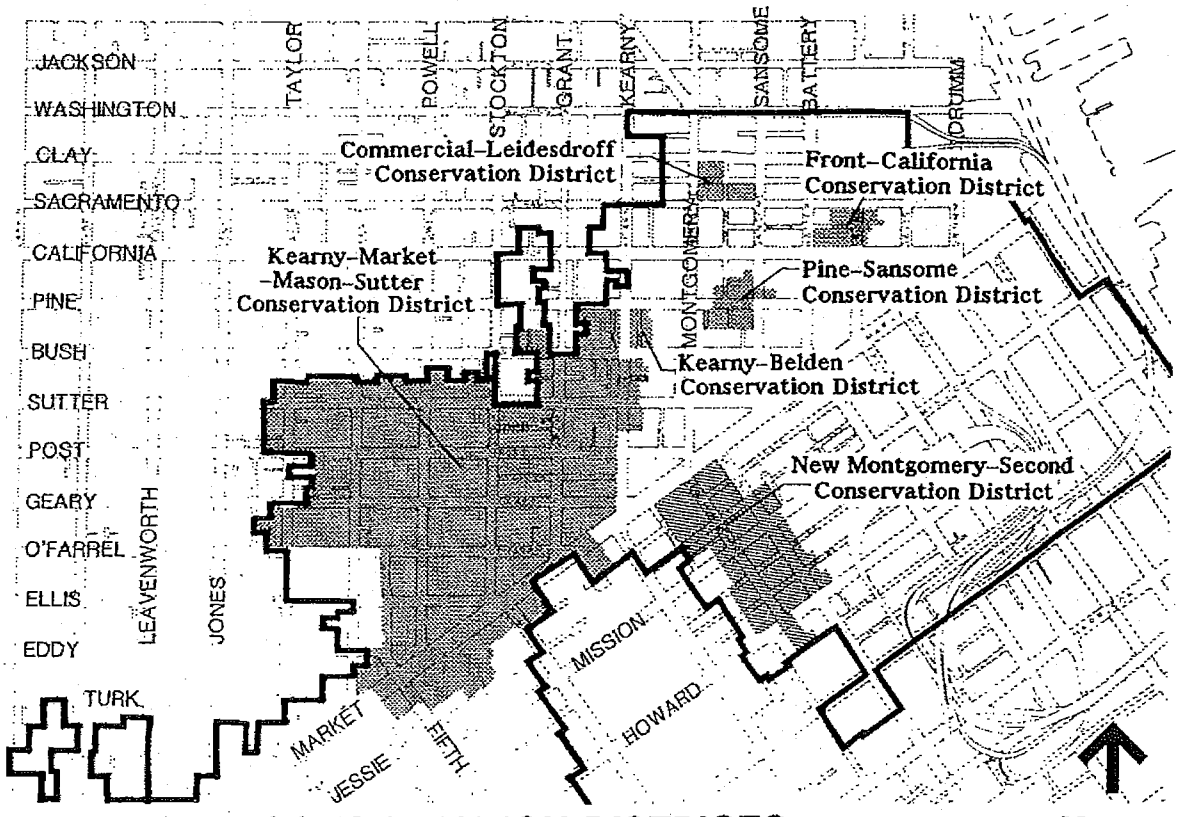
Owners of contributory buildings would be required to comply with all applicable codes and regulations governing the maintenance of the property in order to protect the building from deliberate or inadvertent neglect.

Key Implementing Action

- Create conservation districts in areas with special characteristics and qualities.

Certain sections of downtown have concentrations of buildings that together create geographic areas of unique quality. In these areas, buildings of a somewhat lesser quality than those required to be retained take on an increased importance. These buildings help create a setting that reinforces and complements the qualities of the more significant structures in the area and their own attributes are more apparent and appreciated.

Areas containing these concentrations of significant and contributory buildings would be designated as conservation districts to facilitate preservation of the quality and character of the area as a whole.



DOWNTOWN CONSERVATION DISTRICTS **Map 4**

In these districts, demolition and alteration of significant buildings would be subject to the restrictions applicable to those buildings described above. Contributory buildings as well as unrated buildings could be altered or replaced by new development. However, alterations or new development would be reviewed to assure maintenance of the character of the district. Both significant and contributory buildings would have transferable development rights.

Key Implementing Action

- Allow transfer of the unused development rights from Significant and Contributory Buildings.

  Both significant and contributory buildings should be entitled to sell for use on another site "transferable development rights", that is, the difference between the actual square footage of the building to be retained and the square footage of a new building that could be built on the lot as determined by the applicable floor area ratio. These "transferable development rights" (TDR) could be transferred to any parcel or parcels within the same zoning district if the height, bulk, and other rules of this Plan would permit the increased square footage. TDRs from the retail and office districts and to a more limited extent from the general commercial and support districts could also be used in a special development district immediately south of the existing C-3-O district where increased densities are appropriate. Since the square footage is simply transferred from one lot for use on another, the total allowable density downtown would not be increased.

  TDRs are proposed as a planning tool to insure the maintenance of sufficient development potential in the C-3 District to accommodate orderly growth and preserve a compact downtown, and to balance the public and private interests affected by the preservation policies. TDRs are not legally necessary to compensate property owners for restricting development of sites of landmarks and significant building sites. Similar restrictions on demolition of landmarks, without TDR, have been sustained by courts in many parts of the country.

URBAN FORM

Background

The urban form chapter includes objectives, policies and actions governing downtown building height and bulk, separation of buildings, sunlight access, wind protection, building appearance, and the relationship of buildings to the street.

HEIGHT AND BULK

OBJECTIVES AND POLICIES

OBJECTIVE 13

CREATE AN URBAN FORM FOR DOWNTOWN THAT ENHANCES SAN FRANCISCO'S STATURE AS ONE OF THE WORLD'S MOST VISUALLY ATTRACTIVE CITIES.

The visual appeal of San Francisco is based on its topography — its hills and ridges and their relationship to the ocean and bay — and on the scale of existing development. This scale is by and large a light-toned texture of separate shapes blended and articulated over the city's topography.

Fitting new development into this environment is, in a broad sense, a matter of scale. It requires a careful assessment of each building site, relating a potential new structure to the size and texture of its surroundings. It means making a very conscious effort to achieve balance and compatibility in the design for the new building. Good scale depends upon a height that is consistent with the total pattern of the land and of the skyline, a bulk that is not overwhelming, and an overall appearance that is complementary to the building forms and other elements of the city. Since the height, bulk and appearance of past development differs within the city, scale is relative.



Historically, the buildings forming San Francisco's skyline and streetscape were harmonized by color, shape, and details. Much effort was made in the past to relate each new building to its neighbors at both upper and lower levels, and to avoid jarring contrasts that would upset the city pattern. Special care was accorded the edges of distinct districts, where transitions in scale are especially important. Similar effort and care must be taken with new development in the future.

Tall buildings are a necessary and expressive form for much of the city's office, apartment, hotel and institutional development. These buildings, as soaring towers in an otherwise light-colored, low-rise city, evidence the city's economic strength. They make economical use of land, offer fine views to their occupants, and permit efficient deployment of public services. If properly placed, tall buildings enhance the topographic form and existing skyline of the city.

A proper plan for building height should weigh all the advantages and disadvantages of height at each location in the city. It should also take into account appropriate, established patterns of building height and scale, seeking for the most part to follow and reinforce those patterns. The plan should recognize the functional and economic needs for space in major centers for offices, high density apartments, and hotels.

Bulk refers to the apparent massiveness of a building compared to its surroundings. A building may appear to have great bulk whether or not it is of extraordinary height. It can block near and distant views and create a disconcerting dominance on the skyline and neighborhood. Users of modern building space may find these bulky forms more efficient, or more logical for combining several uses in a single development. But, these considerations do not measure the external effects upon the city.

The apparent bulk of a building depends primarily upon two factors: the amount of wall surface visible, and how far the structure extends above its surroundings. Accordingly, a plan seeking to avoid excessive bulkiness should consider the existing scale of development in each part of the city and the effects of topography in exposing building sites to widespread view.

In general, the texture of San Francisco, when viewed from close-up or from afar, is one of small-scale buildings covering the hills on a grid street pattern, punctuated by green space and occasional larger significant structures, such as churches, schools, and hospitals. The collective mass of office buildings in the Financial District has become the most prominent man-made component of the skyline. The bridges, Twin Peaks, and Golden Gate Park, remain distinctive and identifiable,

but increasingly, the intense cluster of large-scale structures is the city's dominant image. The bulkiness and repetitive boxiness of many recent structures have obscured the fine-scale sculptured skyline of pre-World War II San Francisco. To create a new sculptured skyline, new buildings must have generally thinner and more complex shapes.

Control of building bulk limits the impact of building mass. At the streetscape — the closest view — building mass directly affects the light and air on the street, on plazas, and on adjacent buildings. The mass of an individual building dominates the scene from a pedestrian's view.

Views down a street or from upper floors of buildings across the downtown enable the mass and shape of buildings to be compared with one another. Here relationships of building forms to other building forms become important. An excessively bulky building can obscure views to and from other buildings.

At a distance of a mile or more, relationships among buildings form a skyline image — a combined mass and shape. The bulk and form of the individual structures — most particularly the taller, larger structures and those at the edge of downtown — affect the skyline image.

Bulk controls should address the impact of a building at the streetscape view, its relationship to neighboring buildings, and its cumulative impact on the skyline as a whole. Controls should provide a building envelope that offers a latitude for individual building design, but in harmony with the whole.

POLICY 1

Relate the height of buildings to important attributes of the city pattern and to the height and character of existing and proposed development. (See Map 5)

Downtown height controls should be consciously structured and varied to create specific areas which simulate the natural hills that characterize San Francisco. Taller buildings should be clustered to promote the efficiency of commerce and avoid unnecessary encroachment upon other areas. The downtown financial core — the major place of tall buildings in the city — should be kept separate from other less intense activity areas in surrounding low rise development. It should taper down to the shoreline of the Bay. Other highrise nodes should be kept away from the base or sides of hills as far as possible, or should be restrained from further intrusion onto hillsides.

In previous eras of city building, the height of new development within an area might be expected to vary considerably. The pressure to maximize development on a site was not as significant a factor then. Under such conditions, extended areas with the same height limit did not pose any city form problems. A natural variety of heights resulted in a complex, interesting city form.

There is now, however, an increasing tendency to build to the height limit, particularly in height districts lower than 400 feet. When many buildings are constructed at the height limits, a visible lining up of building tops occurs. This phenomenon called benching causes an awkward city form.

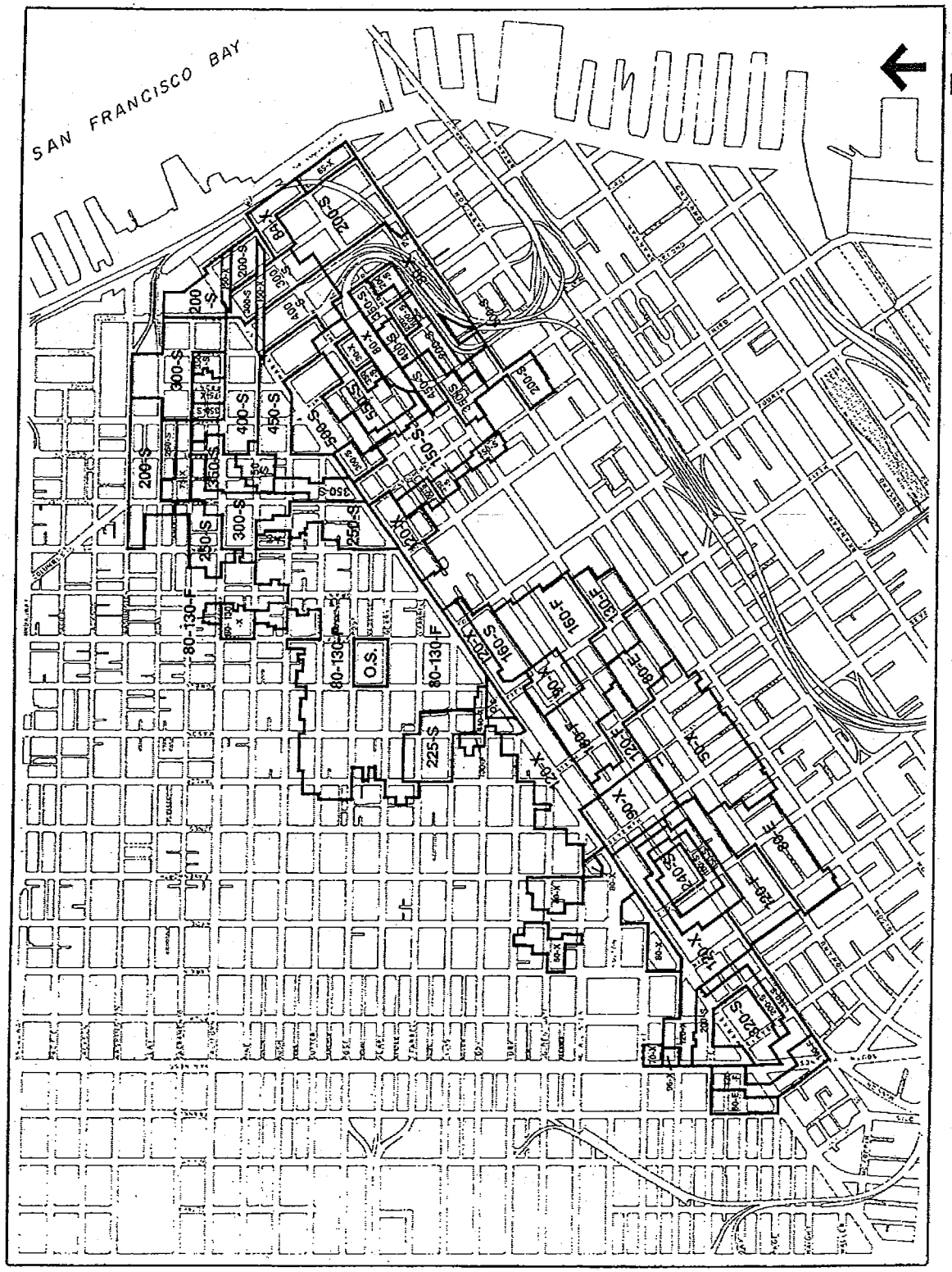
To avoid this benching effect, narrower height districts of varied height and mechanisms which allow greater height for more slender buildings should be created. Height limits should be structured so as to allow the presence of new buildings to affect the existing skyline in a positive way, softening existing "benching," and providing more variety and interest in the skyline and general view of the city.

POLICY 2

Foster sculpturing of building form to create less overpowering buildings and more interesting building tops, particularly the tops of towers. (See Figures 2 and 3 on page 30)

As buildings increase in height, they should be sculptured or shaped to appear increasingly slender and delicate. Modifying the silhouette of a building, making the more visible upper portion slender, offsets the building's bulkiness.

The shape given to the top portion of every large structure should consider the building's position in city views. Prominent buildings should be consciously designed to contribute to a graceful skyline in harmony with the texture of development on surrounding hills. Buildings below the city silhouette, but still prominent in views, should contribute to an overall sculptural form — avoiding awkward or overscaled blunt forms. The tops of all buildings should be interesting to look at from nearby towers.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Map 5
PROPOSED HEIGHT AND BULK DISTRICTS

Figure 2 BULK LIMITS

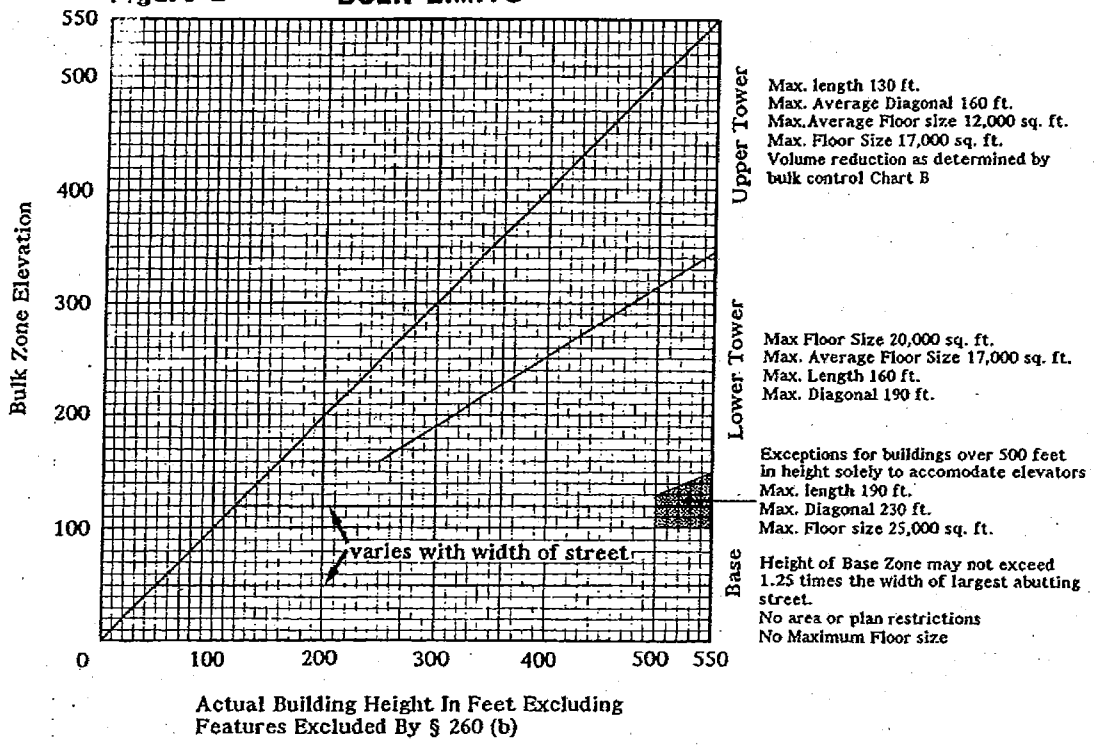
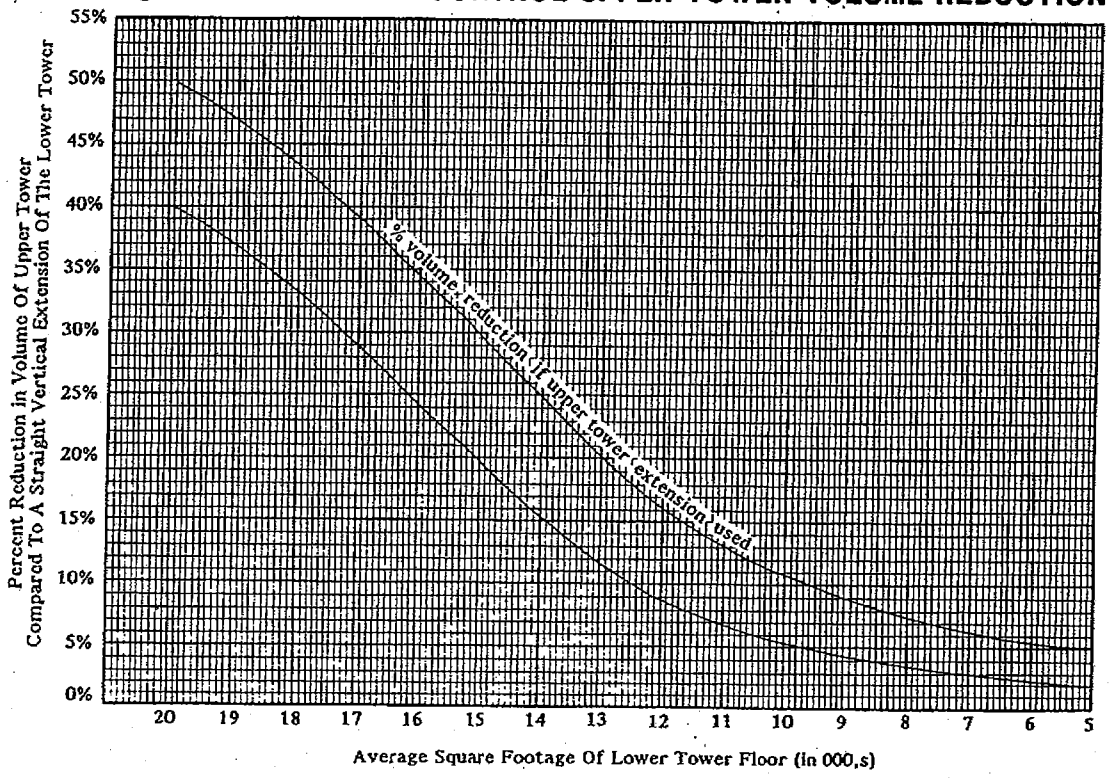


Figure 3 BULK CONTROL UPPER TOWER VOLUME REDUCTION



Skyline effects of existing box-shaped buildings should be masked or softened by new tall, well-composed buildings similar in height to nearby towers should be shaped and detailed to disguise the similarity.

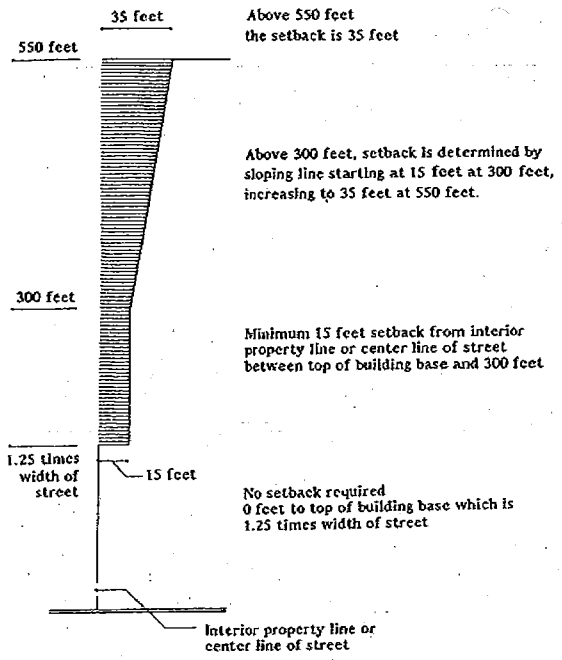
POLICY 3

Create visually interesting terminations to building towers.

All buildings should be massed or otherwise designed or articulated to create a visually distinctive termination of the building facade. The intent is to return to the complex visual imagery of the surrounding hillsides and to the complex architectural qualities of older San Francisco buildings. However this does not mean that literal employment of historical detailing is encouraged, although that may be called for in particular circumstances. What is desired is the evolution of a San Francisco imagery that departs from the austere, flat top box — a facade cut off in space.

Figure 4

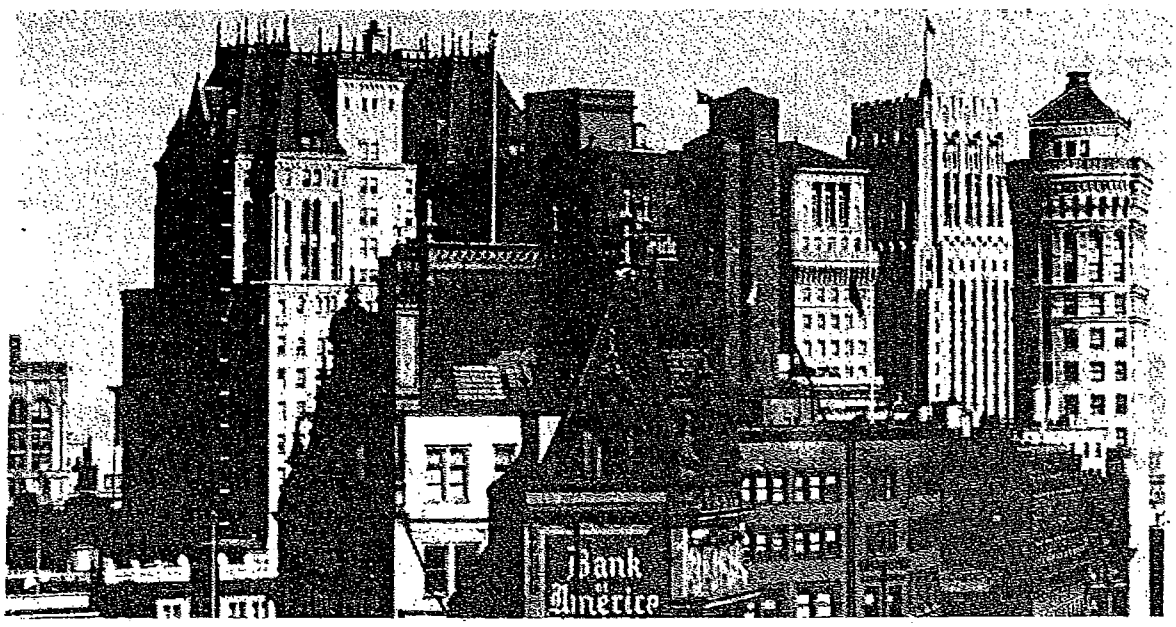
SEPARATION BETWEEN TOWERS



POLICY 4

Maintain separation between buildings to preserve light and air and prevent excessive bulk. (See Figure 4)

Every major highrise should be designed to be a good neighbor to surrounding towers, recognizing that a potential exists to build additional structures in the immediate vicinity. Setbacks on interior property lines and setbacks on narrow south of Market streets, should be provided to assure adequate separation between towers even though the structures are on relatively small lots.



SUNLIGHT AND WIND

Background

The existing land use controls give little attention to the effect of building form on the loss of sunlight and the creation of wind. The shadow and wind studies done as part of the elaborate environmental review process initiated after existing controls were adopted, along with the special analysis of wind and sun which has been undertaken recently have heightened public concern over these issues. The blockage of sunlight to St. Mary's Square caused by the Telephone Building on Pine Street and the wind currents around Fox Plaza, the Federal Building, and the U.S. Assessor's Building are dramatic examples of the impact of inappropriate building forms on the pedestrian environment.

Pedestrian comfort depends on the combined effects of sun, wind, temperature, and humidity. Locations exposed to the wind and shaded by buildings are seldom comfortable in San Francisco's typically cool temperatures.

OBJECTIVES AND POLICIES

OBJECTIVE 14

CREATE AND MAINTAIN A COMFORTABLE PEDESTRIAN ENVIRONMENT.

POLICY 1

Promote building forms that will maximize the sun access to open spaces and other public areas.

Given San Francisco's temperate climate, the warmth provided by direct sunlight can make a significant difference in the physical comfort experienced in these spaces.

Buildings to the south, east, and west of parks and plazas should be limited in height or effectively oriented so as not to prevent the penetration of sunlight to such parks and plazas.

In addition to parks and plazas there are certain locations in the downtown where direct sunlight is very important. They include shopping streets in the retail district, and alleys with a high concentration of eating and drinking establishments and a high volume of lunchtime pedestrian use.

New buildings adjacent to these spaces should be shaped to minimize the shadow that is cast by the building on the public space.

POLICY 2

Promote building forms that will minimize the creation of surface winds near the base of buildings.

Variation in ground level wind impacts is related to several factors:

- Exposure of the building to the prevailing wind direction, the more exposed a building is, the greater the volume and momentum of the wind intercepted, and the greater the potential for wind accelerations at street level.
- The shape, area and uniformity of the upwind facade. Relatively large, uniform facades typically result in greater wind accelerations than do narrow or complex facades with numerous setbacks.

These factors should be taken into account in the massing and detailing of new buildings. Exposed facades should use setbacks at various levels, and other configured shapes and design features, to reduce wind impact. In buildings of a size likely to cause problems, wind tunnel tests of alternative building masses should be undertaken and the results employed in selecting the shape of the building. As a general rule, a building form should not be used which causes wind speeds to exceed eleven miles per hour in areas where people are walking and seven miles per hour where people are sitting.

BUILDING APPEARANCE

OBJECTIVES AND POLICIES

OBJECTIVE 15

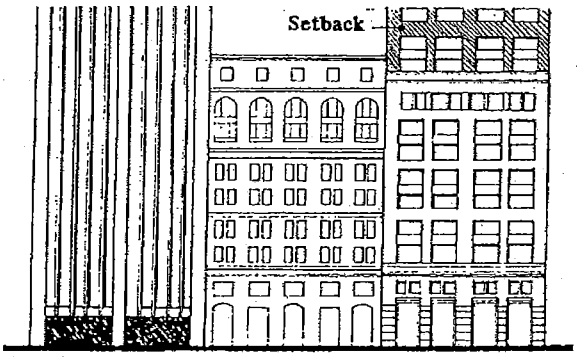
TO CREATE A BUILDING FORM THAT IS VISUALLY INTERESTING AND HARMONIZES WITH SURROUNDING BUILDINGS.

POLICY 1

Ensure that new facades relate harmoniously with nearby facade patterns.

When designing the facade pattern for new buildings, the pattern of large nearby existing facades should be considered to avoid unpleasant juxtapositions. Incongruous materials, proportions, and sense of mass should be avoided.

As a general rule, facades composed of both vertical and horizontal elements fit better with older as well as most new facades.



The all vertical pattern of this building has little in common with the center structure

Strong verticals and horizontals strong base and similar street wall height help give building a positive relationship to center building

POLICY 2

Assure that new buildings contribute to the visual unity of the city.

For the most part, buildings in San Francisco are light in tone. The overall effect, particularly under certain light conditions, is that of a whole city spread over the hills. To maintain continuity with this existing pattern, disharmonious colors or building materials should be avoided. Buildings should be light in color. Highly reflective materials, particularly mirrored or highly reflective glass, should be used sparingly.

POLICY 3

Encourage more variation in building facades and greater harmony with older buildings through use of architectural embellishments and bay or recessed windows.

STREETSCAPE

OBJECTIVES AND POLICIES

OBJECTIVE 16

CREATE AND MAINTAIN ATTRACTIVE, INTERESTING URBAN STREETSCAPES

POLICY 1

Conserve the traditional street to building relationship that characterizes downtown San Francisco.

San Francisco is noted for streets that are at the property line with little or no space between them. This historical pattern of development gives San Francisco its intense urban quality.

This pattern should be preserved and fostered. Structures generally should be built to the street property line along the entire frontage to a sufficient height for proper definition of street space. Exceptions to this streetwall should be allowed to create open space and circulation space where desirable and appropriate. However, open spaces should not be so frequent or close together that they undermine the sense of a continuous streetwall.

POLICY 2

Provide setbacks above a building base to maintain the continuity of the predominant streetwalls along the street.

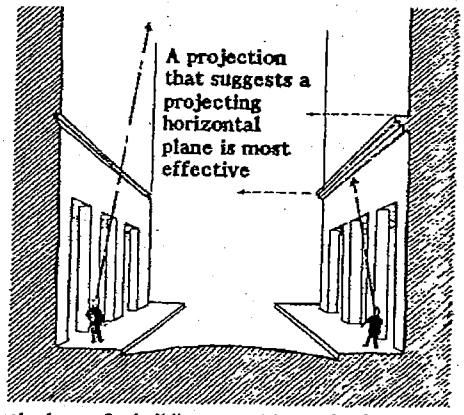
Many downtown streets contain ornate older buildings of modest scale, which should be preserved for future generations to appreciate. While the heights of these buildings vary when taken together, they often create a sense of a unitary street facade or wall. This street wall gives continuity and unity to the streetscape. The intrusion of large, flat planed modern buildings among small-scaled and decorated older buildings can break up the continuity and unity.

If the new taller building is set back an appropriate distance above the existing predominant streetwall height, the upper portion of the building will not be perceived as part of the streetwall, and if the lower

portion were given a similar texture and projecting cornice the disruption would be minimized. The depth of the setback required would be a function of the width of the street and the height of the existing streetwall.

The height of the streetwall cannot be determined with great precision by a mathematical formula. Often there is considerable variation in the heights of buildings on the same block. Determination of an appropriate streetwall height for the new building is a question of judgment — "What height would be consistent with the general scale of the buildings on the block that are likely to remain?" This question would be resolved in a case-by-case basis.

In areas where there is no pre-existing streetwall worth of retention, setbacks may not always be needed if a strong, pedestrian scaled building base is crated and the building tower is well separated from other towers. However, setbacks might still be needed for sunlight access or to create windbreak.



At the base of a building with a recessed band vision can slide by along the surface of the building

The projecting beltcourse firmly interrupts the line of vision and sets a scale for the street.

POLICY 3

Maintain and enhance the traditional downtown street pattern of projecting cornices on smaller buildings and projecting belt courses on taller buildings.

The projecting cornice is a very distinctive San Francisco architectural feature. Most older buildings have them. Most tall older buildings also have horizontal architectural features that clearly define the building base at a level typically half to one times the width of the street. These projections, together with the generous use of decorative embellishments, contribute to the architectural sense and comfortable human scale of downtown San Francisco. Their contemporary use should be encouraged in new development. Alternative means of terminating the shorter building or defining the base of a taller one could be employed if effective in creating a sense of street scale. However, it is extremely difficult to do this unless one's eye is interrupted by a projection as it moves up the facade from the base. Change of color, colored bands, and grooves are generally ineffectual and rely on the projections on adjacent buildings for what effect they do have.

POLICY 4

Use designs and materials and include activities at the ground floor to create pedestrian interest.

Retail Uses

Shops and restaurants contribute liveliness and visual interest to street frontages, lobbies and plazas of office buildings. Group floor space fronting on streets, pedestrianways, plazas, and courtyards outside the retail district should be devoted primarily to retail and service uses that are of interest to pedestrians and that meet the needs of workers and visitors to nearby buildings.

Glass

The use of clear untinted glass on the first two or three floors of buildings permitting pedestrians to glimpse the activity within, contributing to the overall sense of liveliness of the street. Dark tinted windows create a blank impersonal street front with no sense of life or activity, and should be discouraged.

Detailed Bases

Incorporation of visually interesting details and/or decoration into the design of the base avoids an excessively dull frontage.

Decorative features, including the detailing found on many older and some contemporary designs, assure needed visual interest for the pedestrian. They should be used whenever practical.

Textured Blank Walls

When blank walls are unavoidable, they should be made less oppressive through the interesting patterns and scale-giving feature.

POLICY 5

Encourage the incorporation of publicly visible art works in new private development and in various public spaces downtown.

The quality of life is enriched by art and artistic expression in many varied forms. The worker or visitor to downtown spends many hours in an environment of office buildings and commercial enterprises. Art in this environment can offer a counterpoint, attract the eye, stimulate the imagination, arouse emotions or just cause a momentary interest or amusement.

In the past, many prominent buildings included sculptured relief, ornate custom grillwork, mosaics, murals, carvings, as well as statuary and other forms of artistic embellishment. Buildings were less separable from art and artistic expression.

To reestablish this tradition of enhancing the environment for all to enjoy, artwork should be incorporated in new buildings and public spaces in downtown. Art work is required for all new public buildings of the City and County. The Redevelopment Agency has successfully used a requirement for art work in its downtown redevelopment projects to obtain major fountains, sculpture, and other artworks which have made a substantial contribution to the quality of the downtown environment.

Sculpture, bas-relief, mosaics, murals, and decorative water features are among the types of artwork that should be provided.

MOVING ABOUT

Background

Even in the days when San Francisco was a port and fishing village, access to downtown was critical in generating and accommodating growth in the city. Located at the upper end of a 40-mile peninsula, the city grew almost exclusively on the support of a waterborne transportation system.

Ferries provided the links to Marin, and the East Bay, and up the Delta to early rail connections inland. In time, this regional ferry network became quite extensive and moved 37 million persons a year into and out of downtown. The ferry boats were met by electric railroad transit systems, including a third-rail electric commuter railway from Sausalito north to San Rafael. A similar overhead-wire electric inter-urban system in the East Bay connected directly to Emeryville, Berkeley, Oakland, Alameda, and places as far as Chico. These systems were supported by miles of electric streetcar and cab car systems. The focus of all these networks at one point—downtown San Francisco—made it the most accessible by land and water in the Bay Area.

Thus established, downtown San Francisco continued to grow. To make growth possible, the transportation systems were altered and expanded over successive decades. The Bay Bridge was opened in 1936, and the Golden Gate Bridge a year later. These two connections provided direct access for trains and automobiles and spelled the decline and virtual elimination of ferry boats.

During World War II, the transportation system was taxed to its maximum capacity. Very little additional expansion of the basic networks occurred. Following the war, several dramatic changes took place. The San Francisco Municipal Railway (MUNI) absorbed the Market Street Railway, its larger, privately owned competitor, as well as most of the independent cable car operators. Fifteen years of deferred maintenance had taken its toll on streetcar and cable car lines. These were replaced by trolley buses and motor buses. Freeways were planned and construction begun. Interurban rail tracks were removed in 1958 from the lower deck of the Bay Bridge to increase capacity. The State enacted a law for toll bridge payment of an underwater rail subway tube if any regional transit system was ever constructed. Early proposals for subways under Market Street date back to the 1920s, but it wasn't until 1962 that the three-county Bay Area Rapid Transit District (BART) was approved by the voters.

By the time BART's transbay revenue trains once again provided direct passenger rail links to the East Bay in 1974, the city had already experienced the "freeway revolt." The freeway system had been stopped. The second bridge across the Bay was voted down. The Embarcadero Freeway had been recommended for removal. The completion of I-280 to the Bay Bridge had been deleted from the Interstate Highway System. The planned system of grade-separated roadways had been only partially constructed.

The City Planning Commission and Board of Supervisors adopted a "transit first" transportation policy in 1973. The fragile environment of San Francisco was too important to be dismantled and disrupted by the scale of infrastructure required to support an "automobile first" policy. The city's Master Plan called for accommodating future growth downtown with public transit.

In the ten years since adoption, the "transit first" policy has worked well. Millions of square feet of office space, hotels, and retail have been constructed, and thousands of additional person work downtown. There has been no significant increase in automobile infrastructure. The downtown streets have been strained, but remain serviceable because of the success of the transit first policy.

The city's policy has worked because the years since 1972 have included opening BART, creation of the Golden Gate Transit ferry and bus system to the North Bay counties, creation of SamTrans to acquire and expand former Greyhound service to San Mateo County, opening of MUNI Metro as a light-rail urban subway system serving one-quarter of the city's neighborhoods, and federally assisted expansion of bus service throughout the region. Recently, the responsibility for operating the Southern Pacific (SP) commuter service was assumed by Caltrans. Plans are under way to expand and possibly extend this service closer to downtown. Taken together, the last ten years have brought a significant addition to transit access to downtown San Francisco.

Downtown employment may grow by as much as 90,000 jobs by the year 2000. Conditions would deteriorate significantly if employment growth results in many more cars downtown. For this reason, the Downtown Plan does not recommend expanding the capacity of streets and bridges to accommodate an increase in the number of cars entering the general downtown area during the peak period. Nor does it advocate lengthening the peak period to more than two hours to accommodate more commuters. This is already happening and it could be encouraged by promoting staggered work hours. However, extending the peak would require an expansion of the parking supply and will increase street congestion and further restrict regional mobility. The Plan, therefore, contemplates another strategy with two principal efforts.

Effort 1: Increase the number of commuters per vehicle

Ridesharing should be expanded. The increase in average auto occupancy rates shown in Table 2 might be achievable through increased use of carpools and vanpools and these increases should be established as a planning goal.

The extent to which increases in ridesharing can be achieved is primarily dependent upon the incentives provided to carpoolers/vanpoolers. Feasible increases vary from corridor to corridor because of the differences in ridesharing incentives that can be provided.

The coordination of ridesharing activities, (such as is being performed by RIDES for Bay Area Commuters and transportation brokers) and low cost, reserved parking spaces for vanpools (as is being provided in various Caltrans lots underneath the freeways) are available to commuters from all corridors. Other incentives are quite different from corridor to corridor. The East Bay corridor has three toll free high occupancy vehicles (HOV) lanes at the approach to and the metering area beyond the Bridge toll plaza. Returning commuters have an exclusive HOV lane and on ramp to the Bay Bridge via Bryant and Sterling Streets. The North Bay corridor has a HOV lane on U.S. 101 from Greenbrae to Richardson Bay Bridge and has free tolls to HOVs but no exclusive by-pass lanes. The South Bay corridor has a HOV lane on I-280 southbound between Sixth Street and just north of the U.S. 101 interchange. As commute times are extended because of congestion these ridesharing incentives will become stronger.

There are no incentives currently provided to San Francisco commuters on freeways (except the HOV lane on southbound I-280) and surface streets. In the short term it is expected that the difficulty and expense of parking will be the primary incentive for ridesharing by San Francisco commuters.

TABLE 2

RIDESHARING

(COMMUTER OCCUPANCY RATE PER VEHICLE)

Corridor	Existing	Year 2000 Goal	Percentage Increase
East Bay	2.42	2.83	16%
North Bay	1.47	1.68	14%
Peninsula	1.76	1.94	10%
San Francisco	1.24	1.36	9%
All Corridors	1.48	1.66	12%

If these increases can be achieved it would mean an additional 12,000 people could travel by automobile from the three regional corridors without increasing the number of automobiles.

Effort 2: Increasing the number and percentage of commuters using transit

By increasing the percentage of downtown commuters using transit to 70% from the existing 64% as shown in Table 3 (and assuming the ridesharing goals can be met) the projected additional workers can be accommodated without increasing the total number of commuter vehicles. This percentage increase should be established as a planning goal.

This goal could be achieved with the following additions to transit capacity and other measures: (1) projects in the vehicle acquisition plans of the transit operators current 5-year plans and capacity increases for MUNI, Golden Gate, SamTrans and A/C of from 2% to 2.5% per year beyond current 5-year plans to 2000; (2) construct a MUNI-Metro Turnaround at Embarcadero; (3) purchase additional cars to make BART Transbay trains all 10-cars during peak period; (4) extend MUNI-Metro to 4th and Townsend Streets; and (5) an effective implementation and enforcement program for transit preferential treatments on downtown streets.

These two goals—increasing the percentage of workers commuting downtown by transit in the two-hour peak from 64% to 70% and increasing the occupancy rate for persons per vehicle to 1.66 persons per vehicle — are formidable goals. But they must be achieved if the project rate of employment growth is to be manageable.

TABLE 3

CHANGE IN USE OF AUTO AND TRANSIT FOR COMMUTE TRIPS

	AUTOMOBILE		TRANSIT	
Year	Persons	Percent	Persons	Percent
1984	68,400	36%	116,600	64%
2000	76,900	30%	179,400	70%

The Plan describes a number of implementing actions in order to carry out Effort I to increase ridesharing and Effort II to increase transit ridership. These implementing actions, while not all are required to accommodate forecasted downtown growth would make a contribution to overall transportation efficiency and reduce congestion from current levels. To the extent various actions are carried out, commuters, shoppers and visitors in the year 2000 will experience less congestion, more comfort, less pollution, and fewer inconveniences in moving to, from and through downtown than they do today.

MOVING TO AND FROM DOWNTOWN

OBJECTIVES AND POLICIES

OBJECTIVE 17

DEVELOP TRANSIT AS THE PRIMARY MODE OF TRAVEL TO AND FROM DOWNTOWN.

The automobile cannot serve as the primary means of travel to and from downtown. An alternative means — convenient and of greater efficiency — is required. Good, direct transit service is available from almost all parts of the city to downtown. Transit is the dominant means of travel during the rush hours. Nevertheless, travel is often slow, and vehicles are crowded during the rush hours.

Crowding can never be eliminated completely. However, it is important for continued patronage and rider comfort that trunklines serving outlying districts provide seats for all passengers and that short-term standing riders be allotted adequate space. Travel to downtown should be possible in less than 30 minutes from all parts of the city. It can be achieved with express buses, exclusive bus lanes, and construction of rapid transit lines.

The use of transit for travel from the suburbs to downtown can only become the primary travel mode over the long run with the extension of a good regional transit system connecting downtown to other parts of the Bay Area.

Rapid Transit Lines

POLICY 1

Build and maintain rapid transit lines from downtown to all suburban corridors and major centers of activity in San Francisco.

The city and much of the region should continue its commitment to a transit first policy with respect to intercity commuter travel. Rapid rail transit probably offers the most competitive service in relation to automobile travel. It also offers the highest possible capacities in transit service. The use of BART or any other line-haul rail system is dependent to a great extent on access to and from stations in outlying residential areas and employment centers. Well-planned suburban feeder systems should be provided.

Non-rail Transit

POLICY 2

Expand existing non-rail transit service to downtown.

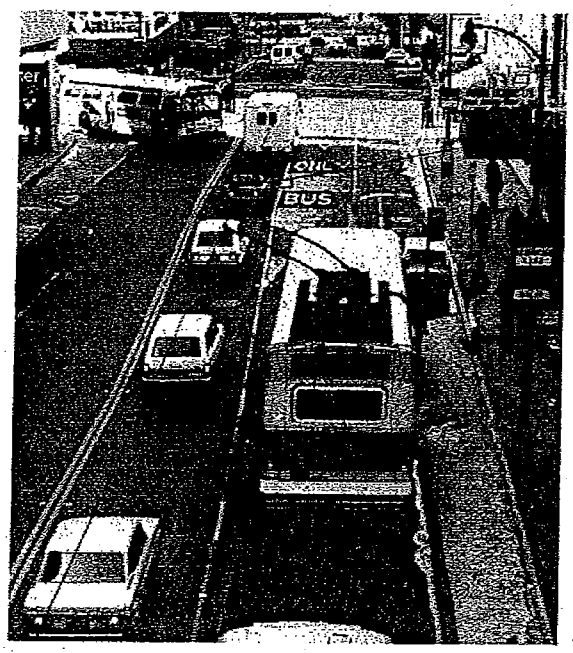
Given the capacity of roads and bridges leading to and from downtown, which are not likely to be expanded significantly, the projected growth in downtown employment can only be accommodated by expanding the peak commute period and expanding the use of carpooling and/or expanding transit service to and from downtown. Until rail transit is available, non-rail transit service, particularly from the East Bay and from within San Francisco, should be increased. Various carriers serving downtown should develop long-range service expansion plans to accommodate the projected demand generated by downtown San Francisco growth.

Transit Lanes

POLICY 3

Establish exclusive transit lanes on bridges, freeways and city streets where significant transit service exists.

Transit lines should provide more efficient service by operating on their own rights-of-way. These should be instituted on bridges, freeways and thoroughfares leading into the city, such as on the Waldo Grade and Golden Gate Bridge, and interconnect, where feasible, with a system of exclusive bus lanes or other transit-priority street segments in the city.



Transit Transfers

POLICY 4

Coordinate regional and local transportation systems and provide for interline transit transfers.

To increase the usefulness and convenience of transit systems, transit users should be able to transfer freely from one system to another. The points of interchange should be clearly identified. The creation of new fare recording mechanisms based on a magnetically encoded card, such as the "Fast Pass" or BART ticket, would expand interline travel.

Free, or low cost transfer should be available between MUNI and each of the suburban transit operators. Suburban residents often require MUNI service to extend their trips within San Francisco.

Transit Terminals

POLICY 5

Provide for commuter bus loading at off-street terminals and at special curbside loading areas at non-congested locations.

Off-street terminals are preferable to curbside locations because they provide adequate back-up space for passenger waiting, ticketing and loading. They also provide convenient transfers among different systems. On the other hand, loading and unloading points should be conveniently distributed throughout downtown to make transit attractive to intercity commuters. As opportunities present themselves off-street terminals should be developed. Until adequate terminals can be provided, commuter buses should load and unload at designated and easily identifiable curbside locations such as Market Street. They should be chosen to minimize conflict with pedestrian flows.

POLICY 6

Make convenient transfers possible by establishing common or closely located terminals for local and regional transit systems.

One or two new terminals should be developed, or an existing one upgraded, to accommodate buses and rail services provided by various regional and local lines. The terminals should be in close proximity to, or fully integrated with, BART stations and MUNI terminals to make transfers between lines possible by a short walk. Priority should be given to a location or locations where existing and future intensities of development are highest.

Ferries

POLICY 7

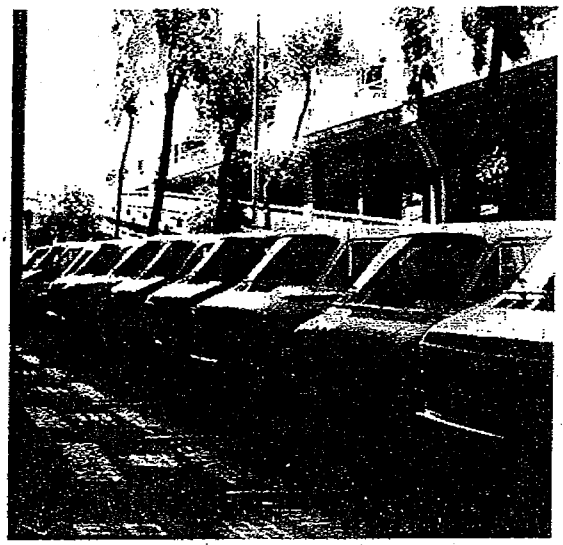
Continue ferries and other forms of water-based transportation as an alternative method of travel between San Francisco and the north bay.

For communities in Marin County, ferry or high-speed water craft offers an alternative means of travel to downtown. It offers an efficient and pleasant way to commute and should be continued. As ridership and location warrant, water-based transportation should be developed to other locations in the Bay Area.

OBJECTIVE 18

ENSURE THAT THE NUMBER OF AUTO TRIPS TO AND FROM DOWNTOWN WILL NOT BE DETRIMENTAL TO THE GROWTH OR AMENITY OF DOWNTOWN.

Increasing automobile traffic means more environmental damage and greater inconvenience. A basic premise of the Transportation Element of the Master Plan is that a desirable living and working environment and a prosperous business environment cannot be maintained if traffic levels continue to increase without limits. Various methods should be used to control and reshape the effect of automobiles on the city, and to promote other means of transportation to improve the environment.



POLICY 1

Do not increase (and where possible reduce) the existing automobile capacity of the bridges, highways and freeways entering the city.

The established policy of limiting access into and through the city by automobiles should be maintained. This policy works in conjunction with policies calling for increasing transit for commuters to San Francisco. More vehicular access into the city conflicts with environmental objectives, overloads the city street system, and jeopardizes the city's commitment to mass transit. This policy allows for the introduction of exclusive bus lanes on bridges, highways, and freeways where these lanes are compatible with transit systems and where they will help provide better service.

Carpools-Vanpools

POLICY 2

Provide incentives for the use of transit, carpools and vanpools, and reduce the need for new or expanded automobile parking facilities.

The alternatives to expanding automobile facilities are to make existing facilities serve more people and to use other ways of getting people where they want to go. Single-occupancy automobile use is incompatible with the need to conserve energy and land, the need to reduce congestion on thoroughfares, and the need to reduce auto emissions.

Actions that make transit more convenient, economical and reliable should remain a high priority for San Francisco. Carpooling should be encouraged for those work trips which cannot be made conveniently by transit.

Employers should be encouraged to provide incentives for transit use and carpooling by employees. A transit subsidy, such as the provision of a transit "fast-pass," could be an alternative to the provision of free employee parking. Where an employer already has parking spaces available for employees, these spaces should be reserved for those persons who carpool.

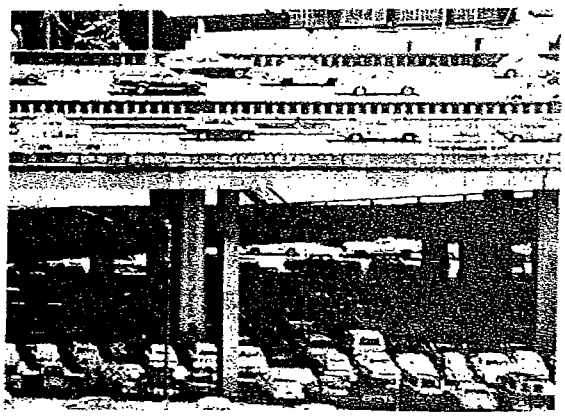
Commuter Parking

POLICY 3

Discourage new long-term commuter parking spaces in and around downtown. Limit long-term parking spaces serving downtown to the number that already exists.

A basic premise of this Plan is that additions to the commuter load brought about by job growth should not be accommodated by additional automobiles. Bringing more autos to downtown would only add to the congestion which already is approaching unacceptable levels in some parts of downtown. More autos would also add to air pollution. New long-term public parking facilities

should be limited to those needed to replace parking eliminated in the downtown core. However, although it is preferable that all replacement of long-term spaces displaced in the downtown occur on the periphery, a small number of long-term spaces may be provided within new buildings in the downtown core, if, taking into account aggregate displacement of long- and short-term parking, the total number of spaces in downtown is not increased and excessive congestion in the immediate vicinity is not created. Parking entrances should not conflict with transit preferential lanes.



POLICY 4

Locate any new long-term parking structures in areas peripheral to downtown. Any new peripheral parking structures should: be concentrated to make transit service efficient and convenient; be connected to transit shuttle service to downtown; provide preferred space and rates for van and car pool vehicles.

POLICY 5

Discourage proliferation of surface parking as an interim land use, particularly where sound residential, commercial or industrial buildings would be demolished.

Bicycles

OBJECTIVE 19

PROVIDE FOR SAFE AND CONVENIENT BICYCLE USE AS A MEANS OF TRANSPORTATION.

The bicycle is becoming more acceptable as an alternative to the automobile for work and shopping purposes. As streets become more congested, some people are finding that they can move about the city more quickly, enjoyably and economically on bicycles.

POLICY 1

Include facilities for bicycle users in governmental, commercial, and residential developments.

Provision should be made for bicycle parking in conjunction with automobile parking in existing and new parking lots and garages. Secure and conveniently located bicycle parking should also be provided in major new construction.

POLICY 2

Accommodate bicycles on regional transit facilities and important regional transportation links.

There should be more opportunity for cyclists to commute to San Francisco with their bikes by using regional transit modes such as BART, the ferry system, the Caltrans Bay Bridge bicycle shuttle and trains. Certain commute buses should also provide carrying racks for bicycles.

POLICY 3

Provide adequate and secure bicycle parking at transit terminals.

Providing adequate and secure bicycle parking facilities at transit terminals is another means of promoting bicycle use by commuters. Public and private parking garages should designate otherwise unused corners or other areas for joint bicycle and motorcycle parking, particularly near high-density employment centers.

MOVING AROUND DOWNTOWN

OBJECTIVE 20

PROVIDE FOR THE EFFICIENT, CONVENIENT AND COMFORTABLE MOVEMENT OF PEOPLE AND GOODS, TRANSIT VEHICLES AND AUTOMOBILES WITHIN THE DOWNTOWN.

The proper functioning of downtown is dependent upon compactness, strength of internal accessibility, and convenient access to downtown from other parts of the region. This section is concerned primarily with the need for proper circulation within downtown for vehicles and pedestrians, and with the organization of transit terminals and parking facilities.

The density of daytime downtown population and the resulting density of trips call for movement of people to take place in the most efficient and least space-consuming methods, such as walking and public transit. This in turn calls for controlling the automobile in the downtown area.

In addition to improvements in the pedestrian system and the pedestrian environment, every effort should be made to ensure that better transit service is provided so that transit increasingly becomes the prevailing method of travel.

Auto Circulation

POLICY 1

Develop the downtown core as an automobile control area.

San Francisco's downtown core is an intensely populated area functioning as the region's financial, administrative, shopping and entertainment center. Within this compact area, priority should be given to the efficient and pleasant movement of business clients, shoppers and visitors, as well as to the movement of goods. A continuing effort should be made to improve pedestrian, transit and service vehicle access and circulation. These functions must have priority use of limited street and parking space. The impact of the private commuter vehicle, in particular, and excessive automobile traffic, in general, must be reduced.

POLICY 2

Organize and control traffic circulation to reduce congestion in the core caused by through traffic and to channel vehicles into peripheral parking facilities.

Traffic passing through the downtown core to reach other destinations, such as North Beach, the Northwestern Waterfront, Western Addition, and South of Market, should be channeled around the downtown core. This would leave space for pedestrians and vehicles with core destinations.

POLICY 3

Locate drive-in, automobile-oriented, quick-stop and other auto-oriented uses on sites outside the office retail, and general commercial districts of downtown.

Drive-in establishments serving customers waiting in motor vehicles, and establishments reached primarily by automobile or providing service to automobiles, are, by definition, auto trip generators. To ensure that these uses do not aggravate an already congested pedestrian and traffic situation, they should be located away from the most intensely developed downtown areas in locations that do not create conflicts with pedestrian or auto concentrations, designated transit preferential streets or residential units.

Transit Lanes

POLICY 4

Improve speed of transit travel and service by giving priority to transit vehicles where conflicts with auto traffic occur, and by establishing a transit preferential streets system.

Transit speed is presently slower than auto speed due to passenger stops and street congestion. If transit speed is to be improved, conflicts between automobiles and transit must be minimized. Substantial improvement can and should be achieved by giving priority to transit. This would be accomplished by the use of exclusive lanes (with flow or contra-flow), by constructing bus loading platforms, relocating bus stops and/or by equipping buses and trolleys with devices to trigger lights in their favor at intersections. Enforcement is a critical factor to ensure successful operation of transit lanes.



- Transit Preferential Street
- Primary Vehicular Street
- Proposed Commuter Bike Street
- Bart/Muni Station (Existing)
- Muni Station (Proposed)
- Metropolitan Transit Terminal
- Downtown Core–Auto Control Area
- Parking Belt
- Shuttle Transit

TRANSPORTATION PLAN

Map 6

Contra-flow lanes are more self-enforcing than "with-flow" lanes and should be used where appropriate. Other actions should include restricting autos from streetcar and cable car tracks and eliminating automobile turning movements that conflict with transit vehicles.

Shuttle Transit

POLICY 5

Develop shuttle transit systems to supplement trunk lines for travel within the greater downtown area.

All parts of the downtown core are within easy walking distance of each other. However, greater downtown is large enough so that walking is not always convenient. Access should be improved with special shuttle systems similar in function to the shopper shuttle buses and cable cars. Access is particularly important between the Civic Center and the financial retail districts, and between the Hall of Justice and other areas south and north of Market Street.

Taxis

POLICY 6

Maintain a taxi service adequate to meet the needs of the city and to keep far as reasonable.

Taxis serve as an essential supplement to the transit system, not merely for tourists, but for many residents and workers in the city who either do not have a car or who find regular transit service inconvenient for a particular trip, of both. The elderly often rely on taxis for necessary shopping trips and for reaching medical facilities, as do many others without automobiles when transit is not available. Although taxis should continue to be regulated competition should be encouraged for improved service and low fares.

Short-Term Parking

POLICY 7

Encourage short-term use of existing parking spaces within and adjacent to the downtown core by converting all-day commuter parking to short-term parking in areas of high demand. Provide needed additional short-term parking structures in peripheral locations around but not within the downtown core, preferably in the short-term parking belt (See Map 6).

As provided elsewhere, all day commuter parking within the downtown core is to be actively discouraged. Transit is a viable opportunity for many and parking for those who must drive should, for the most part, be provided on the fringes of downtown.

The situation is different for short-term parking. There are some shoppers, business visitors and others for whom transit is not a realistic alternative and who need parking for short periods reasonably close to their destinations. However, the amount and location of additional short term spaces allowed in the core should be carefully regulated. Short-term parking spaces attract more automobiles per day than long term spaces and do so during the midday periods when the number of traffic lanes is reduced by street parking and loading. Too much short-term parking would attract trips that otherwise would be made by transit and could add substantially to midday congestion.

Additional short term spaces in the core should be created primarily by converting existing long-term spaces to short term spaces. This could be achieved by setting high rates on all day use and not providing weekly or monthly rates. In the case of new buildings short term spaces could be provided within the building to replace long and short term spaces displaced by the new development, if excessive congestion in the immediate vicinity will not result.

Because of the congestion and conflicts with transit major new short-term parking structures are likely to create, they should be located next to major thoroughfares so that automobiles may be intercepted and uncongested movement and high internal accessibility may be provided within the core. Adequate pedestrianways should be provided for the final link of these trips.

POLICY 8

Make existing and new accessory parking available to the general public for evening and weekend use.

Some existing parking garages, especially those in the office buildings, are closed at night and on weekends. Instead of providing additional parking spaces at certain locations, those spaces should be made available to the general public for nighttime and weekend users. Parking garages in the Embarcadero Center are good examples.

Off-Street Loading Facilities

OBJECTIVE 21

IMPROVE FACILITIES FOR FREIGHT DELIVERIES AND BUSINESS SERVICES.

The need for adequate facilities for freight deliveries and daily services to businesses will increase as downtown grows. As a result, the conflict between the movement of customers, employees and visitors, whether on foot, by transit, or in private vehicles, will increase.

POLICY 1

Provide off-street facilities for freight loading and service vehicles on the site of new buildings sufficient to meet the demands generated by the intended uses. Seek opportunities to create new existing buildings.

POLICY 2

Discourage access to off-street freight loading and service vehicle facilities from transit preferential streets, or pedestrian-oriented streets and alleys.

Wherever possible, access to off-street loading and service vehicle facilities should be provided from non-pedestrian alleys and minor streets, rather than transit preferential streets or major arterials (see Map 6). This would minimize safety hazards and disruptions to pedestrians and traffic flow. Where several loading and service bays are provided or the number of truck trips is high, conflicts with pedestrians and vehicles should be minimized by provision of a service driveway and maneuvering area self-contained within the structures. Where the only access to on-site facilities is across a sidewalk that is heavily used by pedestrians curbside parking of freight and service vehicles may be preferable to on-site facilities.

POLICY 3

Encourage consolidation of freight deliveries and night-time deliveries to produce greater efficiency and reduce congestion.

Even if off-street loading facilities were adequate, there would still be conflicts between vehicles delivering goods and other vehicular and pedestrian traffic. Deliveries that must be made across the sidewalk from on-street loading spaces disrupt pedestrian movements and increase accident potential. A system of consolidating deliveries to downtown firms should be developed, with emphasis on deliveries during the late evening and early afternoon periods. Deliveries in the early afternoon when the daytime population of downtown reaches its peak should be discouraged.

POLICY 4

Provide limited loading spaces on street to meet the need for peak period or short-term small deliveries and essential services, and strictly enforce their use.

On-street loading and stopping spaces should continue to be required to accommodate peak period and short-term demands for small delivery vehicles and essential services. Strict enforcement to restrict these spaces to the vehicles and time limits for which they are intended is essential. In general, workers performing lengthy deliveries or repairs should be required to use off-street facilities for their vehicles.

POLICY 5

Require large new hotels to provide off-street passenger loading and unloading of tour buses.

Most major hotels create a large number of tour bus movements as formal sightseeing tours, group travel to airports or convention sites, or group travel under contract for airline crews. By the nature of these trips, loading and unloading times for tour buses is long and causes severe traffic problems if buses are allowed to park on downtown streets.

Pedestrians

OBJECTIVE 22

IMPROVE THE DOWNTOWN PEDESTRIAN CIRCULATION SYSTEM, ESPECIALLY WITHIN THE CORE, TO PROVIDE FOR EFFICIENT, COMFORTABLE, AND SAFE MOVEMENT.

POLICY 1

Provide sufficient pedestrian movement space.

Where pedestrian volumes compared to other transportation modes so warrant, additional pedestrian capacity should be taken from traffic or parking lanes. At other locations, where appropriate, arcades or building setbacks adjacent to an existing sidewalk should be developed. In areas of highest pedestrian volumes, more parallel, through-block pedestrianways should be provided if they can serve as convenient links among destinations without encouraging jaywalking.

POLICY 2

Minimize obstructions to through pedestrian movement on sidewalks in the downtown core.

Many conveniences and amenities on downtown sidewalks would be easier to enjoy if properly located to avoid conflict with pedestrian movement. Criteria for location of newspaper vending machines, flower stands, and other facilities and amenities such as trees, should consider the need for adequate space for through movement.

POLICY 3

Ensure convenient and safe pedestrian crossings.

Where streets are designed for high volumes or relatively fast movement of vehicles, adequate provision should be made for safe and convenient pedestrian crossings. This is especially important where large numbers of pedestrians cross the street. These streets should have adequately-timed lights at intersections to allow safe crossings. Where large pedestrian volumes so warrant, similar provisions would be installed at midblock crosswalks. In locations where large numbers of vehicles and pedestrians coincide, grade separations might be necessary.

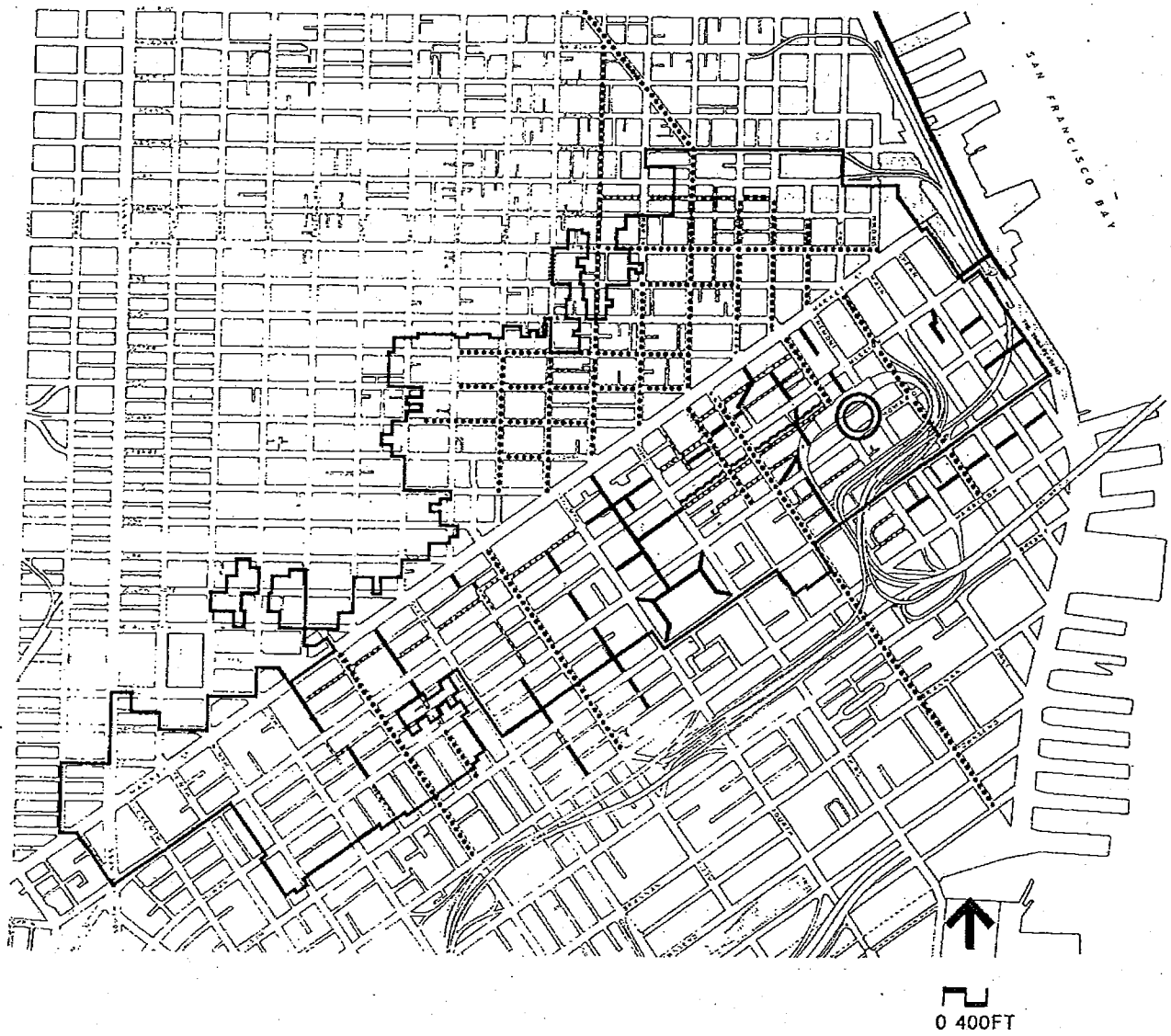
Where large numbers of pedestrians cross the roadway outside the intersection or midblock crosswalk, the location of the crosswalk should be realigned to coincide with the desire line, or steps taken to prevent the pattern of jaywalking.



POLICY 4

Create a pedestrian network in the downtown core area that includes streets devoted to or primarily oriented to pedestrian use.

Based on major pedestrian destinations and use generators, a pedestrian network should be developed to minimize conflicts between pedestrians and vehicular traffic. Such a network should include closure of streets to private automobiles and/or trucks, at least during those hours when pedestrian volumes and demand are at critical levels. Such a network should also include plazas, arcades, and open spaces required in major new developments. Land uses adjacent to major links in the pedestrian network should be of interest and utility to pedestrians.



PROPOSED PEDESTRIAN NETWORK: DOWNTOWN DISTRICT

Map 7

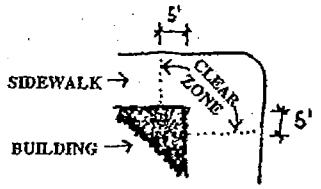
- ····· Pedestrian/ Service Street
- ▪▪▪▪▪ Part Time Pedestrian Street
- —— Exclusive Pedestrian Walkway
- ▪▪▪▪▪ Pedestrian Oriented/ Vehicular Street
- Open Space (Existing, Planned, and Proposed)
- ~~~ Arcade
- ◎ Provide Open Space In The General Vicinity

Figure 5 PEDESTRIAN IMPROVEMENT STANDARDS AND GUIDELINES

To continue to improve and enhance the pedestrian environment, as well as provide sufficient pedestrian movement and standing space, various standards should be used as guidelines in downtown planning and development. They should be incorporated into the review process of proposed downtown developments as well as into plans for street and sidewalk improvements. These standards serve to guarantee the consideration of pedestrian safety and convenience in decisions affecting downtown development. The following presents recommended standards:

1. CLEAR ZONES

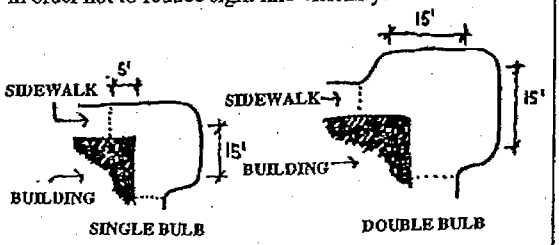
To ease problems of crowding and to create more circulation and holding space for pedestrians at corners, fire-pull boxes, pedestrian information signage, police call boxes, mail boxes, mail storage boxes, newspaper vending machines, and newspaper vendor booths, should be placed outside the immediate corner areas extending from the property lines, ("clear zones"), as shown on the diagram. At critical locations where standing in physical contact with others is unavoidable, queuing can only be sustained for a short period without discomfort, and circulation is severely restricted, the clear zone should be extended five feet back from the property lines and crosswalks should be widened accordingly. Only items essential to vehicular and pedestrian safety and flow should remain within the clear zones. Fire hydrants, street lights and other permanent fixtures not required in the clear zone should be removed to locations outside of the clear zone when repair or replacement of those items is required and as funds become available. Others should be relocated immediately.



2. CORNER "BULBING"

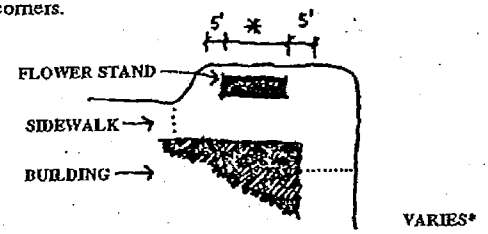
Where requirements for pedestrian reservoir space are acute and space can be obtained from existing parking or through traffic lanes, corner "bulbs" should be created. Corner bulbing serves to reduce pedestrian crossing distance, thus improving safety as well as providing needed pedestrian movement and reservoir space, concurrently allowing for some channelization of vehicular traffic. Typically corner bulbs extend down the face of a block for a minimum of 15 feet between curb tangent lines. At bulbed corners, the clear zone shall include the entire bulb.

Clear zone standards must be upheld on bulbed corners in order not to reduce sight line visibility.



3. FLOWER STANDS

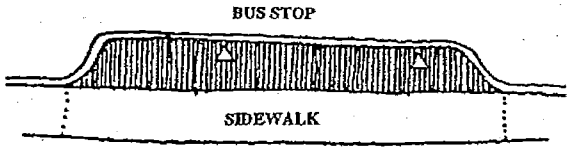
Flower stands are recognized as a unique asset to the urban fabric of San Francisco, and as such are welcomed additions to the streetscape. They add color and rich, varied detail to many corners in the Central Business District (CBD) and are part of the street life of the city that helps give urban streets a pleasant "human face". Unfortunately, placement of flower vending stalls often constricts or interrupts pedestrian flow. To avoid this problem, flower stalls should be relocated, when possible, to corner bulbs or to areas where sidewalks have been widened. Where flower stands have been relocated, the size of the corner bulb shall be adjusted to accommodate the stand. These stands are the only nonessential furniture allowed in the clear zones and they shall be located five feet back from the property lines at the corners.



4. MUNI PATRON AREAS

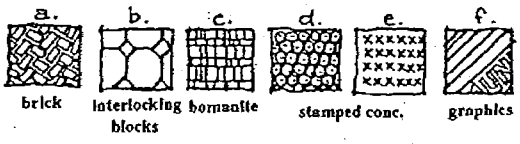
Where possible, sidewalk widths should be increased without sacrificing vehicular traffic movement. Particularly where MUNI stops occur, an effort should be made to provide extra, sheltered reservoir space for MUNI patron queuing, distinct from normal pedestrian flow. Limited bulbing should be used for this specific purpose. To further distinguish MUNI patron areas from pedestrian flow corridors, MUNI patron areas should be uniformly paved with brick or other special paving materials such as Bomanite, interlocking concrete pav-

ing blocks, colored concrete, stamped concrete, or graphically painted areas. Materials that are attractive yet relatively maintenance-free are suggested. Uniform paving and landscaping for all MUNI stops should be provided to make stops readily identifiable by both MUNI patrons and other pedestrians.



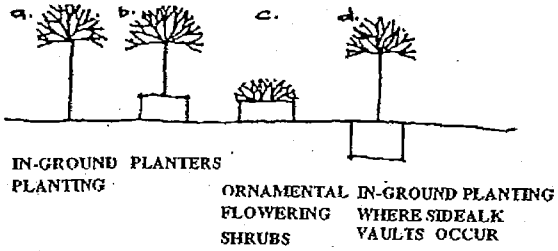
5. PAVING MATERIALS

Decorative pavement materials should be provided where appropriate to enhance the pedestrian environment and delineate the patterns of vehicular traffic from the patterns of pedestrians at intersections. However, in order to efficiently maintain the pavement as well as limit the cost of implementation and maintenance, the number of material types to be used should be kept to a minimum.



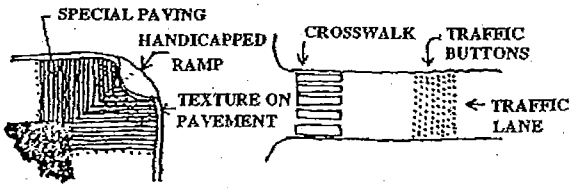
6. TREES AND OTHER PLANTINGS

Where sidewalk vaults and elevators do not exist, trees should be planted in the ground, thus increasing the effective sidewalk width while preserving the qualities of foliated urban streets. Where direct planting and planter reorganization have been impossible or ineffectual, trees should be selectively eliminated from the street. This could be undertaken as a temporary, "stop-gap" solution until redevelopment or funding can be made available for removal of sidewalk vaults or sidewalk widening to permit direct in-ground planting. On sidewalks where trees are removed, flowering ornamental shrubs in small, less obtrusive containers might be located in building recesses or other locations.



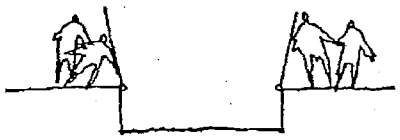
7. SPECIAL PAVING

The use of special paving or special markings in crosswalks identifies the crosswalk as a pedestrian-vehicle interface. Raised pavements at pedestrian crossings, and warning texture such as safety bumps in traffic lanes before crossings and bollards also contribute by alerting both pedestrians and motorists to use caution as they enter these interface areas. Special paving and/or colors at corner clear zones as well as raised textures at MUNI stops and corners are added cautionary devices for all pedestrians, and textures are of special importance to visually impaired pedestrians. Special pavement treatments should not become safety hazards to pedestrians, bicyclists, or motorcyclists when wet and slippery.



8. SIDEWALK ELEVATORS

Where sidewalk elevators exist there is unavoidable temporary pedestrian inconvenience. This is an unpleasant reality, but not of critical importance except in areas where elevators are habitually left open, whether in use or not. The drastic reduction in effective sidewalk width is both an impediment to pedestrian flow and an eyesore. It is hoped that increased citation of such offenders will remedy the problem. Future development should follow the Master Plan, which calls for no additional sidewalk elevators in the downtown area. In support of the Master Plan stipulation, this study found that there is less interference to pedestrian flow by carrier unloading and loading across the sidewalk than by carriers unloading using the sidewalk elevators.

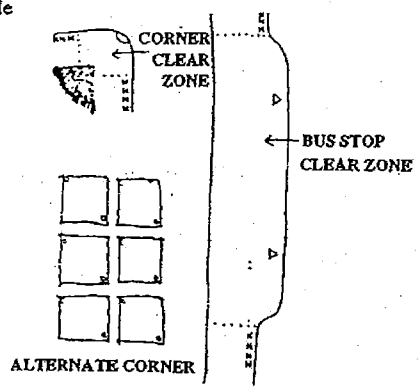


9. NEWSPAPER VENDING MACHINES

The proliferation of newspaper vending machines and vendors has become a major impediment to satisfactory pedestrian flow on the sidewalk, standing space along bus stops and at street corners, and access to adjacent properties. As a first step in reducing the adverse effect that these machines have on pedestrian movement, they

should be removed from all clear zones and all MUNI stops. Vending machines shall not be permitted over street elevators and they shall not block delivery of goods to elevators, nor shall they restrict loading/unloading of passengers of freight where curbs are marked for that activity. The ideal location of news vending machines is next to a red curb that is not marked for a bus stop. Areas near corners might be set aside for the placement of a few machines, but they should be limited in linear feet so as not to present an impenetrable barrier to pedestrians.

The City should devise a systematic approach to machine placement that would begin to rationalize the space allocated to vending machines, especially in critical pedestrian flow corridors. Newspaper distributors should be encouraged to use multi-unit machines and to place these machines against a building wherever possible, especially when there are niches in the building facade



10. SIDEWALK VAULTS

To reduce the expense and inconvenience of planting trees in the ground (thus allowing planter boxers to be moved from the path of pedestrians), storage space extending under the sidewalk should not be allowed. The Building Code should specify this provision.

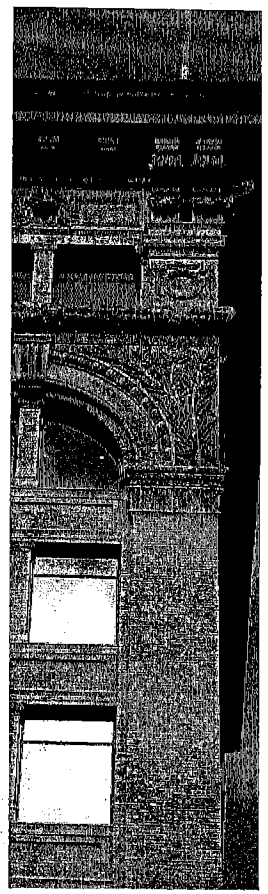
11. CONSTRUCTION AISLEWAYS

A minimum width for construction barricade pedestrian aisleways should be maintained and enforced during construction of a building. For adequate two-way pedestrian maneuvering in construction aisles, the width without special approval should be five feet. The absolute minimum width which could be obtained with special permission should be 4.5 feet.

12. TRAFFIC/PEDESTRIAN SIGNALS, DIAGONAL CROSSING SIGNS AND FIRE PULL-BOXES

In numerous locations around the CBD, traffic/pedestrian signals, signs indicating "scramble" system pedestrian crossings and fire pull-boxes are located directly on the corner, well within the clear zones that have been established in this study. Nowhere are these obstructions more in evidence and more detrimental to smooth pedestrian flow than on Montgomery Street. As impediments to pedestrian movement, they are not as easily dealt with as mail boxes, news vending machines and other less permanent items. Nevertheless they are annoying and often dangerous obstacles in the path of peak-hour crowds, and where possible they should be removed or relocated. Signs indicating "scramble" crossings could be immediately remounted on the pedestrian signals themselves and fire pull-boxes could be immediately eliminated entirely. Traffic and pedestrian signals as well as street lights and MUNI power poles that fall within clear zones should be relocated outside of the zone as soon as it is economically feasible and expedient.

EXHIBIT 6



706 MISSION STREET - THE MEXICAN MUSEUM AND RESIDENTIAL TOWER PROJECT

San Francisco, CA

MAJOR PERMIT TO ALTER :: APPENDIX

Prepared for the
Historic Preservation Commission

EXISTING CONDITIONS IMAGES

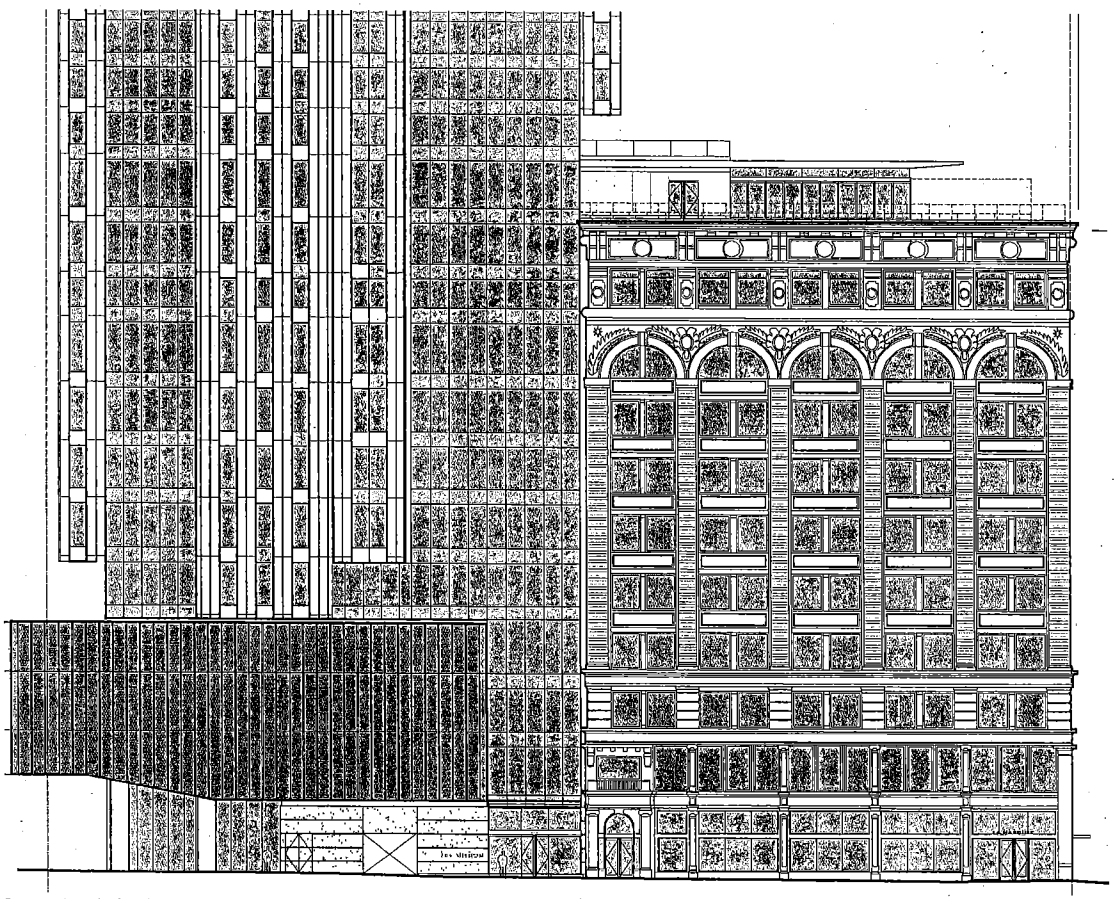
VICINITY



View, looking northwest, 2012. (Handel Architects)

north of the Aronson Building. Jessie Square, St. Patrick's Church, the Contemporary Jewish Museum are to the West. Yerba Buena Gardens is located across from Mission Street and the University of California Berkeley Extension Campus is across from Third Street. The Aronson Building fits within the historic context of the area's commercial development. The proposed project at 706 Mission Street which includes both the rehabilition of the Aronson Building and a new residential tower fits in the current context of the neighborhood. The proposed project will not create a negative impact on the building's relationship to the surrounding neighborhood, or the significance of the nearby historic districts.

WEST FACADE



Proposed south elevation, enlarged view

- Placing The Mexican Museum at the base of the building is intended to integrate and complete the surrounding Yerba Buena arts district and gardens, with unique massing distinguished from the tower. The base of the building will cantilever slightly over Jessie Square at the 2nd and 3rd floors to visually draw pedestrians in as an extension of the plaza, and to complete the eastern edge of Jessie Square. Museum interior space will span across both new and existing buildings at the 2nd and 3rd floors, with ground floor entry within the new tower base. Museum interior space may also include all or a portion of the 1st floor Aronson Building, and/or portion of 4th floor tower for exterior terrace access and mechanical spaces.
- New exterior and interior connections between the tower and existing Aronson Building will be established for programmatic and structural requirements, while still maintaining a visual separation between the buildings.
- There are two proposed approaches to seismic work for the Aronson Building. With the first approach, the proposed tower and the Aronson building would be seismically independent and separated by a seismic joint with an air space in between the two buildings. Another approach to the seismic upgrade of the Aronson Building would be to laterally connect the Aronson Building into the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. Neither the seismic joint approach nor the seismically interconnected approach would result in any exterior visual impacts to the Aronson Building. No character-defining features of the Aronson Building would be removed with either seismic upgrade approach. Using either approach, the Project would retain and preserve character-defining features of the Aronson Building.

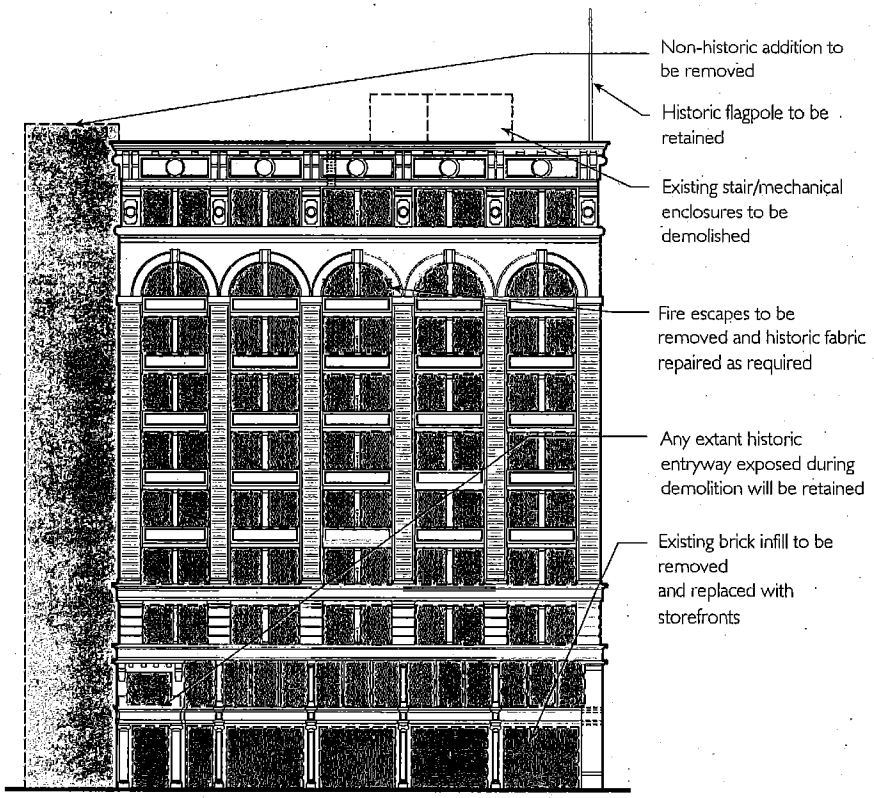
Note: For graphic purposes, the south elevation is shown since the west elevation will be obscured by the new construction.

1634

WEST FACADE

ELEVATIONS

EXISTING MISSION STREET ELEVATION

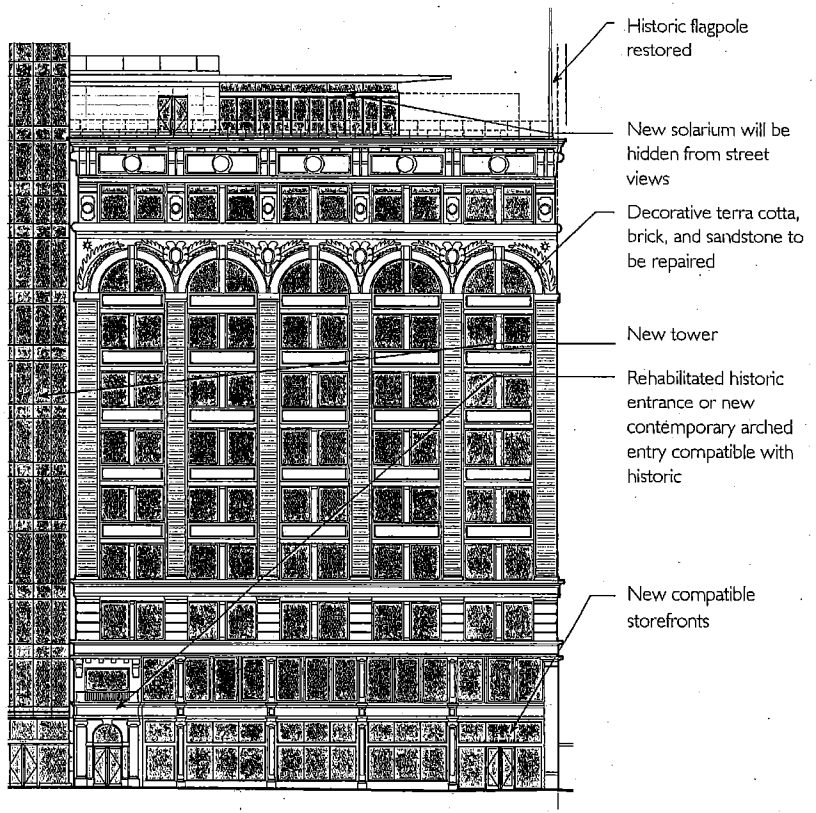


To be demolished

Non-historic windows to be replaced (29.5% of Facade)

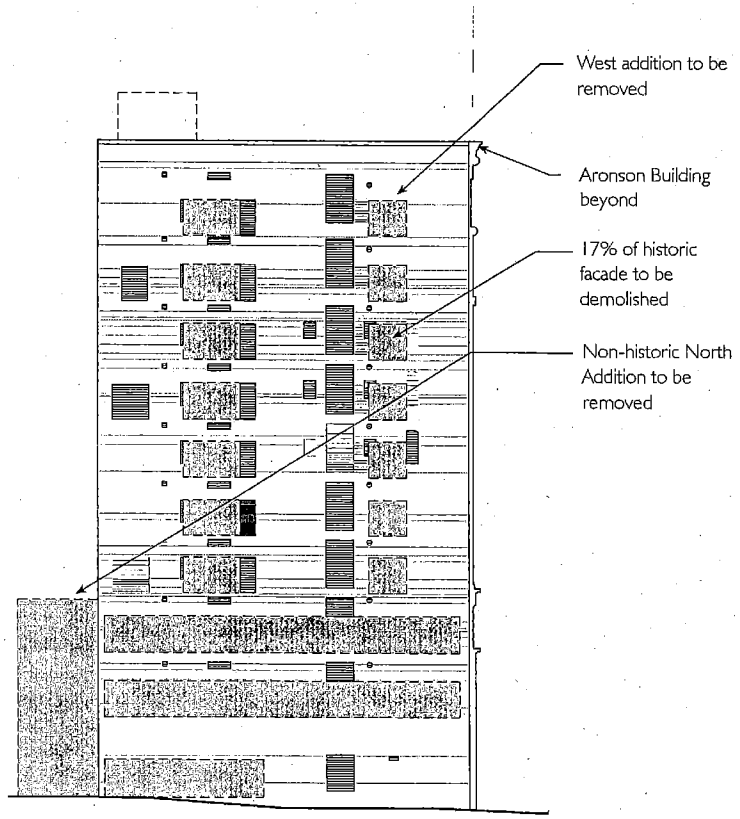
Non-historic brick infill to be removed and replaced with new storefronts (7.5% of facade)

PROPOSED MISSION STREET ELEVATION



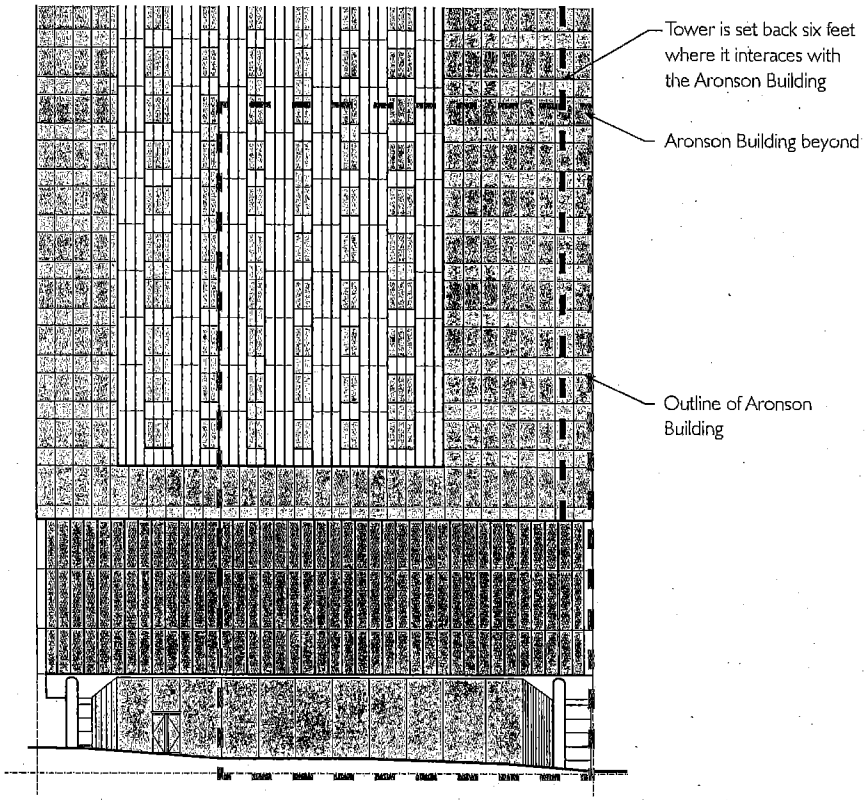
ELEVATIONS

EXISTING WEST WALL OF ARONSON BUILDING



Note: West wall is currently hidden by the west brick brick addition.

PROPOSED WEST ELEVATION



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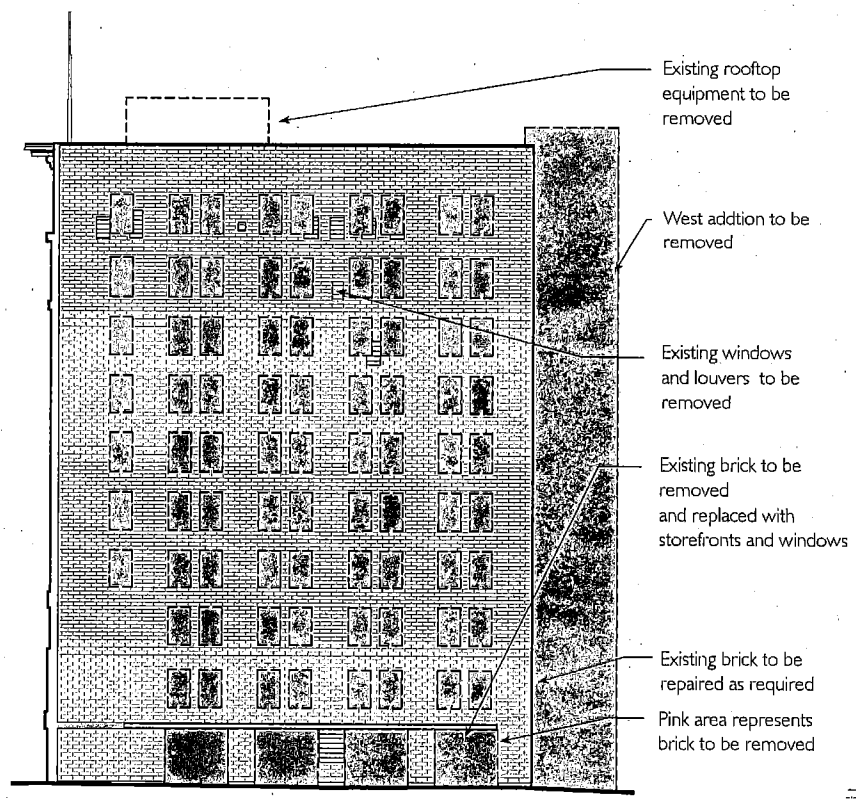
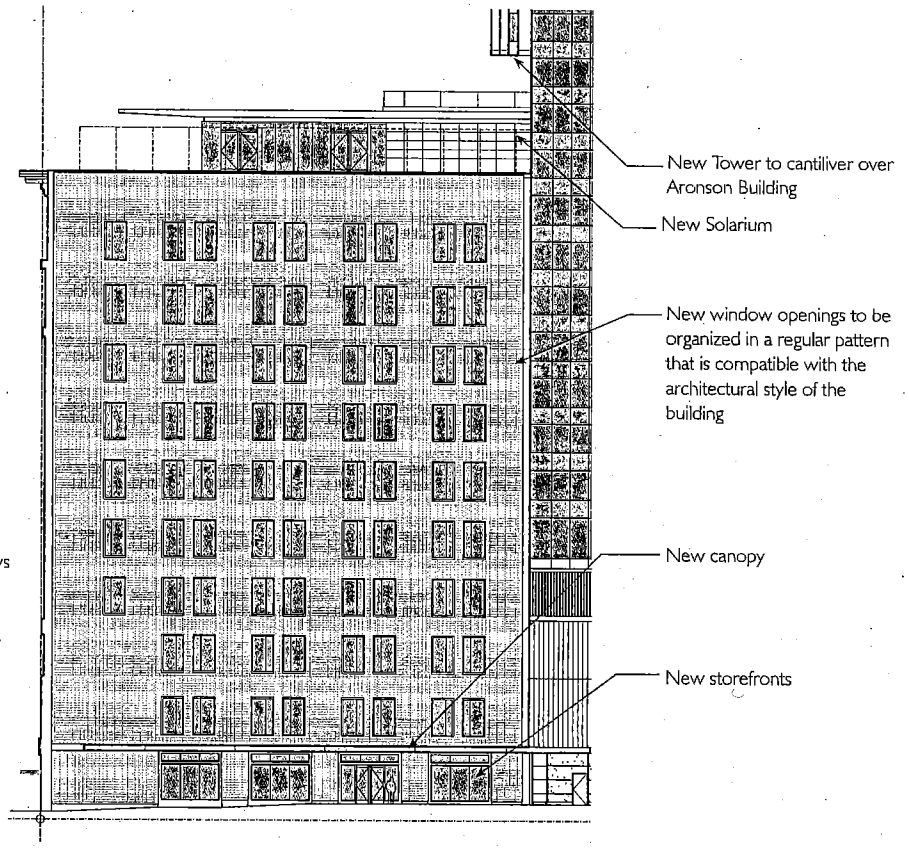
EXISTING NORTH STREET ELEVATION

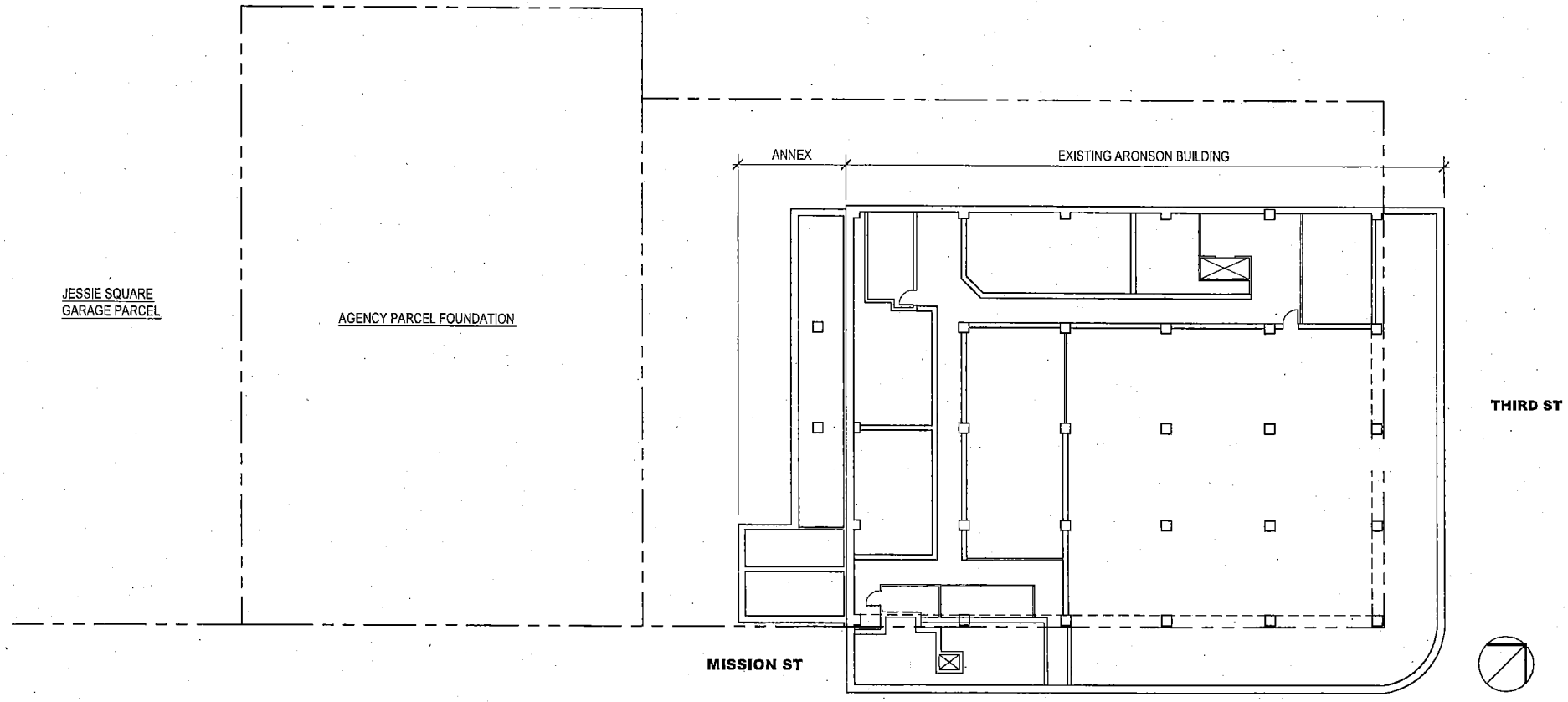


PROPOSED NORTH ELEVATION



ELEVATIONS

PLANS



1638

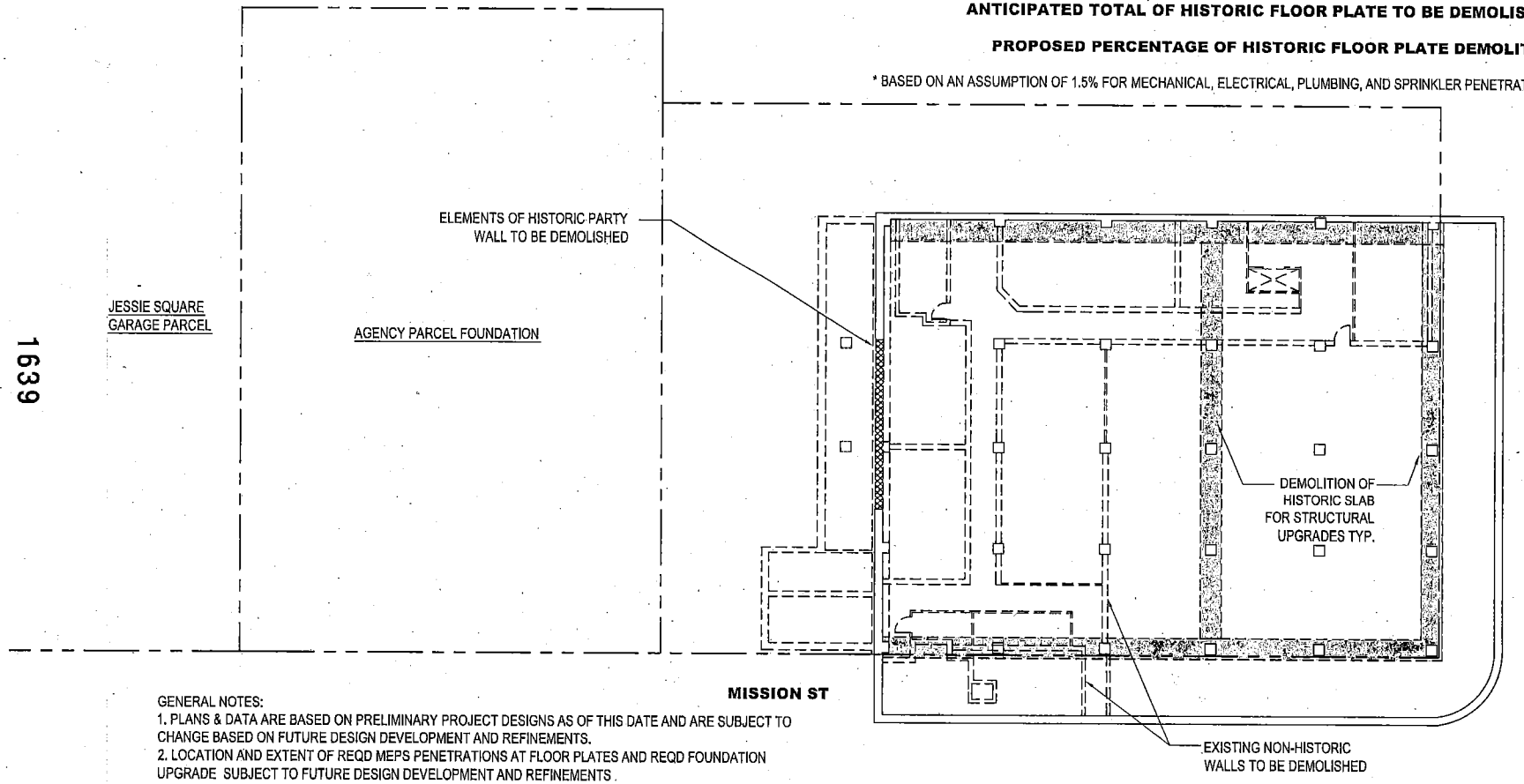
706 MISSION STREET - EXISTING BASEMENT PLAN

SEISMIC TIE APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic tie approach, the Aronson Building would be laterally connected to the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. The Aronson Building would maintain its independent structural system for support of vertical (gravity) loads. In this scenario, the primary means of lateral resistance would be the shear wall system of the new tower, and seismic loads would be transferred from the Aronson Building to the new tower by means of structural drag strut elements at each floor.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 11,368 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 1435 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 163 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 1598 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 14%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



GENERAL NOTES:
1. PLANS & DATA ARE BASED ON PRELIMINARY PROJECT DESIGNS AS OF THIS DATE AND ARE SUBJECT TO CHANGE BASED ON FUTURE DESIGN DEVELOPMENT AND REFINEMENTS.
2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS.

SEISMIC TIE APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM

CONCEPTUAL BASEMENT DEMOLITION PLAN

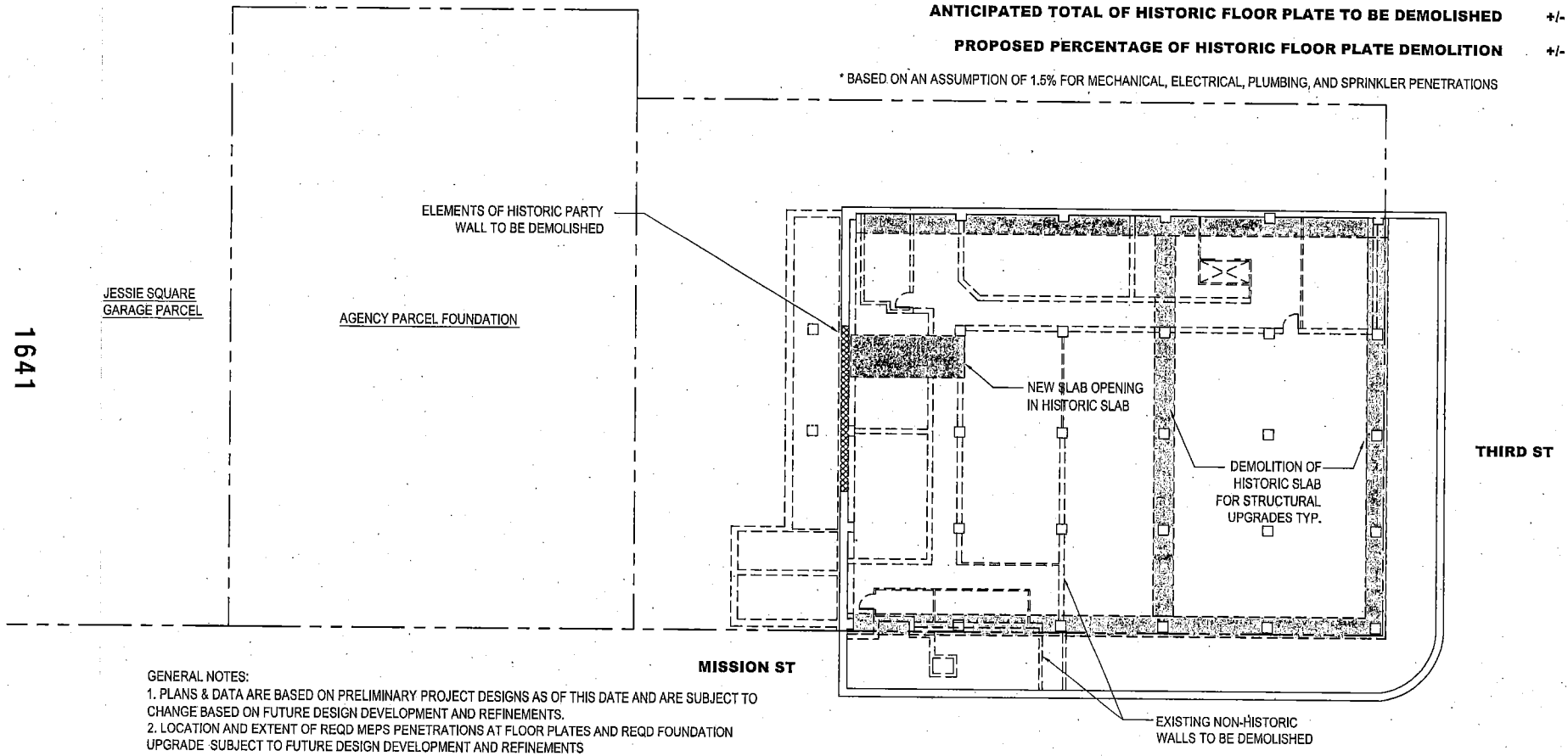
0 10' 20' 40'

SEISMIC JOINT APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic joint approach, the buildings would be seismically independent and separated by a seismic joint with an air space in between the two buildings. With this approach, the two buildings would be allowed to move independently during a seismic event.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 11,368 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 1,625 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 163 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 1,788 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 16%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



GENERAL NOTES:
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2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

1641

PLANS

706 MISSION STREET - THE MEXICAN MUSEUM

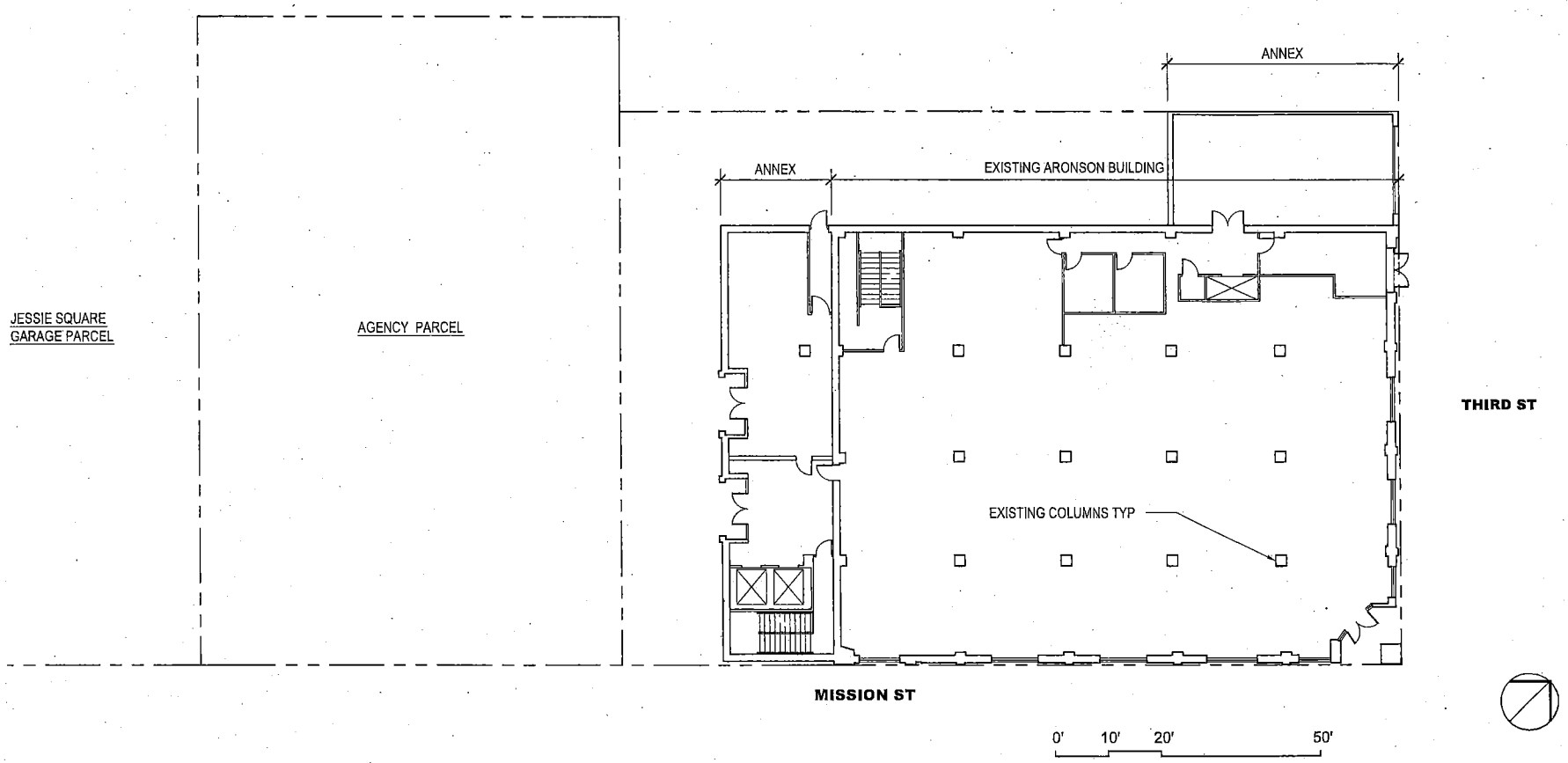
SEISMIC JOINT APPROACH
CONCEPTUAL BASEMENT DEMOLITION PLAN

0 10' 20' 40'

MARCH 2013

MILLENNIUM PARTNERS HANDEL ARCHITECTS LLP PAGE & TURNBULL

PLANS



1642

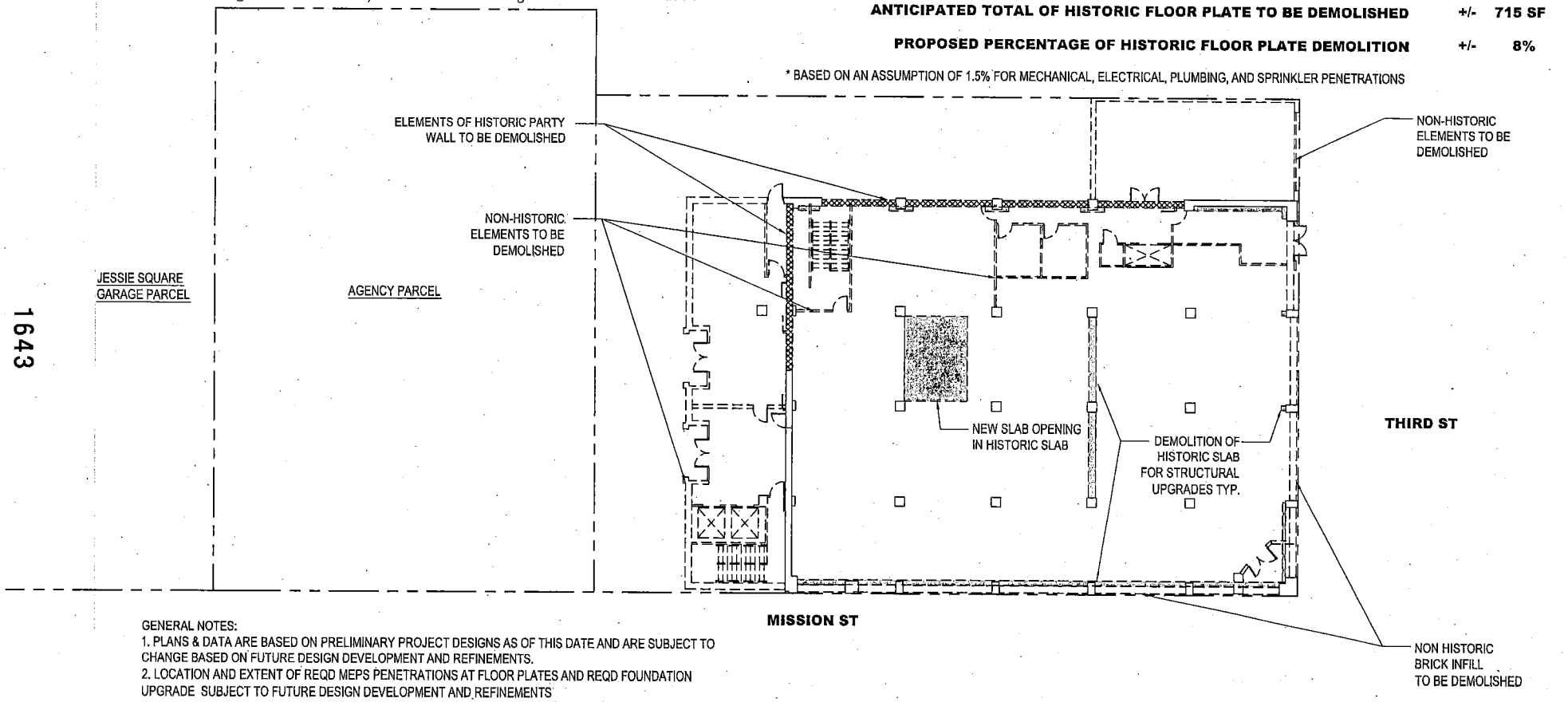
706 MISSION STREET - EXISTING GROUND FLOOR PLAN

SEISMIC TIE APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic tie approach, the Aronson Building would be laterally connected to the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. The Aronson Building would maintain its independent structural system for support of vertical (gravity) loads. In this scenario, the primary means of lateral resistance would be the shear wall system of the new tower, and seismic loads would be transferred from the Aronson Building to the new tower by means of structural drag strut elements at each floor.

TOTAL HISTORIC FLOOR PLATE AREA	**+/-**	**8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/-**	**591 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/-**	**124 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/-**	**715 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/-**	**8%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



1643

GENERAL NOTES:
1. PLANS & DATA ARE BASED ON PRELIMINARY PROJECT DESIGNS AS OF THIS DATE AND ARE SUBJECT TO CHANGE BASED ON FUTURE DESIGN DEVELOPMENT AND REFINEMENTS.
2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

SEISMIC TIE APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM

CONCEPTUAL GROUND FLOOR DEMOLITION PLAN

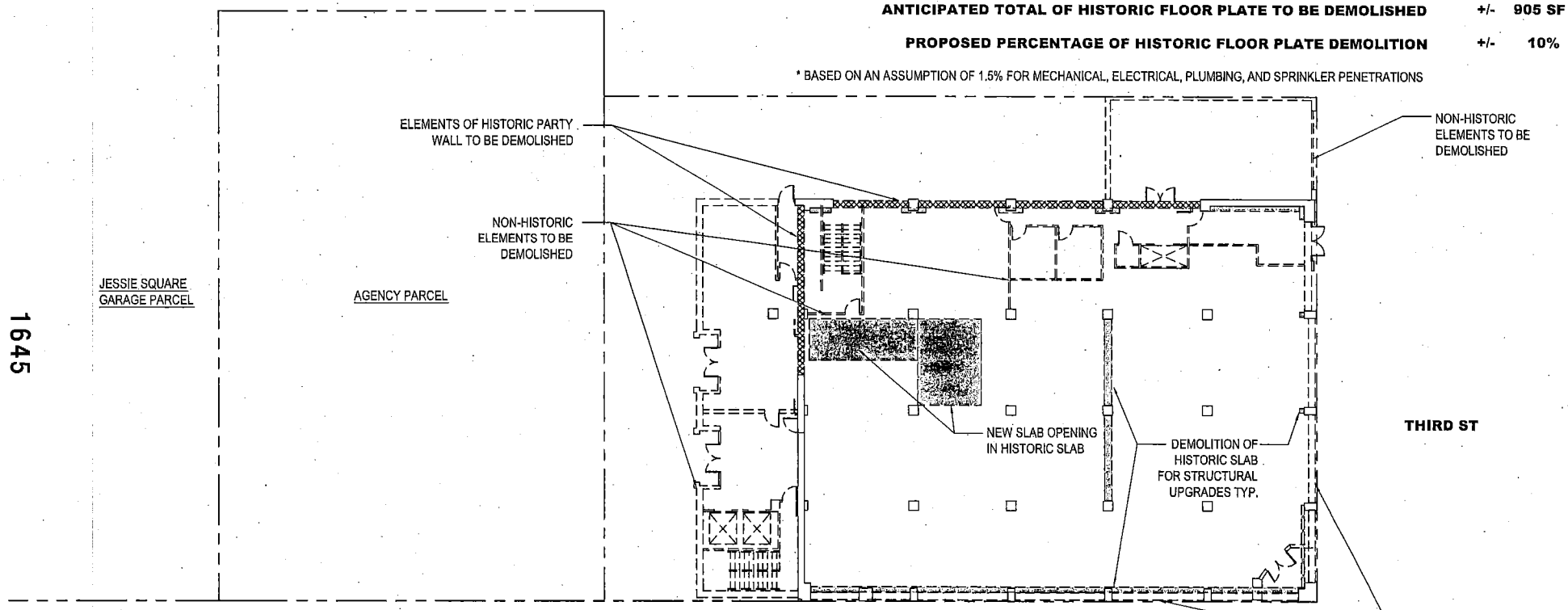
0 10' 20' 40'

SEISMIC JOINT APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic joint approach, the buildings would be seismically independent and separated by a seismic joint with an air space in between the two buildings. With this approach, the two buildings would be allowed to move independently during a seismic event.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 781 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 124 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 905 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 10%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



1645

GENERAL NOTES:
1. PLANS & DATA ARE BASED ON PRELIMINARY PROJECT DESIGNS AS OF THIS DATE AND ARE SUBJECT TO CHANGE BASED ON FUTURE DESIGN DEVELOPMENT AND REFINEMENTS.
2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

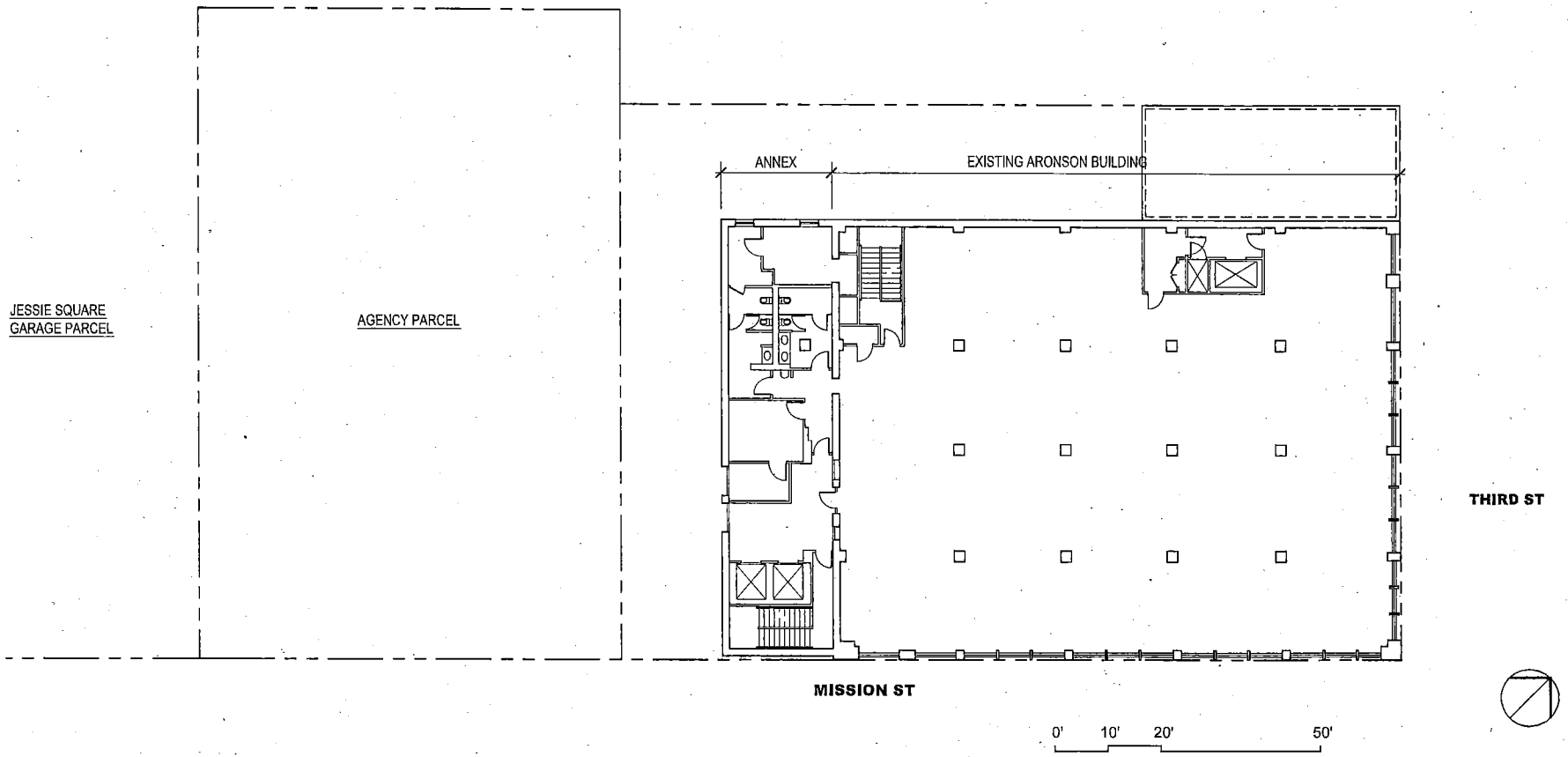
PLAN

706 MISSION STREET - THE MEXICAN MUSEUM

SEISMIC JOINT APPROACH
CONCEPTUAL GROUND FLOOR DEMOLITION PLAN

0 10' 20' 40'

PLANS



1646

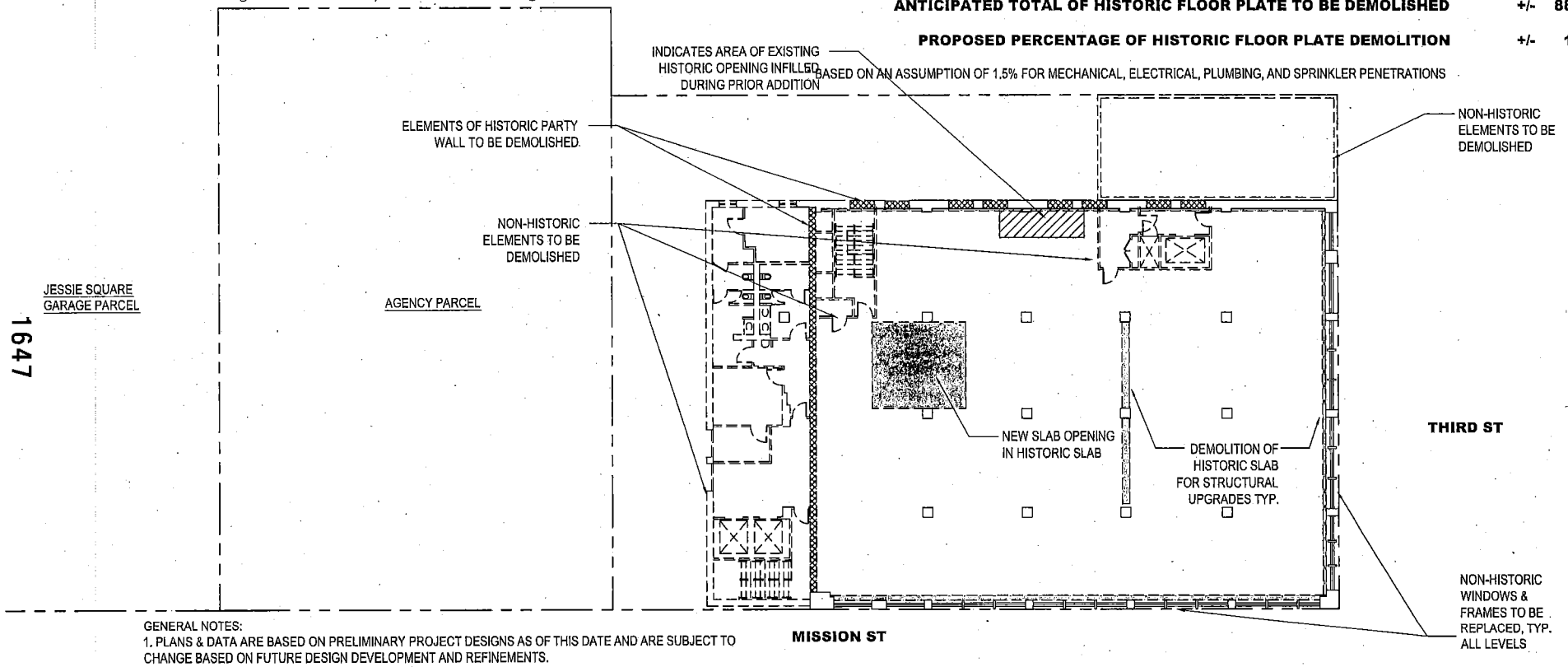
706 MISSION STREET - EXISTING SECOND FLOOR PLAN

SEISMIC TIE APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic tie approach, the Aronson Building would be laterally connected to the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. The Aronson Building would maintain its independent structural system for support of vertical (gravity) loads. In this scenario, the primary means of lateral resistance would be the shear wall system of the new tower, and seismic loads would be transferred from the Aronson Building to the new tower by means of structural drag strut elements at each floor.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,223 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 125 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 885 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 10%**

BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



GENERAL NOTES:
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2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS .

SEISMIC TIE APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM CONCEPTUAL SECOND FLOOR DEMOLITION PLAN

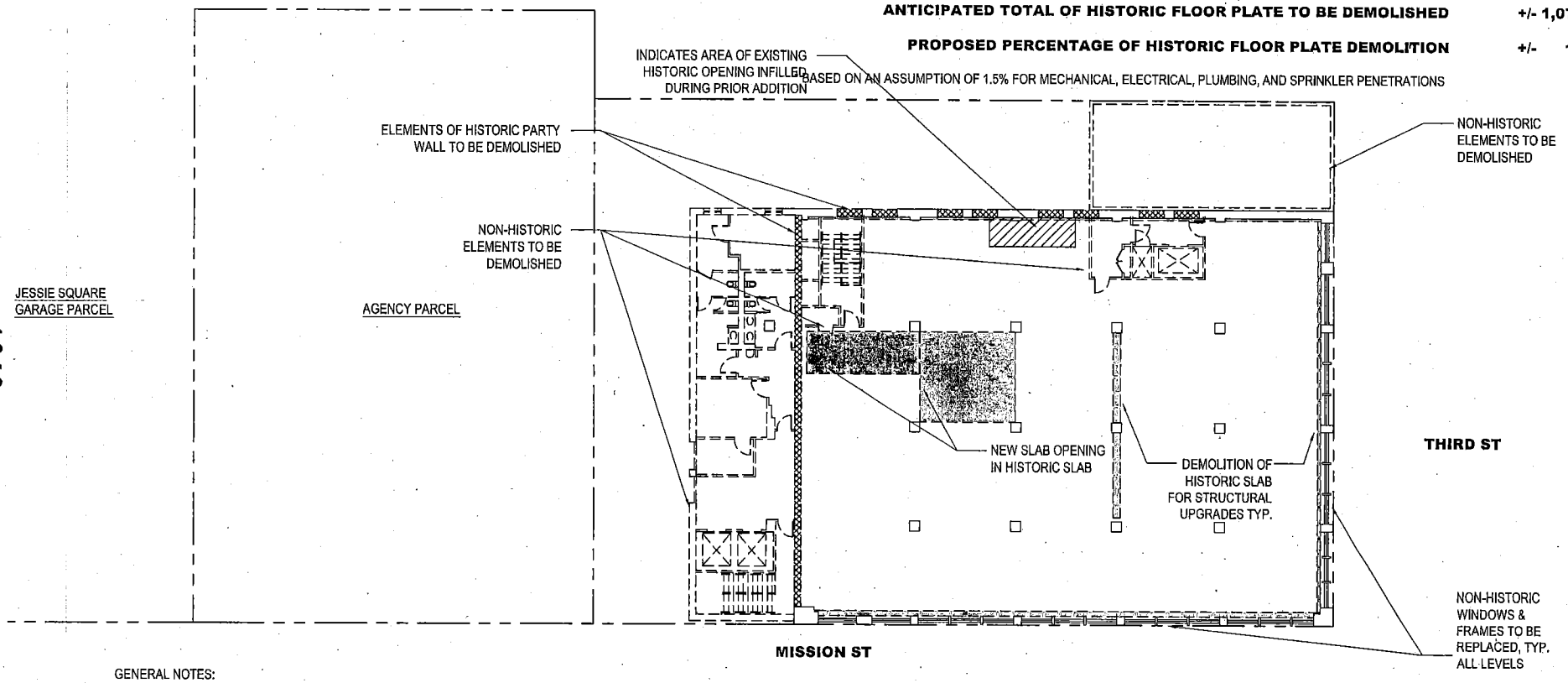
0 10' 20' 40'

SEISMIC JOINT APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic joint approach, the buildings would be seismically independent and separated by a seismic joint with an air space in between the two buildings. With this approach, the two buildings would be allowed to move independently during a seismic event.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 950 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 125 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 1,075 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 12%**

*BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



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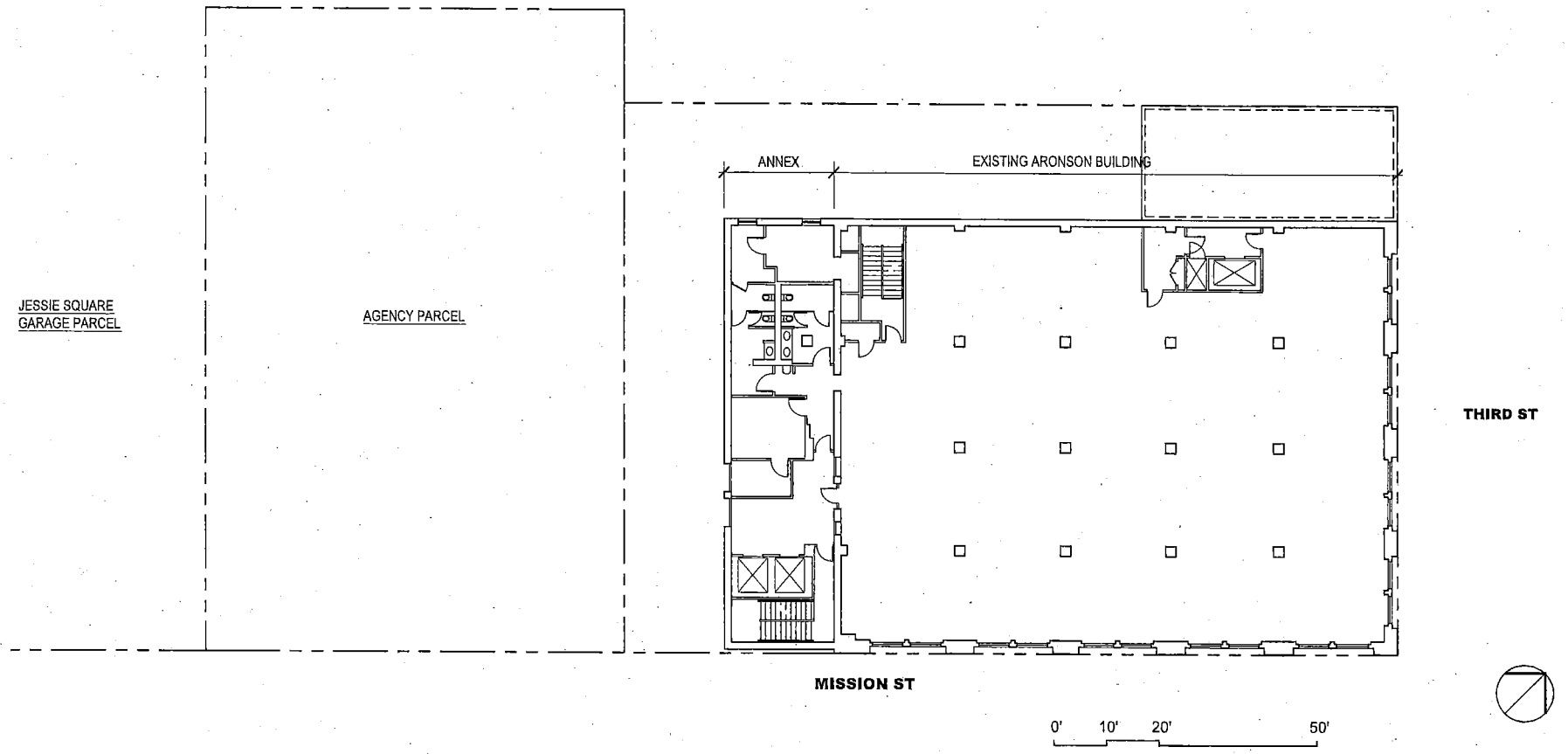
2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

SEISMIC JOINTAPPROACH

706 MISSION STREET - THE MEXICAN MUSEUM CONCEPTUAL SECOND FLOOR DEMOLITION PLAN

0 10' 20' 40'

PLANS



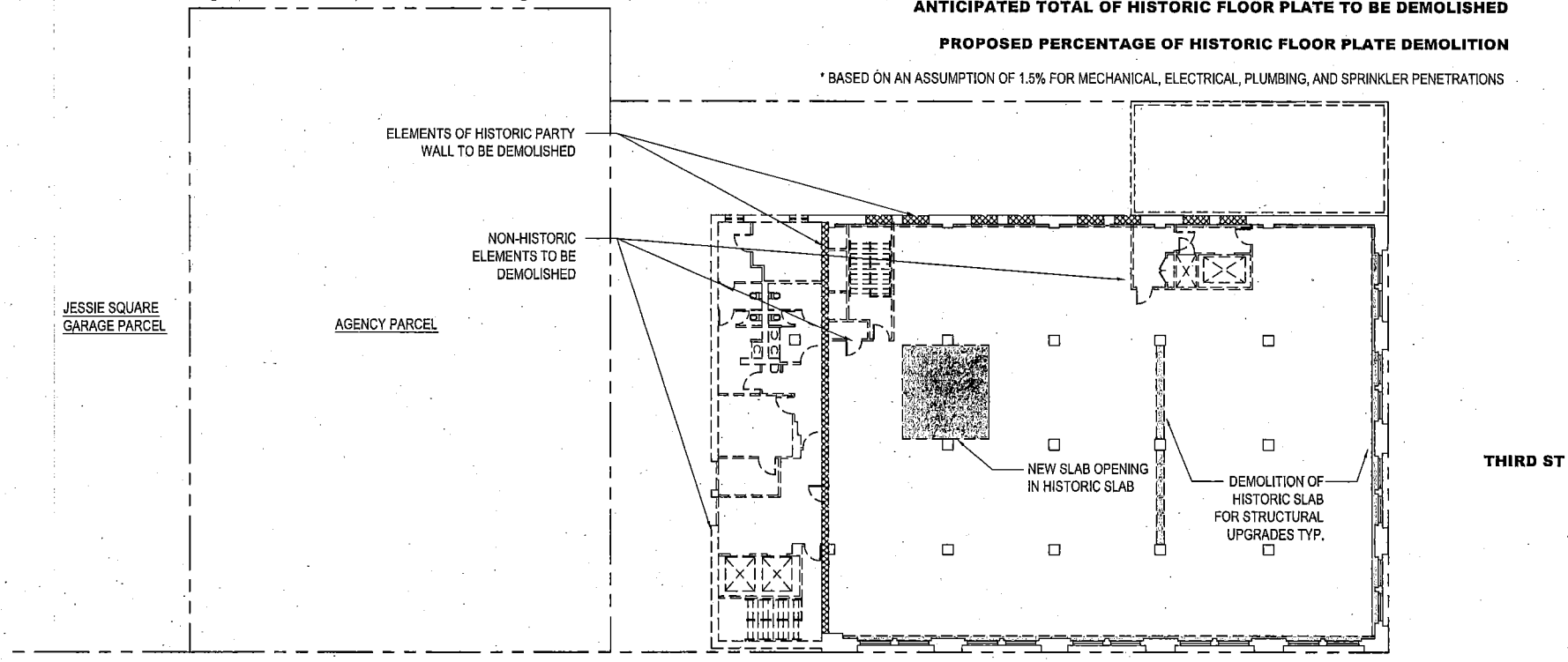
706 MISSION STREET - EXISTING THIRD FLOOR PLAN

SEISMIC TIE APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic tie approach, the Aronson Building would be laterally connected to the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. The Aronson Building would maintain its independent structural system for support of vertical (gravity) loads. In this scenario, the primary means of lateral resistance would be the shear wall system of the new tower, and seismic loads would be transferred from the Aronson Building to the new tower by means of structural drag strut elements at each floor.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 726 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 123 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 849 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 10%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



GENERAL NOTES:
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2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

SEISMIC TIE APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM

CONCEPTUAL THIRD FLOOR DEMOLITION PLAN

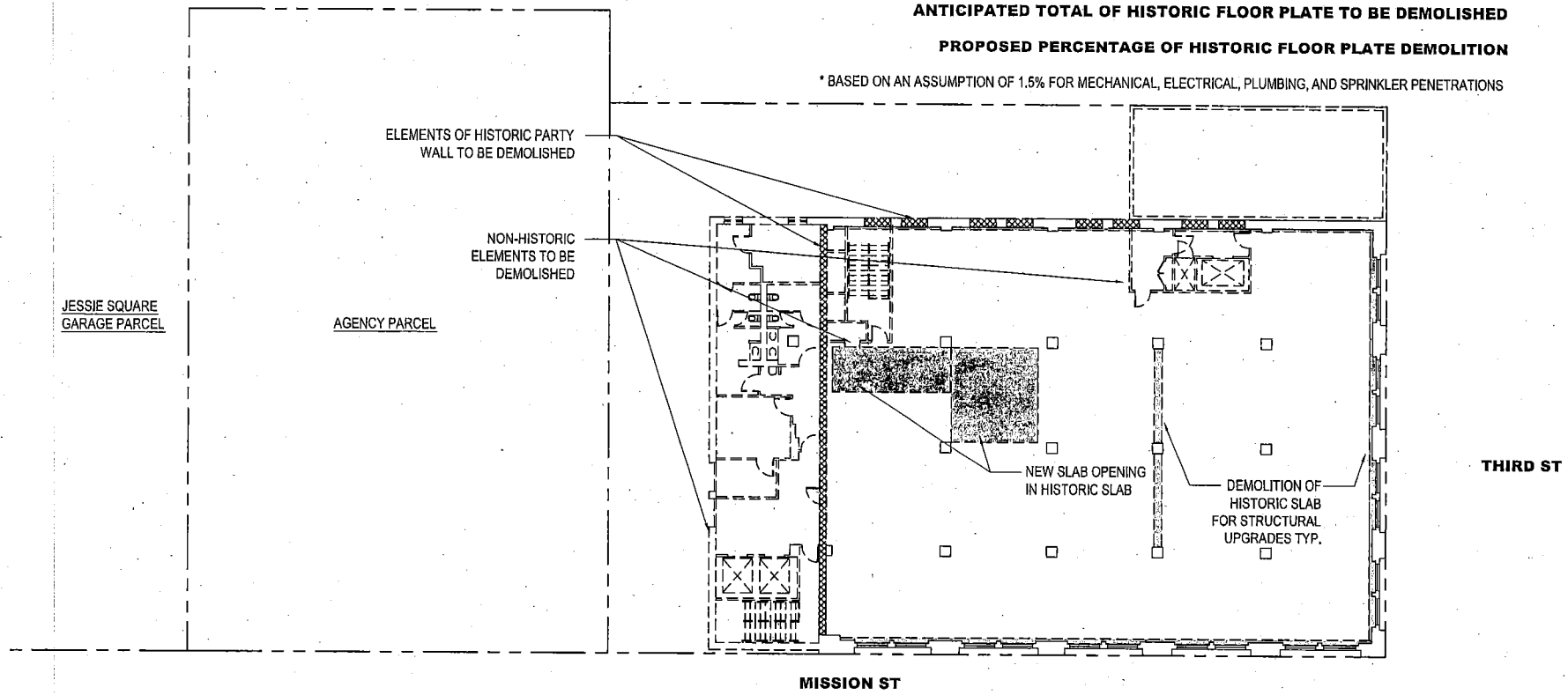
0 10' 20' 40'

SEISMIC JOINT APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic joint approach, the buildings would be seismically independent and separated by a seismic joint with an air space in between the two buildings. With this approach, the two buildings would be allowed to move independently during a seismic event.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 916 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 123 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 1,039 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 12%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



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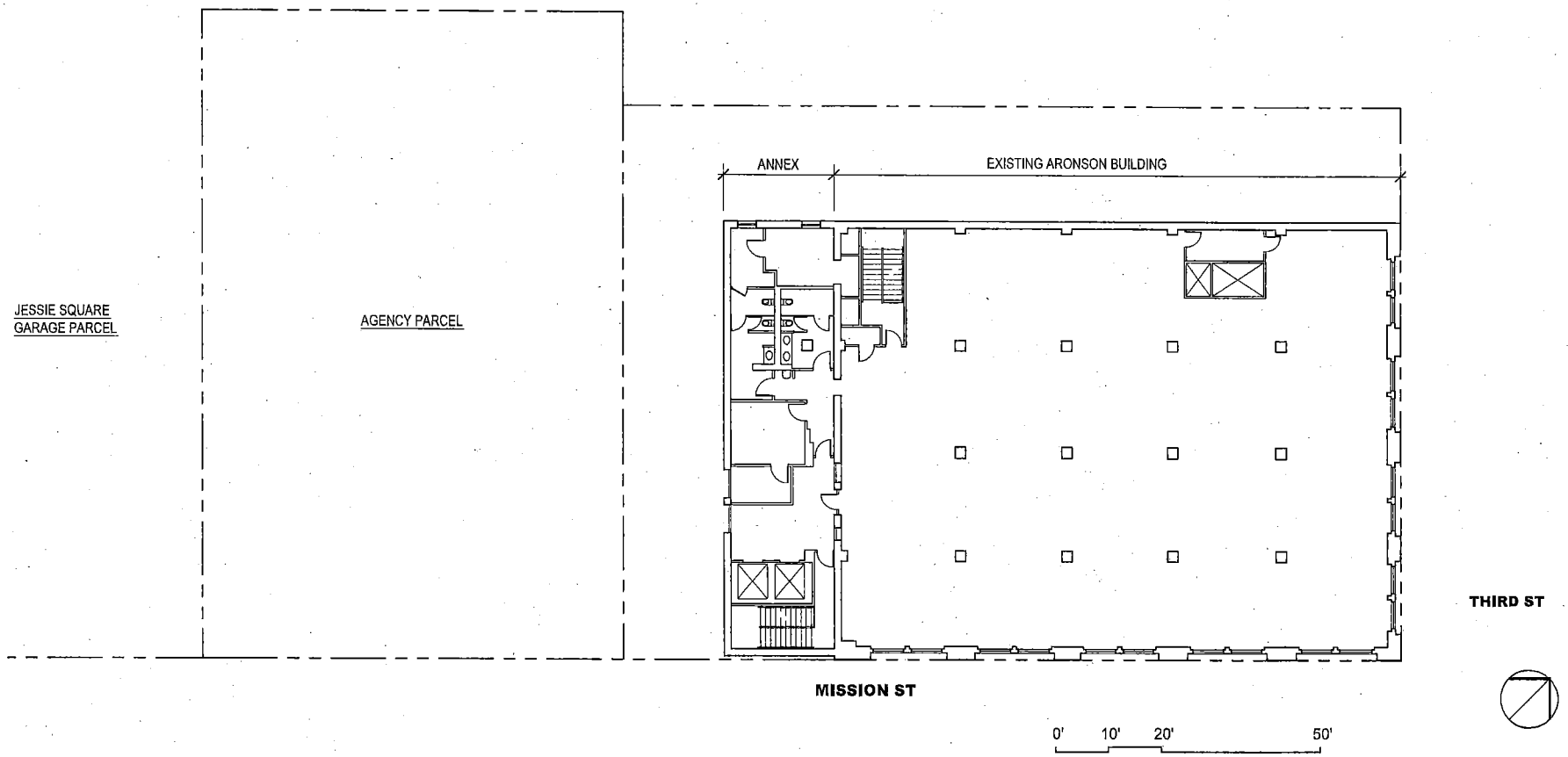
2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

SEISMIC JOINT APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM CONCEPTUAL THIRD FLOOR DEMOLITION PLAN

0 10' 20' 40'

PLANS



1654

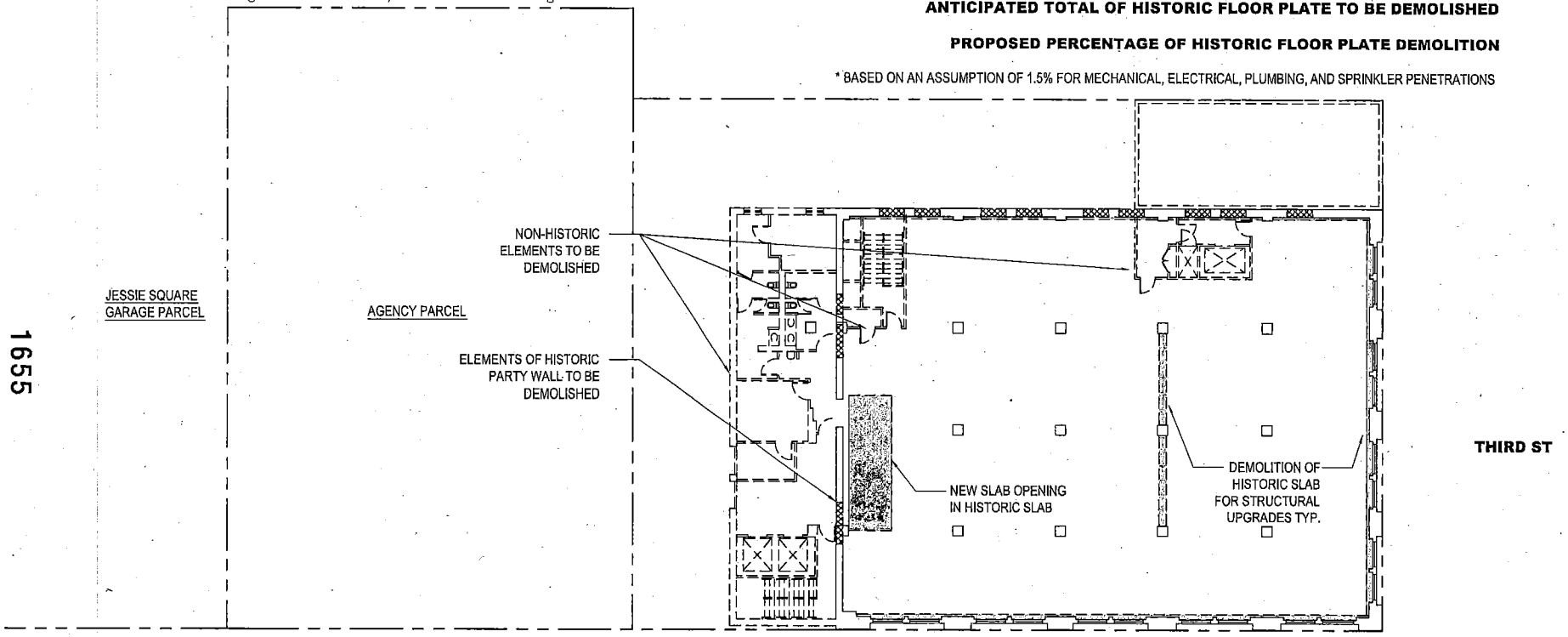
706 MISSION STREET - EXISTING 4TH TO 10TH PLAN

SEISMIC TIE APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic tie approach, the Aronson Building would be laterally connected to the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. The Aronson Building would maintain its independent structural system for support of vertical (gravity) loads. In this scenario, the primary means of lateral resistance would be the shear wall system of the new tower, and seismic loads would be transferred from the Aronson Building to the new tower by means of structural drag strut elements at each floor.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 583 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 123 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 706 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 8%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



GENERAL NOTES:
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2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

PLANS

SEISMIC TIE APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM

CONCEPTUAL FOURTH FLOOR DEMOLITION PLAN

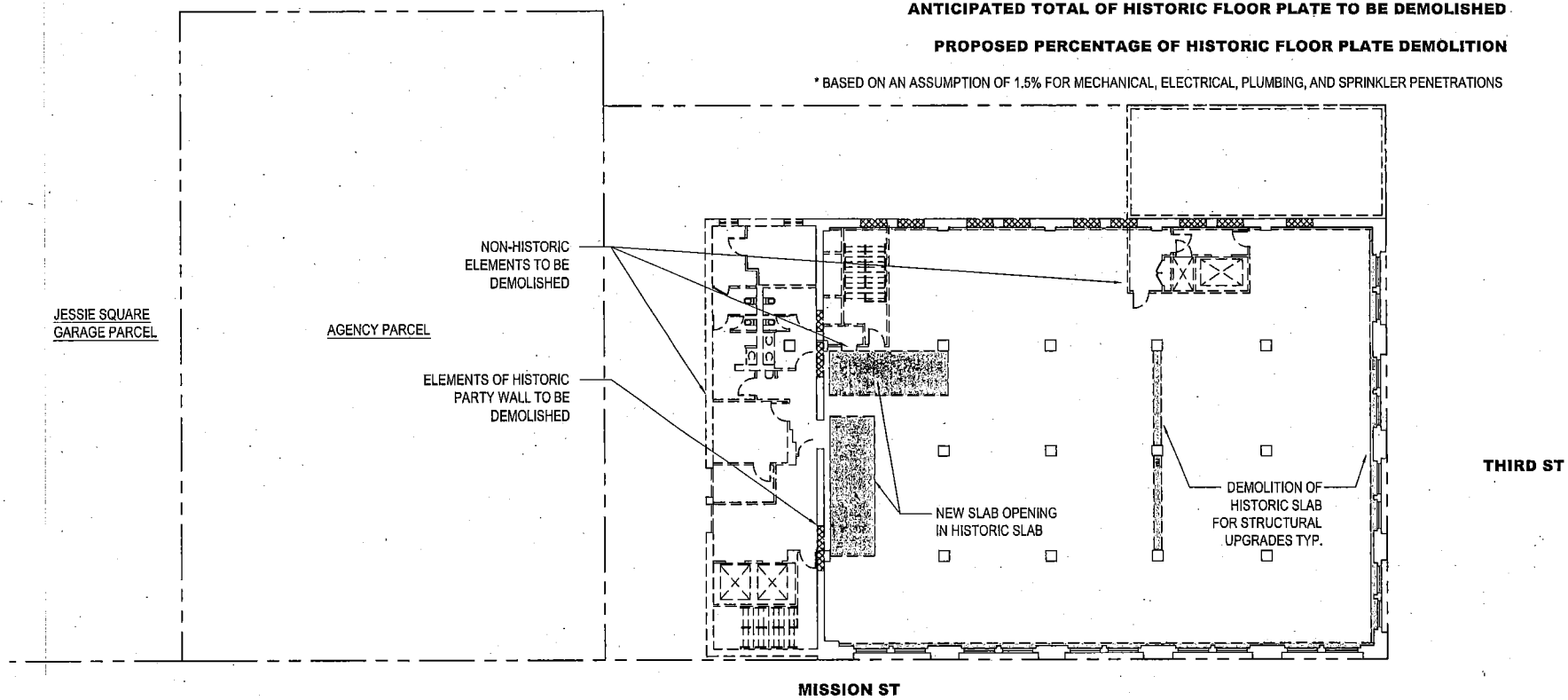
0 10' 20' 40'

SEISMIC JOINT APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic joint approach, the buildings would be seismically independent and separated by a seismic joint with an air space in between the two buildings. With this approach, the two buildings would be allowed to move independently during a seismic event.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 773 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 123 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 896 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 10%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



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2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

SEISMIC JOINT APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM

CONCEPTUAL FOURTH FLOOR DEMOLITION PLAN

0 10' 20' 40'

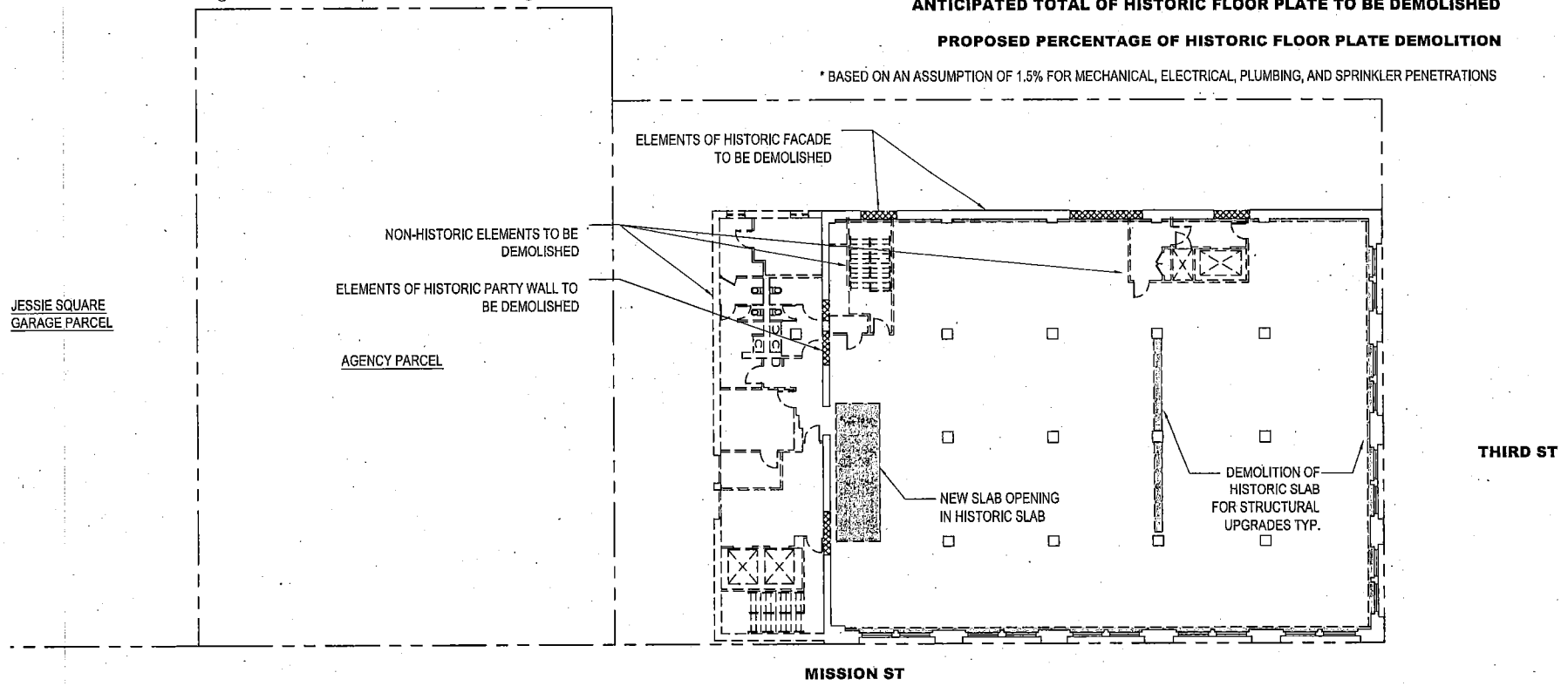
1657

SEISMIC TIE APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic tie approach, the Aronson Building would be laterally connected to the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. The Aronson Building would maintain its independent structural system for support of vertical (gravity) loads. In this scenario, the primary means of lateral resistance would be the shear wall system of the new tower, and seismic loads would be transferred from the Aronson Building to the new tower by means of structural drag strut elements at each floor.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 549 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 123 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 672 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 8%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



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PLANS

SEISMIC TIE APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM

CONCEPTUAL 5TH - 10TH FLOOR DEMOLITION PLAN

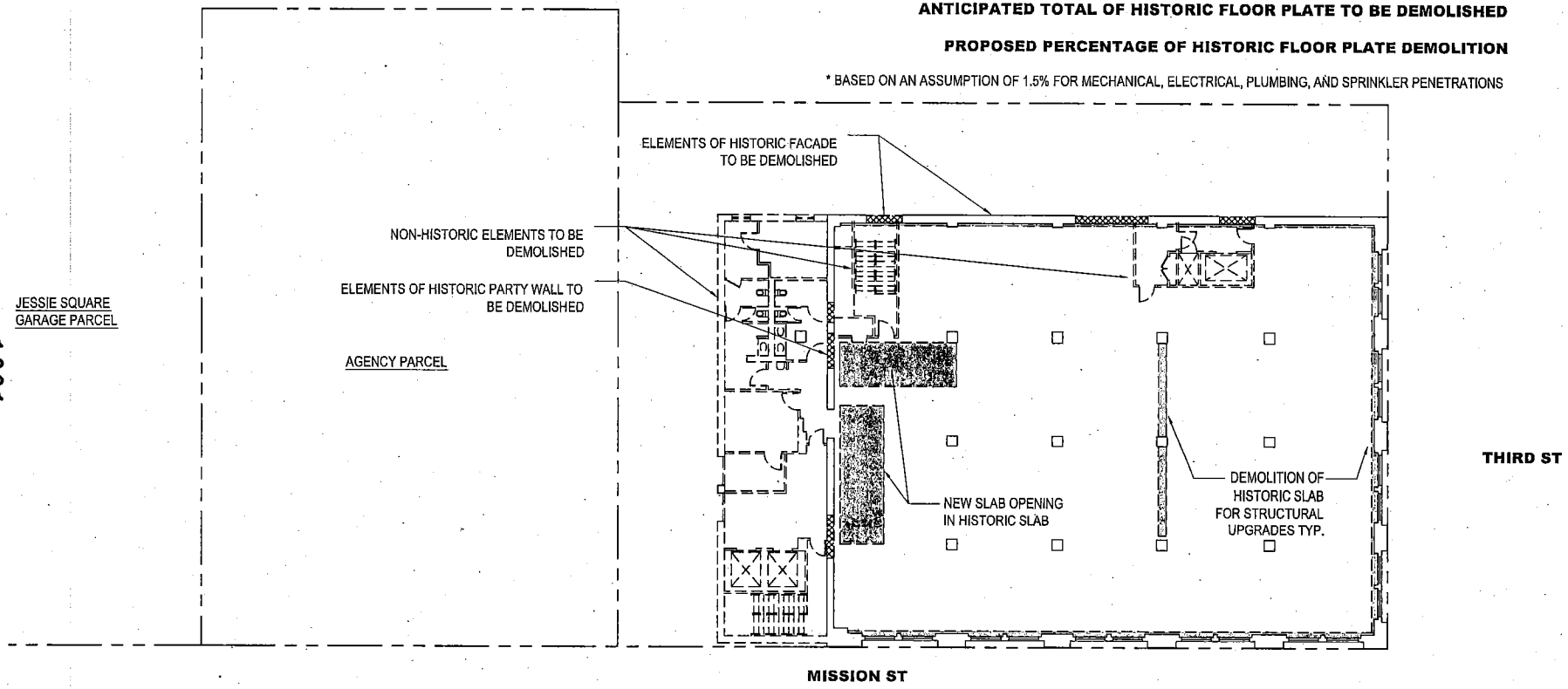
0 10' 20' 40'

SEISMIC JOINT APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic joint approach, the buildings would be seismically independent and separated by a seismic joint with an air space in between the two buildings. With this approach, the two buildings would be allowed to move independently during a seismic event.

TOTAL HISTORIC FLOOR PLATE AREA	**+/- 8,760 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF ARCHITECTURAL ALTERATIONS	**+/- 739 SF**
ANTICIPATED AREA OF HISTORIC FLOOR PLATE TO BE DEMOLISHED AS A RESULT OF MEPS* PENETRATIONS	**+/- 123 SF**
ANTICIPATED TOTAL OF HISTORIC FLOOR PLATE TO BE DEMOLISHED	**+/- 862 SF**
PROPOSED PERCENTAGE OF HISTORIC FLOOR PLATE DEMOLITION	**+/- 10%**

* BASED ON AN ASSUMPTION OF 1.5% FOR MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER PENETRATIONS



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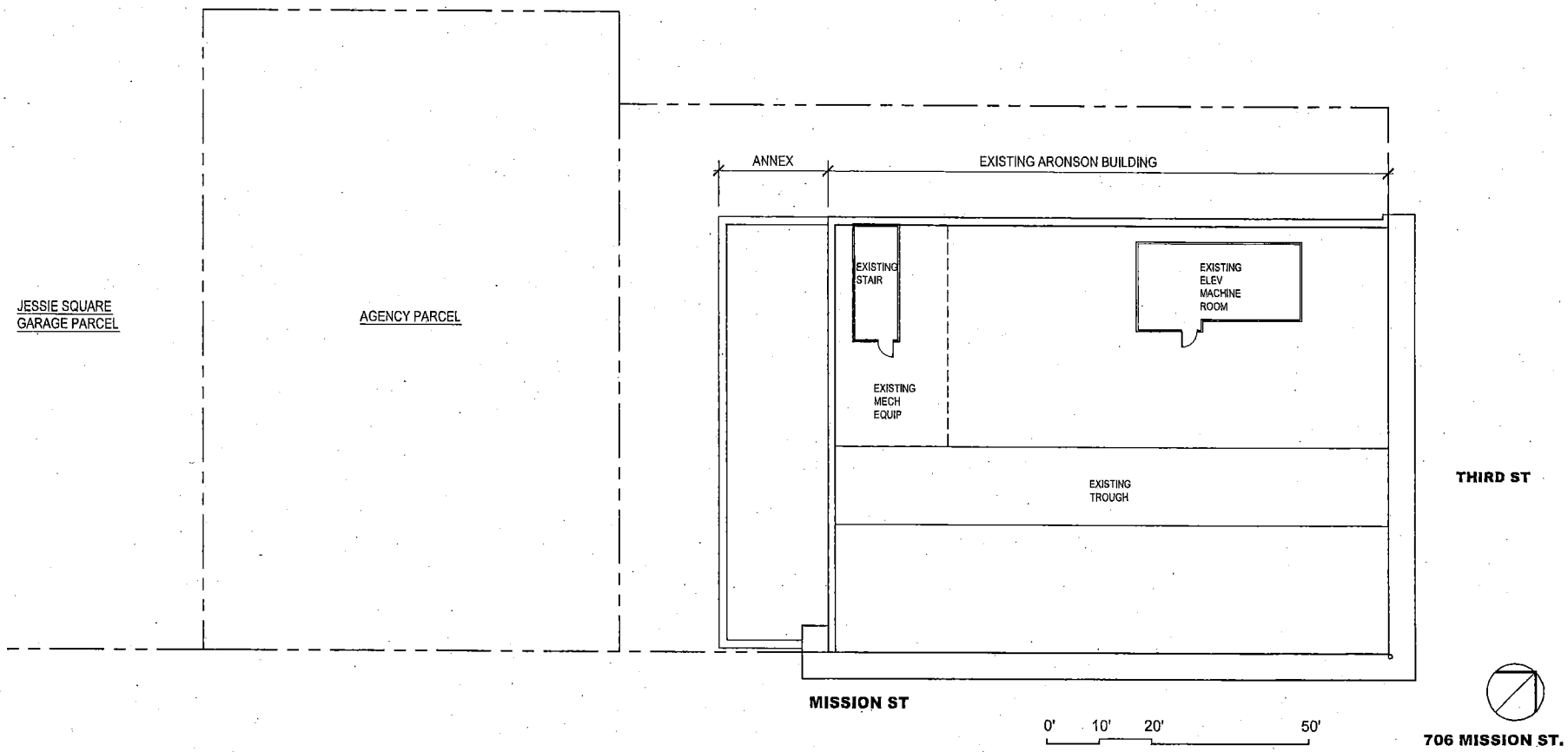
SEISMIC JOINT APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM CONCEPTUAL 5TH - 10TH FLOOR DEMOLITION PLAN

PLANS

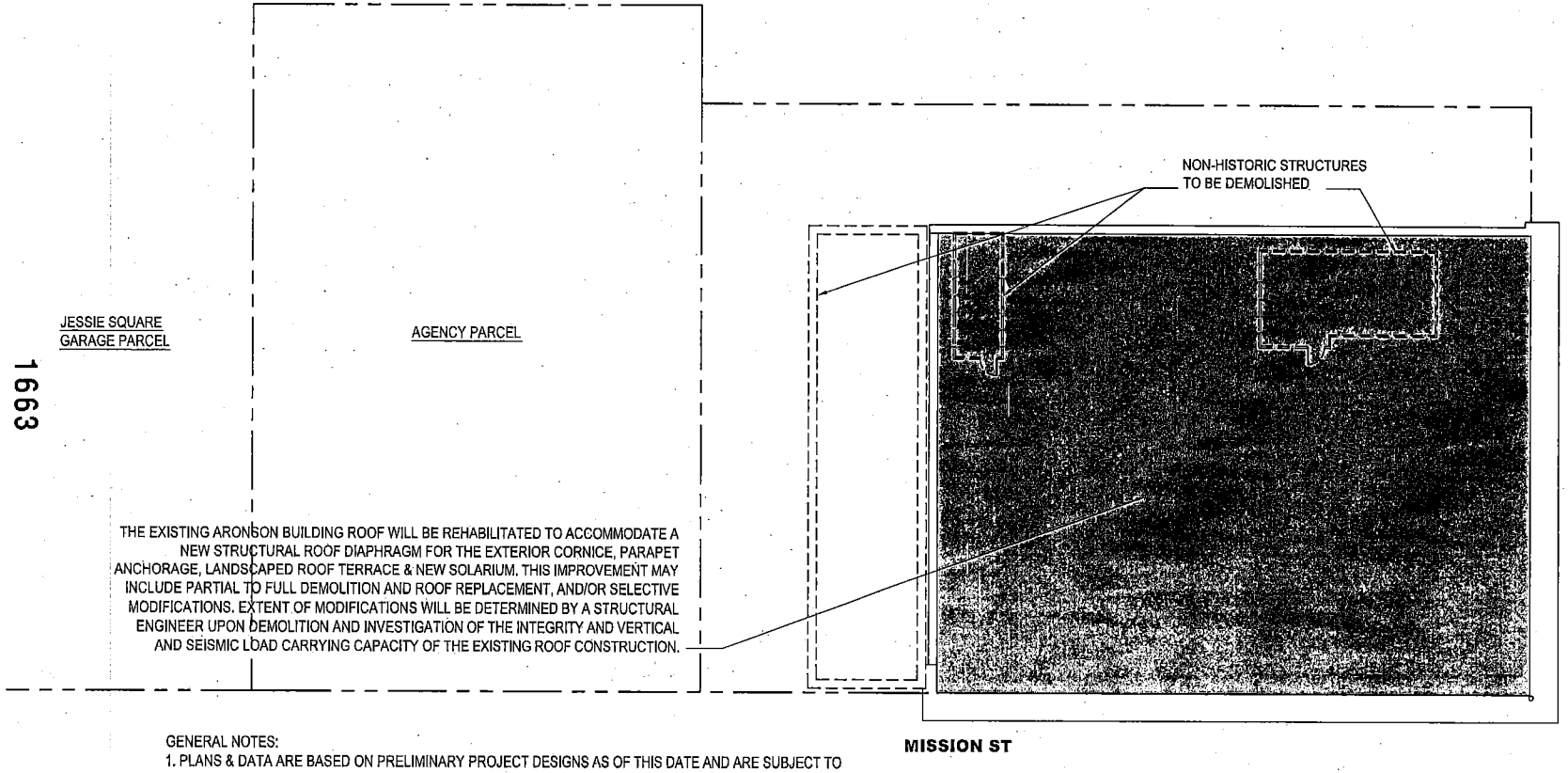


1662

706 MISSION STREET - EXISTING ROOF PLAN

SEISMIC TIE APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic tie approach, the Aronson Building would be laterally connected to the new tower at all floor and roof levels and allow the buildings to move together during a seismic event. The Aronson Building would maintain its independent structural system for support of vertical (gravity) loads. In this scenario, the primary means of lateral resistance would be the shear wall system of the new tower, and seismic loads would be transferred from the Aronson Building to the new tower by means of structural drag strut elements at each floor.



1663

GENERAL NOTES:
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2. LOCATION AND EXTENT OF REQD MEPS PENETRATIONS AT FLOOR PLATES AND REQD FOUNDATION UPGRADE SUBJECT TO FUTURE DESIGN DEVELOPMENT AND REFINEMENTS

PLANS

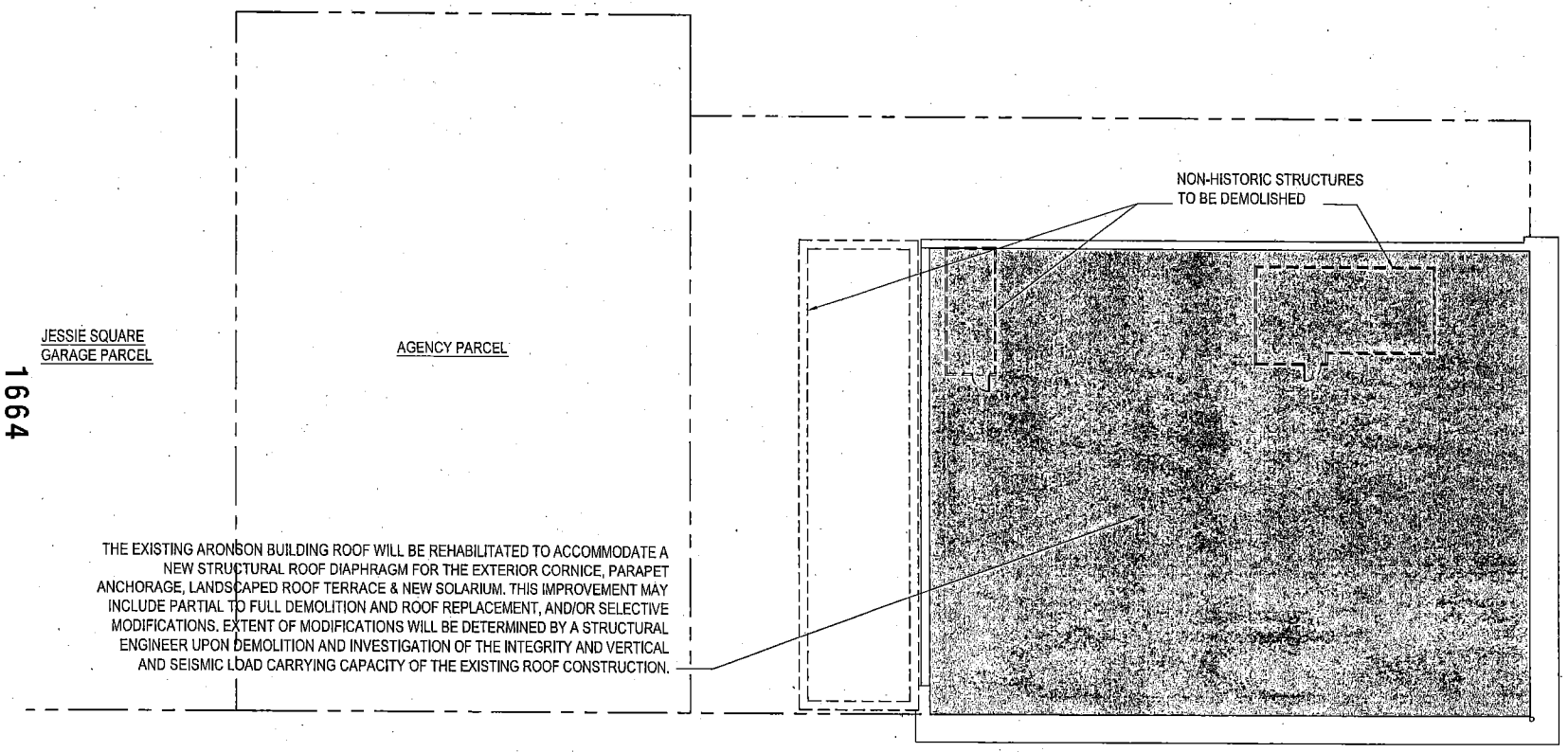
SEISMIC TIE APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM CONCEPTUAL ROOF DEMOLITION PLAN

0 10' 20' 40'

SEISMIC JOINT APPROACH

The Aronson Building will be seismically upgraded by using one of two approaches, seismic tie or seismic joint. Using the seismic joint approach, the buildings would be seismically independent and separated by a seismic joint with an air space in between the two buildings. With this approach, the two buildings would be allowed to move independently during a seismic event.



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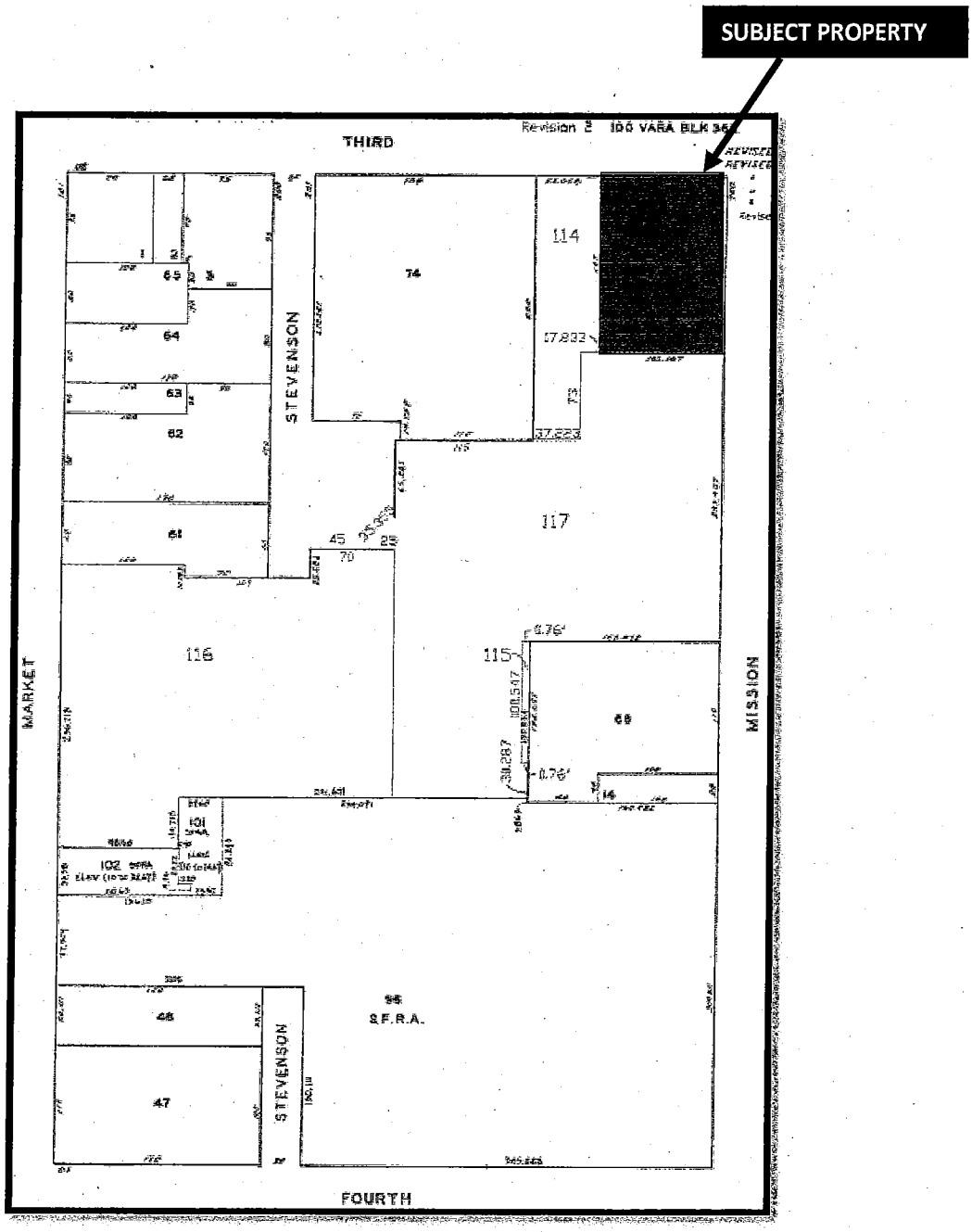
SEISMIC JOINT APPROACH

706 MISSION STREET - THE MEXICAN MUSEUM CONCEPTUAL ROOF DEMOLITION PLAN

0 10' 20' 40'

EXHIBIT 7

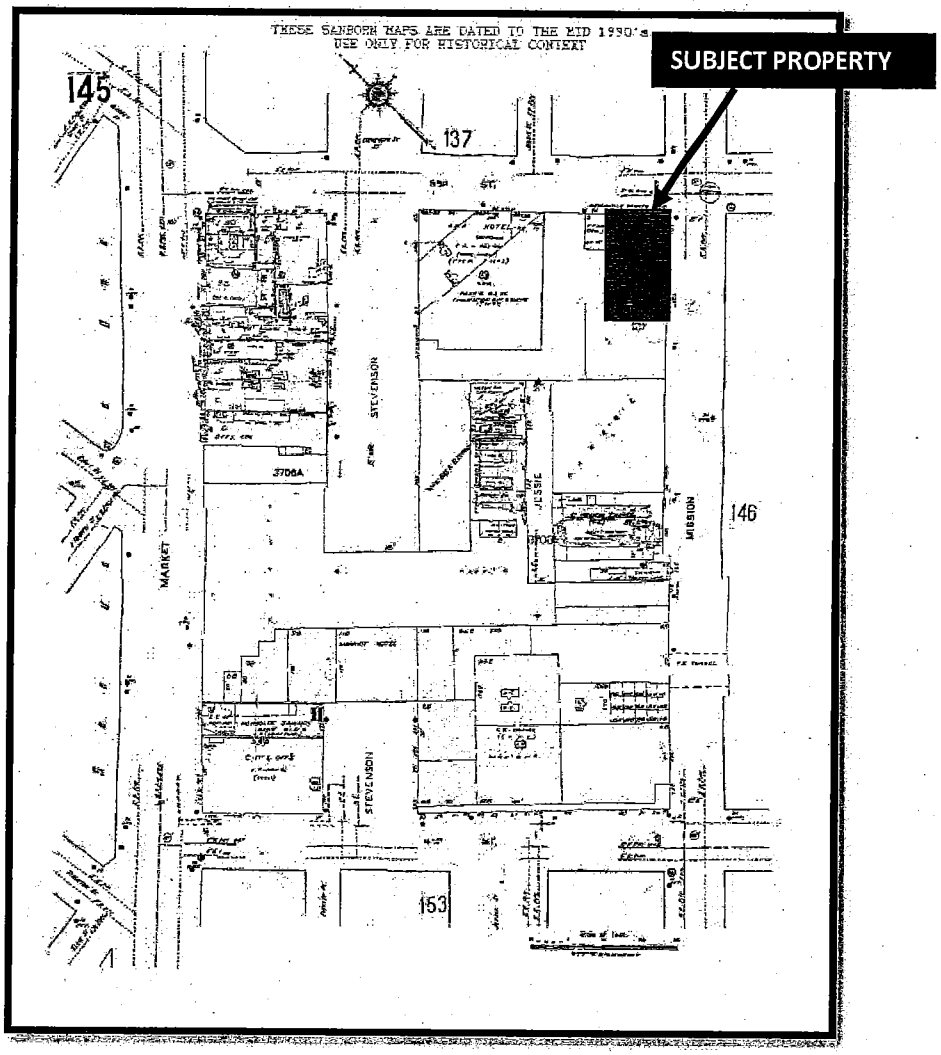
Parcel Map



SAN FRANCISCO
PLANNING DEPARTMENT

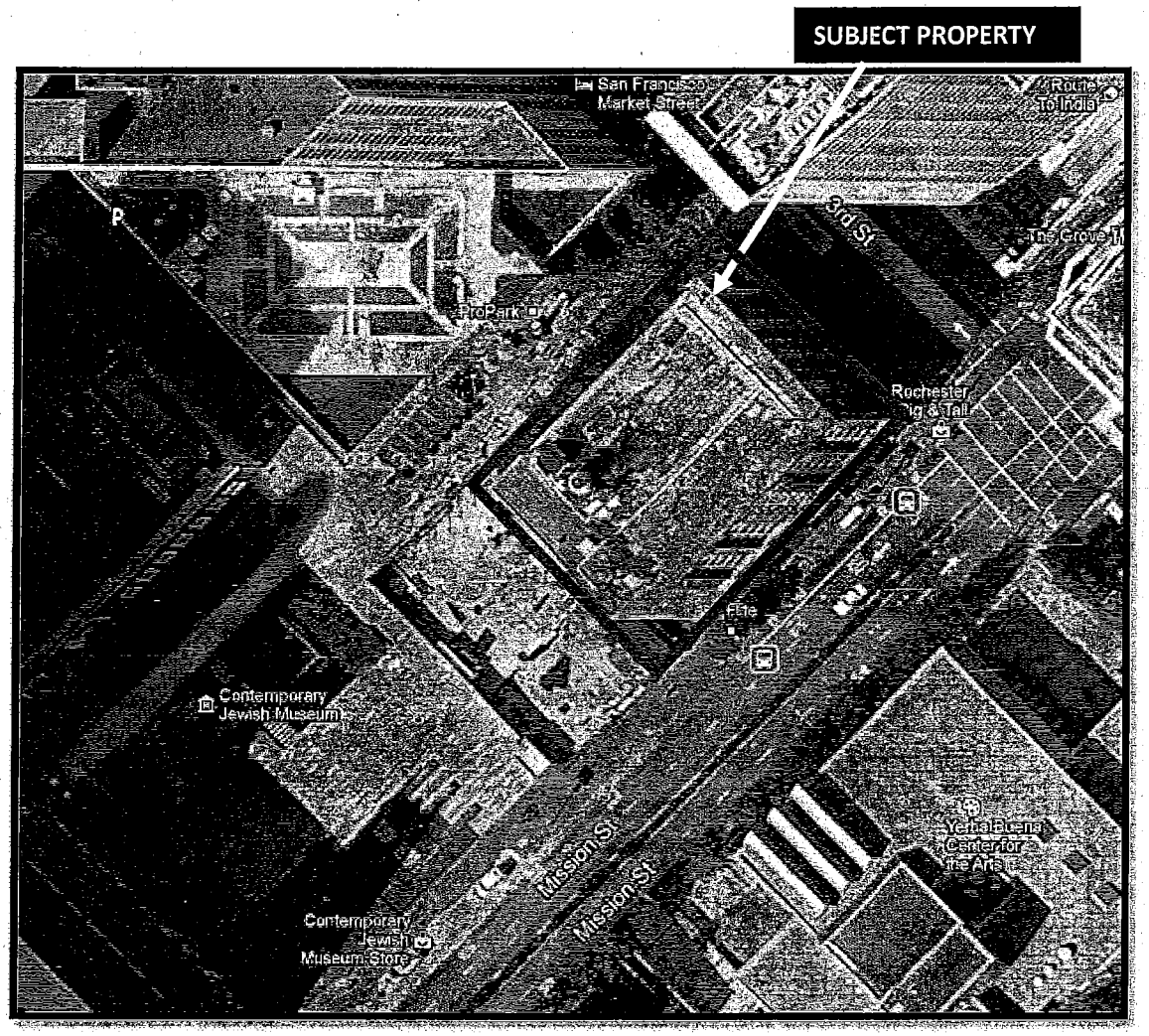
Major Permit to Alter
Case No. 2008.1084H
706 Mission Street

Sanborn Map*



*The Sanborn Maps in San Francisco have not been updated since 1998, and this map may not accurately reflect existing conditions.

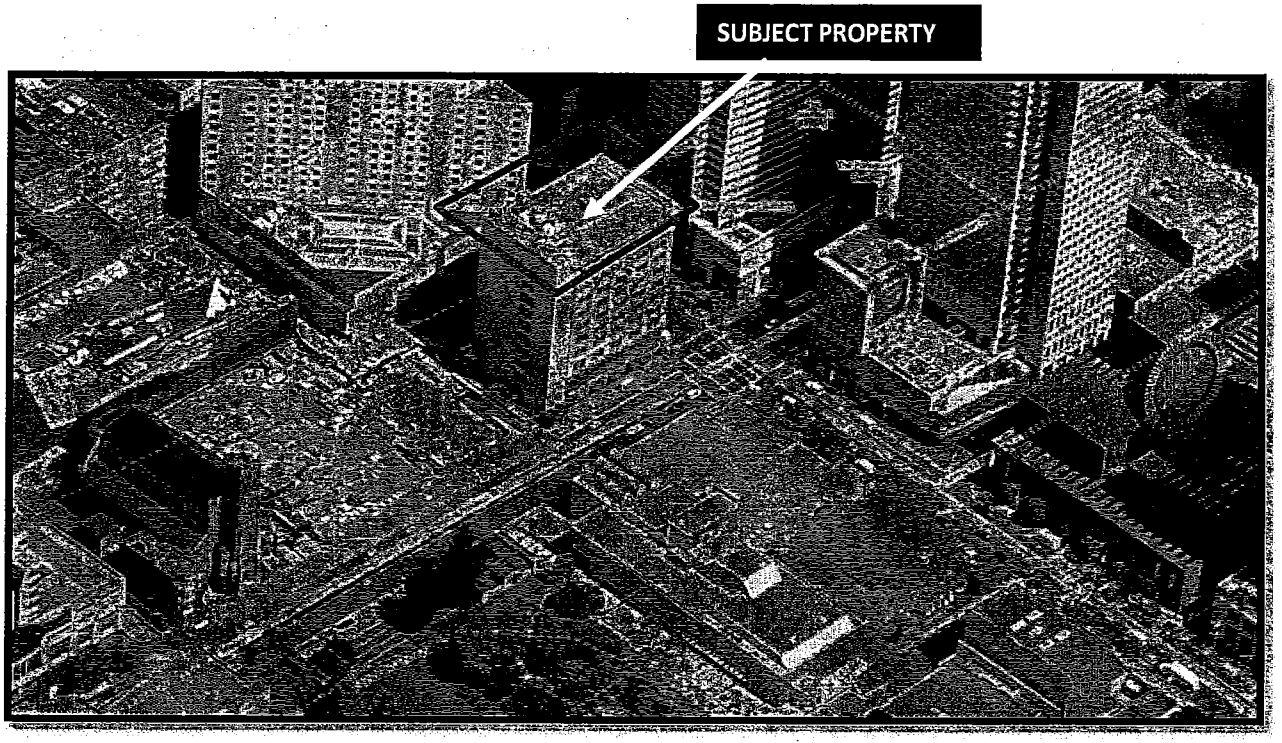
Aerial Map



SAN FRANCISCO
PLANNING DEPARTMENT

Major Permit to Alter
Case No. 2008.1084H
706 Mission Street

Bird's Eye View



SAN FRANCISCO
PLANNING DEPARTMENT

Major Permit to Alter
Case No. 2008.1084H
706 Mission Street

EXHIBIT 8

706 Mission Street – The Mexican Museum and Residential Tower Project

Major Permit to Alter Application Attachment

2. Property Location and Classification

The project site consists of Block 3706, Lot 093, which is owned by 706 Mission Street Co LLC, as well as Block 3706, Lot 275 and portions of Block 3706, Lot 277, which are owned by the Successor Agency to the Redevelopment Agency of the City and County of San Francisco.

3. Project Site and Description

706 Mission Street Co LLC (the "project applicant") proposes a mixed-use development project at the northwest corner of Third and Mission Streets, near the southern edge of San Francisco's Financial District neighborhood. The project site consists of three lots: the entirety of Assessor's Block 3706, Lots 093 and 275, and portions of Assessor's Block 3706, Lot 277. The project site covers an area of approximately 63,468 square feet or approximately 1.45 acres. Assessor's Block 3706, Lot 093 is owned by the project applicant and is improved with the existing 10-story, 144-foot-tall Aronson Building (with a 10-foot-tall mechanical penthouse) (the "Aronson Building parcel"). The Aronson Building is designated as a Category I Significant Building within the expanded New Montgomery-Mission-Second Street Conservation District, and has a retail use on the ground floor and office uses on the floors above.

The proposed project includes two main components. The first component will include the rehabilitation and reuse of the historic Aronson Building. The second component will include the construction of a tower adjacent to the Aronson Building on the west side. The new tower and the Aronson building will be physically connected, and new openings will be created in the west wall of the Aronson building to allow passage between the two buildings. The architecture of the new tower will be built adjacent to the Aronson Building and will be contemporary in style. Though the tower will have both a visual and physical connection to the historic building; its construction will not remove character-defining features and it will be built in a way that will not diminish the Aronson Building's historic integrity.

REHABILITATION PROGRAM

The project applicant proposes to rehabilitate and reuse the Aronson Building in a manner that avoids the removal of historic materials and character-defining features, so that the integrity of the Aronson building will not be adversely impacted. The building will be rehabilitated in accordance with the December 2010 Historic Structure Report (HSR).

Demolition of Non-Historic Features

The non-historic features of the Aronson Building, including the two 1978 additions, the fire escapes and landings, and the existing mechanical penthouse on the roof will be demolished. The project applicant will comply with the measures identified in the HSR to protect the historic fabric of the building during this demolition.

East and South Facades

The east and south facades of the Aronson Building are the primary facades of the building. The east façade faces Third Street and the south façade faces Mission Street. These facades have a tripartite composition with a two-story base, a shaft that extends from the third through the eighth floors, and a capital made up by the ninth and tenth floors. As the primary facades of the Aronson Building, the east and south facades contain the only exterior ornamentation. The ornamentation includes terra cotta, glazed terra cotta brick, decorative cast iron columns, and Colusa sandstone.

The proposed project will include the rehabilitation of the east and south facades. Non-historic features will be removed. Significant, character-defining features, such as the terra cotta, terra cotta brick, Colusa sandstone, and ironwork that are deteriorated will be retained and repaired. Where features are missing or deteriorated beyond repair, to the extent feasible, they will be replaced with new features that are compatible with the historic in design, color, texture, and materials, in accordance with the HSR.

The existing original main entry at Third Street, including the bronze door frame and arched transom frame, will be retained, cleaned, and protected. A new canopy that is compatible in size, style, and materials will be installed at this entry. A new bronze portal surround will be integrated with the existing bronze door frame.

At the original Mission Street entrance, any extant historic entryway exposed during demolition will be retained, cleaned and protected; if no historic entryway exists, a new compatible contemporary arched opening will be constructed in this location.

The most significant change at the east and south facades will be the replacement of the non-historic brick infill at the first floor with new storefronts. The storefronts will be compatible with the existing building in their composition but will be detailed in a contemporary way so that they may be differentiated from the historic fabric of the building.

The existing first floor façade also has non-historic ceramic tile cladding along the base and at the column located at the corner of Third and Mission Streets. The tile cladding will be removed and the column will be covered with a cladding compatible with the historic materials of the building.

West Facade:

The original west exterior wall of the Aronson Building is currently obscured by a ten-story addition built in 1978. This wall was originally constructed as a party wall. It has no ornamentation and does not represent a character-defining feature of the building. Openings in

the original west wall were created at the time of the 1978 addition in order to connect the addition to the original building. The 1978 addition will be removed in order to construct the new tower. The west wall will be assessed by a structural engineer in order to address structural deficiencies.

The new tower will abut and connect to the west façade of the Aronson Building. New openings will be made in the west façade to accommodate circulation as well as structural, mechanical, electrical and plumbing improvements. Where feasible, the program will reuse existing openings in the original west wall to avoid new openings.

At the southwest corner of the Aronson Building, the tower will be set back approximately six feet to expose the historic brick of the west façade, so that the original massing and form of the Aronson Building will be conveyed. The exposed brick will be cleaned, repointed as required, and existing cracks will be repaired. The remainder of the west façade will be covered and encased by new construction. The exterior of the new tower where it abuts the Aronson Building will consist of a transparent curtain-wall and will thus be recognized as separate and distinct from the historic building.

North Facade:

The common red brick at the north wall will be inspected, repaired, cleaned, repointed, and seismically upgraded as required. Damaged or missing bricks will be replaced with salvaged brick where possible. After demolition of the non-historic addition, existing windows, doors and grilles will be removed and openings within the party wall will be patched utilizing salvaged brick removed for new openings.

New selective openings will be made within the existing brick party wall for exterior windows to bring natural light and ventilation into new residential or office and museum spaces, for mechanical openings as may be required, and for ground floor entry and circulation functions. Approximately 70% of the existing wall area will be retained. New openings above the ground level will be organized in a regular pattern that corresponds with the existing structural bays and will be set back approximately 14'-5" from the northeast corner at floors 4-10, and approximately 27' at floors 1-3. The new metal framed windows will be expressed as simple punched openings.

New metal framed transparent storefront openings and a metal canopy will be added at the ground level to encourage pedestrian activity and connections to the ground floor program. The new storefront framing will be similar to that on east and south facades in material, divisions, frame profile and depth.

The new metal framed canopy above the new storefronts will provide a pedestrian scale.

A recessed horizontal metal channel at the ground floor canopy level will be added. The new channel will extend to and align with the east façade cornice datum line and serve to integrate the new canopy. A new recessed vertical metal reveal will be added at the ground floor northeast corner.

Roof:

The Aronson Building roof will be rehabilitated to function as a residential amenity outdoor terrace/roof garden.

The existing roofing material and structure will be removed, with selective demolition. The roof structure will be reinforced and seismically upgraded as required.

New transparent glass perimeter railings/windscreens will be set back from the existing parapet edge and cornice line.

Roof elements, including architectural, landscape, and mechanical components, will be designed to ensure that they are not visually dominant from the sidewalk or street below.

A solarium structure will be substantially set back from existing cornice lines. The solarium will be comprised of glazing similar to that on the east and south facades in terms of material, divisions, frame profile and depth. The solarium will have exterior masonry and metal materials and colors complementary to the existing Aronson Building. The roof of the solarium will include a private outdoor terrace that will be used by residents.

The existing wood flagpole will be retained and rehabilitated.

Section 4:

Project Summary Table for the Residential Flex Option

	EXISTING USES:	EXISTING USES TO BE RETAINED:	NET NEW CONSTRUCTION AND/OR ADDITION:	PROJECT TOTALS:
		PROJECT FEATURES		
Dwelling Units	0	0	Up to 215	Up to 215
Hotel Rooms	0	0	0	0
Parking Spaces	442	442	28	470
Loading Spaces	1	0	4	4
Number of Buildings	1 (Aronson)	1 (Aronson)	1 (tower)	2
Height of Building(s)	144 (Aronson)	144 (Aronson)	520 (tower)	144 (Aronson) / 520 (tower)
Number of Stories	10 (Aronson)	10 (Aronson)	47(tower)	10 (Aronson) / 47 (tower)
Bicycle Spaces	10	10	57	67
		APPROXIMATE GROSS SQUARE FOOTAGE (GSF)		
Residential	0	0	580,630	580,630
Retail	10,660	4,800	0	4,800
Office	95,980	0	0	0
Industrial/PDR	0	0	0	0
Parking	178,780*	178,780*	0	178,780*
Other (Specify Use)	31,700	13,700	111,395	125,095
TOTAL GSF	138,420	18,500	692,025	710,525

***NOTE**: The 178,780 square feet of parking use in the existing Jessie Square Garage is excluded from the "Total GSF" calculations above.

The "Other" existing uses are:
- Mechanical, storage, etc. = 13,700
- Vacant (museum parcel basement levels) = 18,000
- Residential amenity = 0
- Museum = 0
  Total = 31,700

The "Other" net new construction/addition uses are:
- Mechanical, storage, etc. = 36,910
- Vacant (museum parcel basement levels) = 0
- Residential amenity = 22,200
- Museum = 52,285
  Total = 111,395

Project Summary Table for the Office Flex Option

	EXISTING USES:	EXISTING USES TO BE RETAINED:	NET NEW CONSTRUCTION AND/OR ADDITION:	PROJECT TOTALS:
PROJECT FEATURES				
Dwelling Units	0	0	Up to 191	Up to 191
Hotel Rooms	0	0	0	0
Parking Spaces	442	442	28	470
Loading Spaces	1	0	4	4
Number of Buildings	1 (Aronson)	1 (Aronson)	1 (tower)	2
Height of Building(s)	144 (Aronson)	144 (Aronson)	520 (tower)	144 (Aronson) / 520 (tower)
Number of Stories	10 (Aronson)	10 (Aronson)	47(tower)	10 (Aronson) / 47 (tower)
Bicycle Spaces	10	10	51	61
APPROXIMATE GROSS SQUARE FOOTAGE (GSF)				
Residential	0	0	519,310	519,310
Retail	10,660	4,800	0	4,800
Office	95,980	61,320	0	61,320
Industrial/PDR	0	0	0	0
Parking	178,780*	178,780*	0	178,780*
Other (Specify Use)	31,700	13,700	111,395	125,095
TOTAL GSF	138,420	79,820	630,705	710,525

***Note**: The 178,780 square feet of parking use in the existing Jessie Square Garage is excluded from the "Total GSF" calculations above.

The "Other" existing uses are:
- Mechanical, storage, etc. = 13,700
- Vacant (museum parcel basement levels) = 18,000
- Residential amenity = 0
- Museum = 0
  Total = 31,700

The "Other" net new construction/addition uses are:
- Mechanical, storage, etc. = 36,910
- Vacant (museum parcel basement levels) = 0
- Residential amenity = 22,200
- Museum = 52,285
  Total = 111,395

Major Permit to Alter Findings

In reviewing applications for Major Permits to Alter, the Historic Preservation Commission, Planning Department staff, Board of Permit Appeals and/or Board of Supervisors, and the Planning Commission (where applicable) shall be governed by the following requirements set forth in Planning Code Section 1111.5. Please describe below how the project is consistent with each requirement.

1. The distinguishing original qualities or character of the building may not be damaged or destroyed. Any distinctive architectural feature which affects the overall appearance of the building shall not be removed or altered unless it is the only feasible means to protect the public safety;

The project would rehabilitate the character-defining features of the Aronson Building, including a majority of the structural system, building massing, scale, and proportion, and all historic materials on both of the primary facades (the Third Street and Mission Street facades). The character-defining features were identified in the Historic Structure Report ("HSR") that was prepared by Page & Turnbull for the Aronson Building. The HSR documents the historic significance of the Aronson Building and recommends appropriate rehabilitation options for retaining the property's historic character while accommodating future use and development. All rehabilitation work that will be undertaken as part of the project will be performed in a manner that is consistent with the *Secretary of the Interior's Standards for Historic Rehabilitation* ("Secretary's Standards"). The distinguishing qualities and historic character of the Aronson Building will be retained and rehabilitated in accordance with the HSR and *Architectural Design Intent Statement* prepared by Handel Architects.

2. The integrity of distinctive stylistic features or examples of skilled craftsmanship that characterize a building shall be preserved;

The project would retain all distinctive materials, features, and finishes, as well as construction techniques and examples of craftsmanship. In accordance with the HSR and *Architectural Design Intent Statement*, deteriorated Colusa sandstone entablatures on the base of the building would be retained, existing paint and unsound material removed, repaired, or patched where necessary, and replaced in kind if required. The architectural cast iron elements along Third Street and Mission Street would be retained, paint removed and repainted, and missing cast iron elements, such as the scroll capitals, would be replaced with an acceptable material. The buff-colored brick, terra cotta pilasters, and capitals on the upper floors would be retained, cleaned, spalls patched, and missing elements replaced in kind or with a substitute material if necessary. The mortar joints would be re-pointed where necessary. The terra cotta spandrel panels, window sills and headers, foliate ornament at the ninth and tenth floors, archivolt moldings, keystones, egg-and-dart moldings, and all other decorative terra cotta work would be retained, cleaned, patched where feasible, and replaced where necessary. The sheet metal cornice and entablature at the tenth story would be retained, cleaned, paint stripped, corrosion removed, and patched where the fire escape penetrated it. The historic entrance on Third

Street would be retained, cleaned, and restored. A new canopy that is compatible in size, style, and materials will be installed at this entry. A new bronze portal surround will be integrated with the existing bronze door frame. If the Mission Street entrance survives behind the 1978 storefront, it would be retained, preserved, and reused. If it does not exist, a compatible new arched opening would be created in this bay that recalls the former entrance.

In summary, the exterior of the Aronson Building would be rehabilitated in a manner that complies with the Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings.

3. Distinctive architectural features which are to be retained pursuant to Paragraph (1) but which are deteriorated shall be repaired rather than replaced, whenever possible. In the event replacement is necessary, the new material shall match the material being replaced in composition, design, color, texture and other visual qualities. Repair or replacement of missing architectural features shall be based on accurate duplication of features, substantiated by historic, physical or pictorial evidence, if available, rather than on conjectural designs or the availability of different architectural elements from other buildings or structures. Replacement of non-visible structural elements need not match or duplicate the material being replaced.;

The project would repair rather than replace distinctive architectural features and materials wherever feasible in accordance with the HSR and *Architectural Design Intent Statement.* If replacement of a deteriorated element is required, or if the element is missing, it would be replaced in kind, or with an acceptable substitute material that matches the design, color, texture, and visual qualities of the original. Elements that may need selective replacement include some of the missing capitals on the cast iron pilasters along Third Street, missing terra cotta keystones on the arches at the ninth floor, and other parts of the terra cotta, sandstone, and galvanized sheet metal that are heavily deteriorated.

4. Contemporary design of alterations is permitted, provided that such alterations do not destroy significant exterior architectural material and that such design is compatible with the size, scale, color, material and character of the building and its surroundings;

Additions & Exterior Alterations

The project would demolish the two incompatible additions to the Aronson Building constructed in 1978, including the 10-story addition on the west façade and the three-story addition on the north façade. The only additions that would occur on the Aronson Building as part of the project include a small one-story solarium on the roof and a narrow canopy over the new storefronts along the first floor level of the north secondary façade. The solarium would be set back from the north, east, and south edges of the building so that it would not be visible from street level. The solarium would be comprised of glazing similar to that on the south and east facades of the Aronson

Building in terms of material, divisions, frame profile, and depth. It would be built of steel, glass, and masonry elements to match the storefronts and would be largely transparent when viewed from higher locations such as the terrace at Yerba Buena Gardens. Railing and windscreens will be installed with a setback from existing parapet edges and cornice lines. The proposed rooftop features would be clearly differentiated but compatible with the character of the historic building and would be reversible.

The project would also include the construction of a narrow canopy over a new storefront system along the first floor level of the north façade, and sections of the existing red brick wall would be removed to construct the new storefronts and canopy. However, this is an area of the building exterior that has already been impacted by the construction of the north addition in 1978 and is considered a secondary facade. The proposed canopy would be steel and glass and would have a thin and delicate profile, extending out approximately 17'-2" over the driveway on the north side of the building. The new storefront framing would be similar to that on the east and south facades in material, divisions, frame profile, and depth, and would be compatible with the Aronson Building.

Both the solarium and the canopy comply with the Secretary's Standards due to their comparative small size and location on non-character-defining elevations. They would not destroy significant exterior architectural material. These additions would also be consistent with the guidance provided in Preservation Brief 14: "*New Exterior Additions to Historic Buildings: Preservation Concerns*." This guidance explains that a new addition to a historic building should preserve the building's historic character by preserving significant historical materials, features, and should be compatible with yet differentiated from the historic building. With respect to vertical additions in particular, the guidance recommends a rooftop addition be minimally visible, be setback from the primary façade, and should not generally be more than one story in height. The solarium and canopy comply with these recommendations.

The project would also include the addition of windows to the north façade of the Aronson Building. This elevation is presently a common brick wall that was originally intended to be concealed by adjacent construction as a party wall. Although the lower portion of this wall was eventually concealed, the upper portion was not and it became the location of several painted signs and a random pattern of non-historic punched windows. The project would result in the removal of approximately 30% of the red common brick from this secondary elevation to create new window openings. These windows are necessary to provide light and air to the museum and office or residential uses on the upper floors. The proposed new windows would be located and organized in a largely symmetrical arrangement that consists of new paired windows in each structural bay of each floor level. Floors two and three would only have paired windows in the four westernmost bays, leaving the easternmost bay entirely intact. Meanwhile, the easternmost bay of floors four through 10 would have only one window instead of two, reducing the amount of brick loss and reinforcing the perception of a solid brick wall from Third Street. This design would result in a grid-like arrangement of punched windows in keeping with the arrangement of windows on the building's primary façades.

However, in keeping with the Secretary's Standards, the new windows on the north façade would not replicate the detailing of the historic windows on the south or east façades; instead the new windows would be punched and would have simple frames to distinguish them from historic windows.

Related New Construction

The project would also result in the construction of a 520-foot-high tower (with 30 foot mechanical penthouse) to the west of the Aronson Building. Circulation within the new tower would be linked to the Aronson Building at floor levels of the Aronson Building where floor alignments with floors of the proposed tower permit. However, the tower would be structurally independent of the Aronson Building with respect to gravity loads and thereby removable, in accordance with the Secretary's Standards. In addition, the tower is designed to read as an entirely separate building, a key requirement for related new construction to historic resources in dense urban locations as discussed in Preservation Brief 14: "*New Exterior Additions to Historic Buildings: Preservation Concerns*." The new tower therefore is consistent with Rehabilitation Standard 10 and Preservation Brief 14 guidelines regarding urban infill, which suggest that "Treating the addition as a separate or infill building may be the best approach when designing an addition that will have the least impact on the historic building and the district."

The proposed tower would conceal the west elevation of the Aronson Building, an elevation that has been previously altered with the 1978 addition, which will be removed. The proposed location of the tower, adjacent to a non-character-defining, mid-block elevation that has no ornamental detail or historic fenestration, is appropriate.

Preservation Brief 14 recommends that new infill construction should be compatible with the surrounding context in terms of scale, setback, and façade rhythm. Though the heights of the two buildings (Aronson Building and new tower) are significantly different, the proposed location and articulation of the tower as a related but visually separate building from the Aronson Building maintains a context that is similar to the varying heights of buildings in the surrounding area. Proposed massing and articulation of the proposed tower further differentiate the two buildings, allowing each to maintain a related but distinct character and physical presence. The proposed tower is designed as a series of thin, parallel slabs clad in an alternating arrangement of transparent metal window frames and glazing and stone veneer. This device breaks up the building's massing and reduces its apparent size.

The tower façade will be setback from Mission Street, revealing a portion of the red brick western wall of the Aronson Building and allowing the return of the cornice along west wall. The Aronson Building will continue to "read" as an independent three-dimensional volume. With setback of the tower, views of the Aronson Building's primary façades from Third Street and Mission Street will be maintained as will the contextual relationship with the former Williams Building to the southeast. In sum, the proposed alterations, additions, and related new construction do not destroy significant

exterior architectural material and are compatible with the size, scale, color, material and character of the Aronson Building and its surrounding.

5. The degree to which distinctive features need be retained may be less when the alteration is to exterior elements not constituting a part of a principal facade or when it is an alteration of the ground-floor frontage in order to adapt the space for ground-floor uses;

As noted above, the project would retain and rehabilitate the distinctive materials, features, and finishes, as well as construction techniques and examples of craftsmanship, and the historic materials on the primary facades (Third Street and Mission Street) in accordance with the HSR and *Architectural Design Intent Statement.* The project would selectively create new openings into the west and north facades of the Aronson Building for interior circulation and exterior windows to bring natural light and ventilation into new residential or office and museum spaces, and for ground floor entry. However, these alterations would be made on secondary facades, not the principal facades on Third Street and Mission Street. On the north façade, which would be subject to the largest number of new openings, approximately 70% of the existing wall area would be retained.

6. In the case of Significant Buildings - Category I, any additions to height of the building (including addition of mechanical equipment) shall be limited to one story above the height of the existing roof, shall be compatible with the scale and character of the building, and shall in no event cover more than 75 percent of the roof area;

The proposed rooftop solarium would be one story above the existing roof, would cover less than 75 percent of the roof area, and would use materials and a design aesthetic that is compatible with the scale and character of the building.

7. In the case of Significant Buildings - Category II, a new structure or addition, including one of greater height than the existing building, may be permitted on that portion of the lot not restricted in Appendix B even if such structure or addition will be visible when viewing the principal facades at ground level, provided that the structure or addition does not affect the appearance of the retained portion as a separate structure when so viewing the principal facades and is compatible in form and design with the retained portion. Alteration of the retained portion of the building is permitted as provided in Paragraphs (1) through (6) of this Subsection (b).

The Aronson Building is designated as a Category I Significant Building, not a Category II Significant Building, therefore this provision is not applicable to the project.

Findings of Compliance with General Preservation Standards

In reviewing applications for Major Permits to Alter the Historic Preservation Commission, Department staff, Board of Appeals and/or Board of Supervisors, and the Planning Commission shall be governed by *The Secretary of the Interior's Standards for the Treatment of Historic Properties* as an additional evaluative standard for Major Permit to Alter. The Standards are contained in the Preserving the Past section of the Downtown Plan, a component of the San Francisco General Plan. Please respond to each statement completely.

1. The property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships;

The proposed project will retain retail and/or restaurant uses on the ground floor, and will introduce a new but compatible use (The Mexican Museum) to the second and third floors. The fourth through tenth floors will be designated "flex space," with either residential or office use. If office use is chosen, there will be no change in current use of the building aside from The Mexican Museum, which will introduce a new cultural use to a portion of the building. Both the office and residential use will require new openings at the north façade of the building. The north façade is a secondary façade and no distinctive features will be removed as a result of the new openings. The new openings will be compatible in scale and proportion to the historic windows on the east and south facades. The new windows on the north façade will be organized in a way that is symmetrical and compatible with the character of the building.

The proposed retail use at the ground level will result in the removal of the non-historic brick infill, which will be replaced with new storefronts. The new storefronts will be compatible in design and proportion with the historic storefronts that have since been removed. Since the building originally had storefronts along the ground floor, the removal of the brick will restore the historic character of the building. New storefronts and a canopy are also proposed at the ground level on the north façade. As noted above, this façade is a secondary façade and no distinguishing features will be removed as a result of this alteration.

The exterior alternations to the Aronson Building proposed in connection with the project's uses, including introducing new windows, storefronts, and a canopy on the secondary north façade and a solarium on the roof, would not diminish the historic character of the Aronson Building.

The proposed use of the building is one that will require minimal change to the exterior of the building, including its distinctive materials, features, and spaces. The proposed project complies with Standard 1.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize the property will be avoided;

The project complies with Rehabilitation Standard 2 because the project would retain all of the primary character-defining features of the Aronson Building identified in the HSR, including the majority of its structural system, massing, scale, and proportions, as well as all historic materials on both of the primary street façades. The character-defining features would be rehabilitated in accordance with the recommendations of the HSR and the treatments identified in the *Architectural Design Intent Statement.* The project would also reverse several incompatible alterations made in 1978 that have impaired the building's integrity for a generation, including the removal of two incompatible additions, the non-historic storefront infill, and the anodized aluminum windows and storefronts. The storefronts and windows would be replaced with materials and features that are compatible with the adjoining historic fabric and the original design of the building. Furthermore, the Historic Resource Evaluation Response for the project concluded that the rehabilitation of the Aronson Building complies with the Secretary's Standards and would not result in a substantial adverse impact to historical resources. Though the project will include a new tower, the tower will be set back to allow the massing of the historic building to be conveyed.

3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken;

The proposed exterior rehabilitation complies with Rehabilitation Standard 3 because no conjectural features or elements from other historic properties will be undertaken. Alterations such the new storefronts and the windows and canopy at the north façade will be designed so that they are compatible with but distinguished from the historic fabric of the building.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved;

There are no changes to the Aronson Building that have acquired historic significance in their own right. The proposed project complies with Standard 4.

5. Distinctive materials, features, finishes, and construction techniques or examples of fine craftsmanship that characterize a property will be preserved;

The project complies with Rehabilitation Standard 5 because the project would retain, repair, and rehabilitate distinctive materials, features, and finishes, as well as construction techniques and examples of craftsmanship. The following paragraph summarizes the proposed treatments for significant materials, features, and finishes on the exterior of the Aronson Building identified in the HSR and the *Architectural Design Intent Statement.*

Pursuant to the Architectural Design Intent Statement, deteriorated Colusa sandstone entablatures on the base of the building would be retained, existing paint and unsound material removed, repaired, or patched where necessary, and replaced in kind if required. The architectural cast iron elements along Third and Mission Streets would be retained, paint removed and repainted, and missing cast iron elements, such as the scroll capitals, would be replaced with an acceptable material. The buff-colored brick, terra cotta pilasters, and capitals on the upper floors would be retained, cleaned, spalls patched, and missing elements replaced in kind or with a substitute material if necessary. The mortar joints would be re-pointed where necessary. The terra cotta spandrel panels, window sills and headers, foliate ornament at the ninth and tenth floors, archivolt moldings, keystones, egg-and-dart moldings, and all other decorative terra cotta work would be retained, cleaned, patched where feasible, and replaced where necessary. The sheet metal cornice and entablature at the tenth story would be retained, cleaned, paint stripped, corrosion removed, and patched where the fire escape penetrated it. The historic entrance on Third Street would be retained, cleaned, and restored. If the Mission Street entrance survives behind the 1978 storefront, it would be retained, preserved, and reused. If it does not exist, a compatible new arched opening would be created in this bay that recalls the former entrance.

In summary, the exterior of the Aronson Building would be rehabilitated in a manner that closely resembles its historic appearance. In accordance with the HSR and *Architectural Design Intent Statement*, existing historic features and materials would all be retained and preserved while missing elements would be recreated in some circumstances or replaced using contemporary but compatible replacements.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence;

The project complies with Rehabilitation Standard 6 because deteriorated historic features and materials would be repaired rather than replaced wherever feasible. If replacement of a deteriorated element is required, or if the element is missing, it would be replaced in kind, or if that material is no longer available, it would be replaced using an acceptable substitute material that matches the design, color, and texture of the original. Elements that may need selective replacement include some of the missing capitals on the cast iron pilasters along Third Street, missing terra cotta keystones on the arches at the ninth floor, and other parts of the terra cotta, sandstone, and galvanized sheet metal that are heavily deteriorated.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used;

The proposed project will comply with Rehabilitation Standard 7. If chemical or physical treatments are necessary in connection with the rehabilitation of historic materials, the gentlest methods would be used. The project will adhere to the recommendations in the HSR. For brick repair, the HSR recommends extreme care in the cleaning of brick and that mock-ups be conducted to ensure no damage will occur as a result of cleaning. Furthermore, any masonry cleaning procedures for this building must follow the standard of practice outlined in Preservation Brief 1: "*Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings*". For terra cotta repair, the HSR recommends that cleaning proceed with the gentlest means, which may require several mock-ups prior to selection of the proper technique. The treatment approaches for the various historic materials would be determined by a qualified preservation architect.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken;

The project provisionally complies with Rehabilitation Standard 8. The Aronson Building and the adjoining lot where the new tower would be built are located within an area known for previous prehistoric and historic archaeological finds. It is possible that excavation may reveal such deposits. As required by the mitigation measures identified in the EIR, archaeological monitoring would occur during construction, and if any prehistoric or historic materials are encountered, the mitigation measures would ensure that the project would not result in a significant impact to archaeological resources.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment;

Additions & Exterior Alterations

The project would demolish the two incompatible additions constructed in 1978, including the 10-story addition on the west façade and the three-story addition on the north façade. The only additions that would occur on the Aronson Building as part of the project include a small one-story solarium on the roof and a narrow canopy over the new storefronts along the first floor level of the north secondary façade. As designed, the one-story solarium on the roof of the Aronson Building will not be visible from street level. It will also be set back from the parapets toward the western edge of the roof further minimizing its visibility. The solarium would be comprised of glazing similar to that on the south and east facades of the Aronson Building in terms of material, divisions, frame profile, and depth. It would be built of steel, glass, and masonry elements to match the storefronts and would be largely transparent when viewed from higher locations such as the terrace at Yerba Buena Gardens. Railing and windscreens will be installed with a setback from existing parapet edges and cornice lines. The proposed rooftop features

would be clearly differentiated but compatible with the character of the historic building and would be reversible.

The project would also include the construction of a narrow canopy over a new storefront system along the first floor level of the north façade, and sections of the existing red brick wall would be removed to construct the new storefronts and canopy. However, this is an area of the building exterior that has already been impacted by the construction of the north addition in 1978. The proposed canopy would be steel and glass and would have a thin and delicate profile, extending out 17'-2" over the driveway on the north side of the building. The new storefront framing would be similar to that on the east and south facades in material, divisions, frame profile, and depth, and would be compatible with the Aronson Building.

Both the solarium and the canopy comply with the Secretary's Standards due to their comparative small size and location on non-character-defining elevations, and would not destroy significant exterior architectural material. These additions would also be consistent with the guidance provided in Preservation Brief 14: "*New Exterior Additions to Historic Buildings: Preservation Concerns.*" This guidance explains that a new addition to a historic building should preserve the building's historic character by preserving significant historical materials, features, and should be compatible with yet differentiated from the historic building. With respect to vertical additions in particular, the guidance recommends a rooftop addition be minimally visible, be setback from the primary façade, and should not generally be more than one story in height. The solarium and canopy comply with these recommendations.

The project would also include the addition of windows to the north façade of the Aronson Building. This elevation is presently a common brick wall that was originally intended to be concealed by adjoining construction. Although the lower portion of this wall was eventually concealed, the upper portion was not and it became the location of several painted signs and a random pattern of non-historic punched windows. The project would result in the removal of approximately 30% of the red common brick from this secondary elevation to create new window openings. These windows are necessary to provide light and air to the museum and office or residential uses on the upper floors. The proposed new windows would be organized in a largely symmetrical arrangement that consists of new paired windows in each structural bay of each floor level. Floors two and three would only have paired windows in the four westernmost bays, leaving the easternmost bay entirely intact. Meanwhile, the easternmost bay of floors four through ten would have only one window instead of two, reducing the amount of brick loss and reinforcing the perception of a solid brick wall from Third Street. This design would result in a grid-like arrangement of punched windows in keeping with the arrangement of windows on the building's primary façades. However, in keeping with the *Standards*, the new windows on the north façade would not replicate the detailing of the historic windows on the south or east façades; instead the new windows would be punched and would have simple frames to indicate that they are not historic features.

The project will include the removal of non-historic brick infill at the ground level to accommodate a retail use. The new storefronts will be compatible with the historic character of the building and will have a compatible scale, design and proportion. The historic fabric at the arched entry along Third Street will be retained. The brick at the westernmost bay on Mission Street will be removed. Any extant historic entryway exposed during demolition will be retained. If no historic entryway exists, a new compatible contemporary arched opening will be constructed in this location.

Related New Construction

The project would also result in the construction of a 520-foot-high tower (with 30 foot mechanical penthouse) to the west of the Aronson Building. Circulation within the new tower would be linked to the Aronson Building at floor levels of the Aronson Building where floor alignments with floors of the proposed tower permit. However, the tower would be structurally independent of the Aronson Building with respect to gravity loads and thereby removable, in accordance with the Secretary's Standards. In addition, the tower is designed to read as an entirely separate building, a key requirement for related new construction to historic resources in dense urban locations as discussed in Preservation Brief 14: "*New Exterior Additions to Historic Buildings: Preservation Concerns*." The new tower is therefore best characterized as "related new construction" and is consistent with the Rehabilitation Standard 10 and Preservation Brief 14 guidelines regarding urban infill, which suggest that "Treating the addition as a separate or infill building may be the best approach when designing an addition that will have the least impact on the historic building and the district."

Preservation Brief 14 takes a more "lenient" approach than the Rehabilitation Standards toward additions in dense urban settings, typically because there is rarely enough room in which to build a rear addition in these areas. Despite its prominence, building the proposed tower on the west side of the Aronson Building is the best approach. A s a non-character defining mid-block elevation that has no ornamental detail or historic fenestration, the west elevation could be properly classified as the rear façade of the Aronson Building. The proposed tower would conceal the west elevation of the Aronson Building, an elevation that has been previously altered with the 1978 addition, which will be removed. The proposed location of the tower, adjacent to a non-character-defining, mid-block elevation that has no ornamental detail or historic fenestration, is appropriate.

Preservation Brief 14 recommends that new infill construction should be compatible with the surrounding context in terms of scale, setback, and façade rhythm. Though the heights of the two buildings (Aronson Building and new tower) are significantly different, the proposed location and articulation of the tower as a related but visually separate building from the Aronson Building maintains a context that is similar to the varying heights of buildings in the surrounding area. Proposed massing and articulation of the proposed tower further differentiate the two buildings, allowing each to maintain a related but distinct character and physical presence. The proposed tower is designed as a series of thin, parallel slabs clad in an alternating arrangement of

transparent metal window frames and glazing and stone veneer. This device breaks up the building's massing and reduces its apparent size.

The tower façade will be setback from Mission Street, revealing a portion of the red brick western wall of the Aronson Building and allowing the return of the cornice along west wall. The Aronson Building will continue to "read" as an independent three-dimensional volume. With setback of the tower, views of the Aronson Building's primary façades from Third and Mission streets will be maintained as will the contextual relationship with the former Williams Building to the southeast.

In summary, the proposed tower complies with the Rehabilitation Standards. First, it would result in the demolition of the 1978 addition, an unsympathetic alteration that has impaired the integrity of the Aronson Building for a generation. Second, the rehabilitation of the Aronson Building and construction of new tower would not result in the loss of any historic materials or features. Third, it would be built on a secondary elevation that has already been greatly impacted by the 1978 addition. Fourth, the proposed tower would be clearly differentiated from the Aronson Building in terms of its modern, contemporary vocabulary.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would not be impaired;

The project complies with Rehabilitation Standard 10 because it is possible to remove the proposed solarium, canopy, and even the adjoining tower and leave the essential form of the Aronson Building intact.

Priority General Plan Policies Findings

1. That existing neighborhood-serving retail uses be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses enhanced;

As part of the proposed project, the existing approximately 10,660 gross square feet of retail space in the ground floor of the Aronson building would be reduced to approximately 4,800 gross square feet. On balance, the project would preserve and enhance neighborhood serving retail uses because the project would provide approximately 4,800 square feet of restaurant and/or retail space in the ground floor of the Aronson Building, which would serve residents of the proposed tower as well as other residents, visitors, and workers in the neighborhood. The new restaurant/retail space will provide local residents with employment and business ownership opportunities. In addition, the residential and office (if applicable) portion of the project will strengthen the customer base of existing businesses and neighborhood-serving retail uses in the area.

2. That existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods;

There is currently no housing on the project site, and no housing would be demolished or displaced by the development of the project. Thus, the project will not have any adverse impact on existing housing. The project will create up to 215 new housing units, and the project applicant will pay an affordable housing in-lieu fee equivalent of 28% of the total housing units constructed. The in-lieu fee would be used to construct affordable housing in the City. The project would result in the creation of additional housing units for persons of different economic backgrounds, and would preserve the cultural and economic diversity of our neighborhoods.

The existing neighborhood character would also be protected. The project would introduce residential and cultural uses to the project site. These uses already exist adjacent to the project site and in the immediate vicinity. The Mexican Museum is consistent with and enhances the other existing cultural uses in the Yerba Buena Center, including the San Francisco Museum of Modern Art, the Contemporary Jewish Museum, the Museum of the African Diaspora, the Yerba Buena Center for the Arts, and the Children's Creativity Museum. The project site is the last remaining vacant infill site identified in the Yerba Buena Center Redevelopment Plan, and developing the site with residential and cultural uses would complement the other uses in and around the Yerba Buena Center. In addition, the project would include the partial retention of retail space in the Aronson Building and could include the retention of some office space in the Aronson Building. The retail and office uses would be compatible with existing retail and office uses on the project block and in the vicinity. Thus, the uses included in the project would not be out of character with existing land uses on the project block and in the vicinity.

The project includes a 47-story, 520-foot tall tower (with a 30-foot tall mechanical penthouse). High-rise buildings currently exist in the immediate project vicinity. While the tower would be taller than some of these existing high-rise buildings, it would be almost 100 feet shorter than the Millennium Tower, located three blocks east of the project. The scale of the proposed tower would not be out of character with other buildings in the project vicinity. The project also includes the rehabilitation, repair, and reuse of the Aronson Building. The two non-historic 1978 annexes on the west and north façades of the Aronson Building would be removed. These annexes do not contribute to the historic character and significance of the Aronson Building. The removal of the annexes would ensure that the building is more in keeping with the character of the historic building and the vicinity. In addition, the design of the proposed tower adjacent to the Aronson Building would be compatible with the Aronson Building and the overall context of the built environment in the vicinity.

3. *That the City's supply of affordable housing be preserved and enhanced;*

There is currently no housing on the project site, therefore no affordable housing would be demolished or displaced by the development of the project. The project would enhance the City's stock of affordable housing by paying an affordable housing in-lieu fee equivalent of 28% of the total units which exceeds the requirements of the Planning Code. The in-lieu fees will be used to develop new affordable housing in the City, thereby increasing and enhancing the City's supply of affordable housing.

4. *That commuter traffic not impede Muni transit service or overburden our streets or neighborhood parking;*

With numerous public transit alternatives in the immediate vicinity of the project site, it is anticipated that many residents of and visitors to the project will use public transit instead of private automobile to travel to and from the project site. Furthermore, given the project's immediate vicinity to the Financial District, SOMA, and downtown employment opportunities, it is anticipated that many residents will walk or bike to work. The EIR for the project concluded that the project would not affect operations of adjacent and nearby MUNI stops or cause substantial delays in transit service, therefore MUNI transit service would not be impeded.

The limited on-street parking that is available in the project vicinity is metered and intended for short stays, not commuters. The project includes the use of the existing Jessie Square Garage, which would be reconfigured to provide a total of 470 parking spaces, including 210 spaces that would be available for public parking. In the event commuters to the project's museum and retail uses (and office uses under the office flex option) travel by automobile instead of transit, walking, or bicycling, the commuters could park in the existing Jessie Square Garage or neighboring public parking garages, therefore neighborhood parking would not be overburdened.

The project would utilize the existing curb cut along Third Street as an access point for a new valet service entrance to the Jessie Square Garage for residents via two

new car elevators. To minimize potential conflicts between vehicles and pedestrians on the Third Street sidewalk, this new access would be designated for inbound vehicles only, and only for access to the residential valet service. Self-park access for residents would be via the existing Stevenson Street driveway into the Jessie Square Garage. The EIR concluded that use of this new access to the Jessie Square Garage would not result in significant impacts to pedestrians. Nevertheless, to reduce any potential pedestrian-vehicle conflicts, the EIR identified improvement measures, including staffing the driveway entry on Third Street with a traffic control attendant to facilitate vehicular ingress into the project driveway from Third Street during peak periods of pedestrian activity, providing adequate valet service to ensure that queuing space for a minimum of two vehicles within the internal drop-off area is available at all times, using alternate pavement treatment for the sidewalk at the driveway on Third Street, and exploring the potential for providing audio and/or visual treatments to alert pedestrians that a vehicle is about to cross the sidewalk from the adjacent travel lanes. Furthermore, the EIR concluded that there would be no significant impacts on transit operations resulting from the use of the Third Street driveway for garage access, and that the new access would not affect operations of adjacent and nearby MUNI stops .

5. *That a diverse economic base be maintained by protecting our industrial and service sectors from displacement due to commercial office development, and that future opportunities for resident employment and ownership in these sectors be enhanced;*

There are no existing industrial or service sector uses on the project site, therefore no industrial or service businesses or jobs would be displaced by the project. Furthermore, the project would not develop any net new commercial office space. Of the approximately 95,980 gross square feet of existing commercial office space on the project site, approximately 61,320 gross square feet would be retained under the office flex option, and none of the existing office space would be retained under the residential flex option.

6. *That the City achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake;*

The new tower would be constructed in accordance with all current building, fire, life-safety, and seismic standards for high-rise construction to protect against injury and loss of life in the event of an earthquake. Furthermore, the existing Aronson Building would be upgraded to meet current seismic code requirements and completely sprinklered, while maintaining the existing character of the building. The foundation of the Aronson Building would also be evaluated prior to construction and upgraded as necessary, including, potentially, deepening and/or widening of existing footings and/or adding new foundations for new shear elements or new footings, to protect against injury and loss of life in the event of an earthquake.

7. *That landmarks and historic buildings be preserved; and*

No landmarks or historic buildings would be demolished or destroyed as part of the project. The Aronson Building is located on the project site and is rated "A" (highest importance) by the Foundation for San Francisco's Architectural Heritage, is eligible for listing on the National Register of Historic Places, and is a contributor to the Aronson Historic District (which is determined eligible for listing in the National Register of Historic Places). The Aronson Building is also designated as a Category I Significant Building within the expanded New Montgomery-Mission-Second Street Conservation District. The project would preserve and rehabilitate the Aronson Building in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, thereby enhancing and ensuring the preservation of the historic significance of the Aronson Building.

8. That our parks and open space and their access to sunlight and vistas be protected from development.

The shadow study conducted for the project indicates that the project would cast net new shadow on Union Square during the morning hours from early October through early November and from early February through early March. The proposed project would not cast net new shadow on Union Square after 9:30 a.m. on any day during the year. During the early morning, Union Square is not heavily used, and most retail stores are not open. On an annual basis the project would cast 337,744 sfh of on Union Square, which would be an increase of about 0.22 percent relative to the existing annual shadow on the park. The EIR concludes that due to the limited duration of the shadow and the limited use of the park during the time when the shadowing would occur, the net new shadow from the project would not result in a substantial adverse change to the use of Union Square and would not be significant.

The shadow study indicated that the project would also cast net new shadow on certain other public open spaces including Jessie Square and Yerba Buena Lane, as well as certain privately-owned, but publicly accessible open spaces including Westin Plaza, the rooftop terrace at 1 Kearny Street, and the open space at 560 Mission Street. The EIR concludes that the net new shadow cast by the project would not substantially affect the use of these open spaces because of the limited extent and duration of shadowing and/or the fact that uses of these public spaces could continue even with additional shadowing.

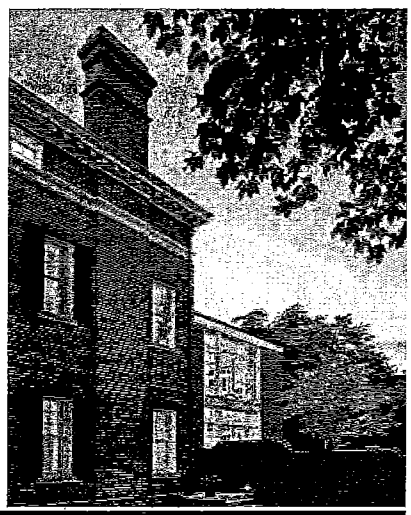
EXHIBIT 9

14 PRESERVATION BRIEFS

New Exterior Additions to Historic Buildings: Preservation Concerns

Anne E. Grimmer and Kay D. Weeks

National Park Service
U.S. Department of the Interior
Technical Preservation Services



A new exterior addition to a historic building should be considered in a rehabilitation project only after determining that requirements for the new or adaptive use cannot be successfully met by altering non-significant interior spaces. If the new use cannot be accommodated in this way, then an exterior addition may be an acceptable alternative. Rehabilitation as a treatment "is defined as the act or process of making possible a compatible use for a property through repair, alterations, and *additions* while preserving those portions or features which convey its historical, cultural, or architectural values."

The topic of new additions, including rooftop additions, to historic buildings comes up frequently, especially as it relates to rehabilitation projects. It is often discussed and it is the subject of concern, consternation, considerable disagreement and confusion. Can, in certain instances, a historic building be enlarged for a new use without destroying its historic character? And, just what is significant about each particular historic building that should be preserved? Finally, what kind of new construction is appropriate to the historic building?

The vast amount of literature on the subject of additions to historic buildings reflects widespread interest as well as divergence of opinion. New additions have been discussed by historians within a social and political framework; by architects and architectural historians in terms of construction technology and style; and by urban planners as successful or unsuccessful contextual design. However, within the historic preservation and rehabilitation programs of the National Park Service, the focus on new additions is to ensure that they preserve the character of historic buildings.

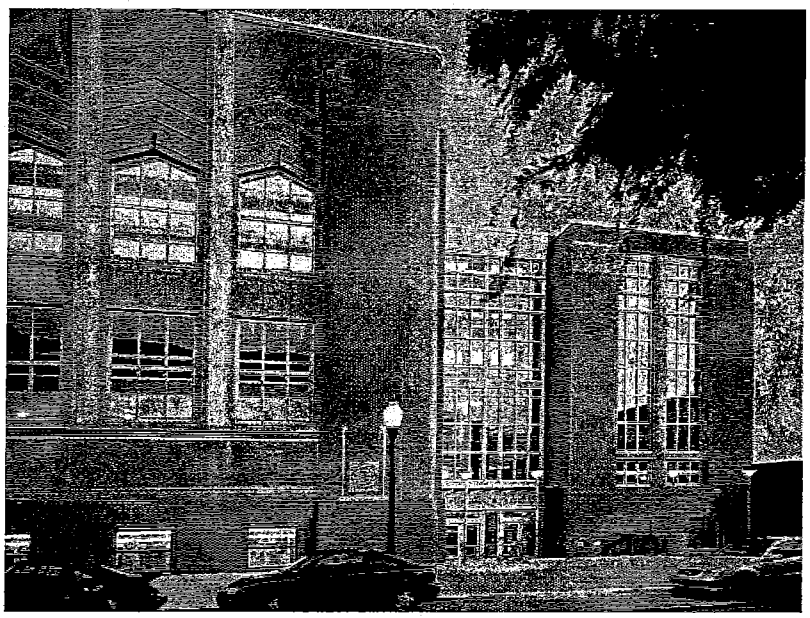


Figure 1. The addition to the right with its connecting hyphen is compatible with the Collegiate Gothic-style library. The addition is set back from the front of the library and uses the same materials and a simplified design that references, but does not copy, the historic building. Photo: David Wakely Photography.

Most historic districts or neighborhoods are listed in the National Register of Historic Places for their significance within a particular time frame. This period of significance of historic districts as well as individually-listed properties may sometimes lead to a misunderstanding that inclusion in the National Register may prohibit any physical change outside of a certain historical period—particularly in the form of exterior additions. National Register listing does not mean that a building or district is frozen in time and that no change can be made without compromising the historical significance. It does mean, however, that a new addition to a historic building should preserve its historic character.

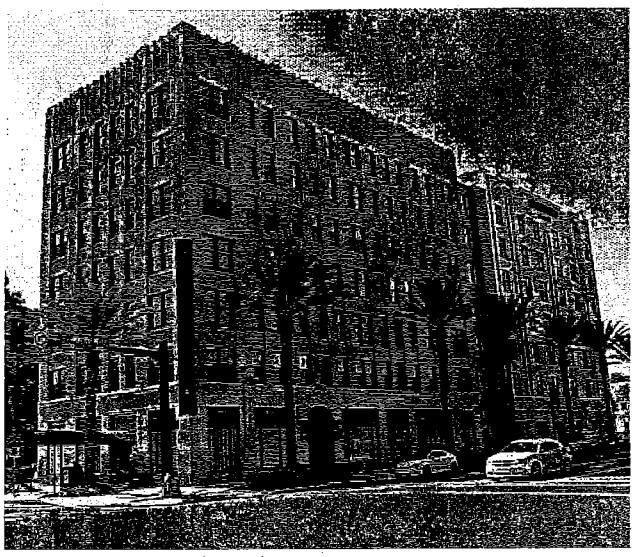


Figure 2. The new section on the right is appropriately scaled and reflects the design of the historic Art Deco-style hotel. The apparent separation created by the recessed connector also enables the addition to be viewed as an individual building.

Guidance on New Additions

To meet Standard 1 of the *Secretary of the Interior's Standards for Rehabilitation,* which states that "a property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment," it must be determined whether a historic building can accommodate a new addition. Before expanding the building's footprint, consideration should first be given to incorporating changes—such as code upgrades or spatial needs for a new use—within secondary areas of the historic building. However, this is not always possible and, after such an evaluation, the conclusion may be that an addition is required, particularly if it is needed to avoid modifications to character-defining interior spaces. An addition should be designed to be compatible with the historic character of the building and, thus, meet the *Standards for Rehabilitation*. Standards 9 and 10 apply specifically to new additions:

(9) "New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment."

(10) "New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired."

The subject of new additions is important because a new addition to a historic building has the potential to change its historic character as well as to damage and destroy significant historic materials and features. A new addition also has the potential to confuse the public and to make it difficult or impossible to differentiate the old from the new or to recognize what part of the historic building is genuinely historic.

The intent of this Preservation Brief is to provide guidance to owners, architects and developers on how to design a compatible new addition, including a rooftop addition, to a historic building. A new addition to a historic building should preserve the building's *historic character*. To accomplish this and meet the *Secretary of the Interior's Standards for Rehabilitation,* a new addition should:

- Preserve significant historic materials, features and form;
- Be compatible; and
- Be differentiated from the historic building.

Every historic building is different and each rehabilitation project is unique. Therefore, the guidance offered here is not specific, but general, so that it can be applied to a wide variety of building types and situations. To assist in interpreting this guidance, illustrations of a variety of new additions are provided. Good examples, as well as some that do not meet the Standards, are included to further help explain and clarify what is a compatible new addition that preserves the character of the historic building.

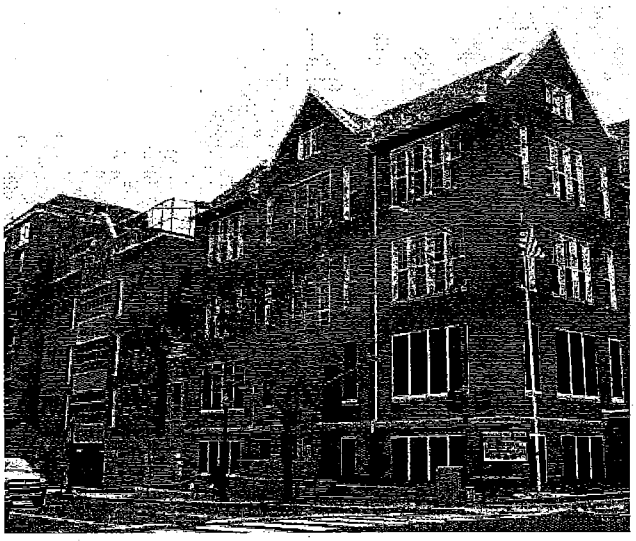
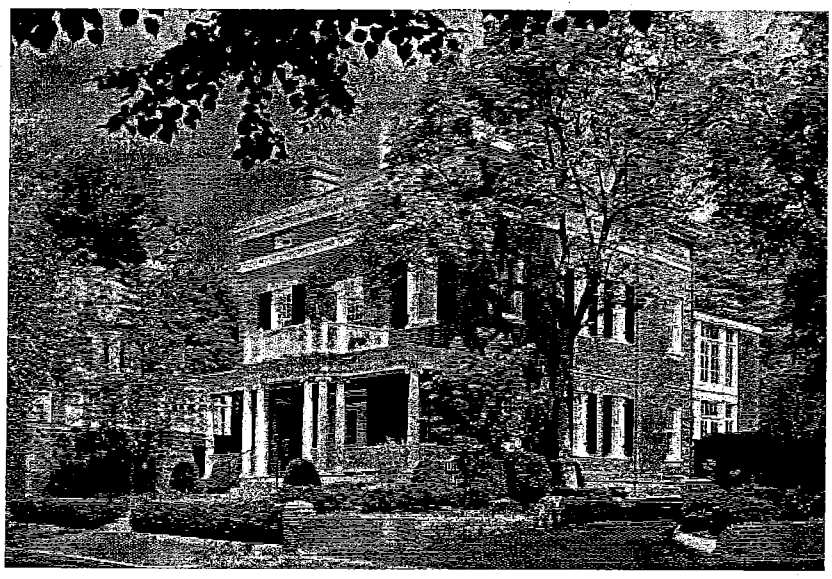


Figure 3. The red and buff-colored parking addition with a rooftop playground is compatible with the early-20th century school as well as with the neighborhood in which it also serves as infill in the urban setting.

Preserve Significant Historic Materials, Features and Form

Attaching a new exterior addition usually involves some degree of material loss to an external wall of a historic building, but it should be minimized. Damaging or destroying significant materials and craftsmanship should be avoided, as much as possible.

Generally speaking, preservation of historic buildings inherently implies minimal change to primary or "public" elevations and, of course, interior features as well. Exterior features that distinguish one historic building or a row of buildings and which can be seen from a public right of way, such as a street or sidewalk, are most likely to be the most significant. These can include many different elements, such as: window patterns, window hoods or shutters; porticoes, entrances and doorways; roof shapes, cornices and decorative moldings; or commercial storefronts with their special detailing, signs and glazing patterns. Beyond a single building, entire blocks of urban or residential structures are often closely related architecturally by their materials, detailing, form and alignment. Because significant materials and features should be preserved, not damaged or hidden, the first place to consider placing a new addition is in a location where the least amount of historic material and character-defining features will be lost. In most cases, this will be on a secondary side or rear elevation.



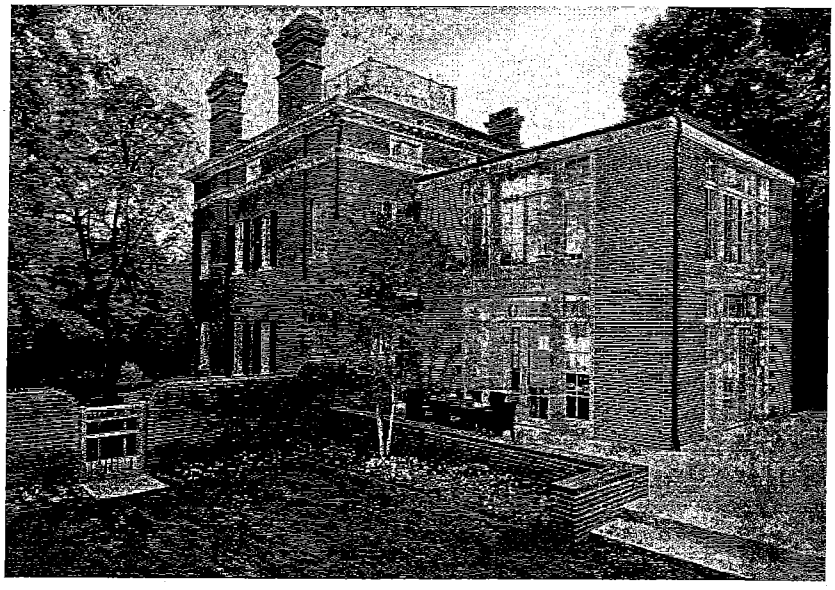


Figure 4. This glass and brick structure is a harmonious addition set back and connected to the rear of the Colonial Revival-style brick house. Cunningham/Quill Architects. Photos: © Maxwell MacKenzie.

One way to reduce overall material loss when constructing a new addition is simply to keep the addition smaller in proportion to the size of the historic building. Limiting the size and number of openings between old and new by utilizing existing doors or enlarging windows also helps to minimize loss. An often successful way to accomplish this is to link the addition to the historic building by means of a hyphen or connector. A connector provides a physical link while visually separating the old and new, and the connecting passageway penetrates and removes only a small portion of the historic wall. A new addition that will abut the historic building along an entire elevation or wrap around a side and rear elevation, will likely integrate the historic and the new interiors, and thus result in a high degree of loss of form and exterior walls, as well as significant alteration of interior spaces and features, and will not meet the Standards.

Compatible but Differentiated Design

In accordance with the Standards, a new addition must preserve the building's historic character and, in order to do that, it must be differentiated, but compatible, with the historic building. A new addition must retain the essential form and integrity of the historic property. Keeping the addition smaller, limiting the removal of historic materials by linking the addition with a hyphen, and locating the new addition at the rear or on an inconspicuous side elevation of a historic building are techniques discussed previously that can help to accomplish this.

Rather than differentiating between old and new, it might seem more in keeping with the historic character

simply to repeat the historic form, material, features and detailing in a new addition. However, when the new work is highly replicative and indistinguishable from the old in appearance, it may no longer be possible to identify the "real" historic building. Conversely, the treatment of the addition should not be so different that it becomes the primary focus. The difference may be subtle, but it must be clear. A new addition to a historic building should protect those visual qualities that make the building eligible for listing in the National Register of Historic Places.

The National Park Service policy concerning new additions to historic buildings, which was adopted in 1967, is not unique. It is an outgrowth and continuation of a general philosophical approach to change first expressed by John Ruskin in England in the 1850s, formalized by William Morris in the founding of the Society for the Protection of Ancient Buildings in 1877, expanded by the Society in 1924 and, finally, reiterated in the 1964 Venice Charter—a document that continues to be followed by the national committees of the International Council on Monuments and Sites (ICOMOS). The 1967 *Administrative Policies for Historical Areas of the National Park System* direct that "...a modern addition should be readily distinguishable from the older work; however, the new work should be harmonious with the old in scale, proportion, materials, and color. Such additions should be as inconspicuous as possible from the public view." As a logical evolution from these Policies specifically for National Park Service-owned historic structures, the 1977 *Secretary of the Interior's Standards for Rehabilitation*, which may be applied to **all** historic buildings listed in, or eligible for listing in the National Register, also state that "the new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment."

Preserve Historic Character

The goal, of course, is a new addition that preserves the building's historic character. The historic character of each building may be different, but the methodology of establishing it remains the same. Knowing the uses and functions a building has served over time will assist in making what is essentially a physical evaluation. But, while written and pictorial documentation can provide a framework for establishing the building's history, to a large extent the historic character is embodied in the physical aspects of the historic building itself—shape, materials, features, craftsmanship, window arrangements, colors, setting and interiors. Thus, it is important to identify the historic character before making decisions about the extent—or limitations—of change that can be made.

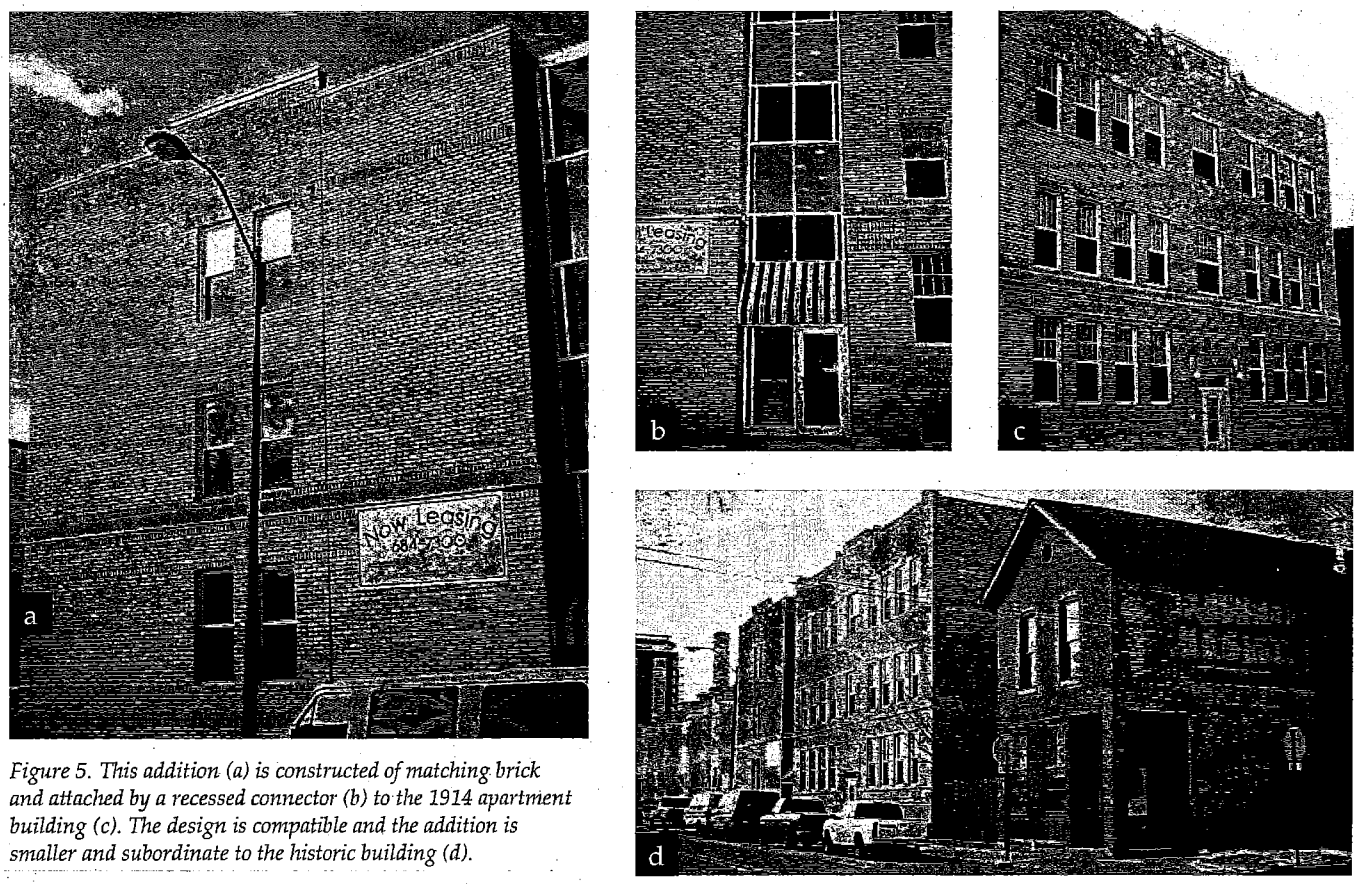


Figure 5. This addition (a) is constructed of matching brick and attached by a recessed connector (b) to the 1914 apartment building (c). The design is compatible and the addition is smaller and subordinate to the historic building (d).

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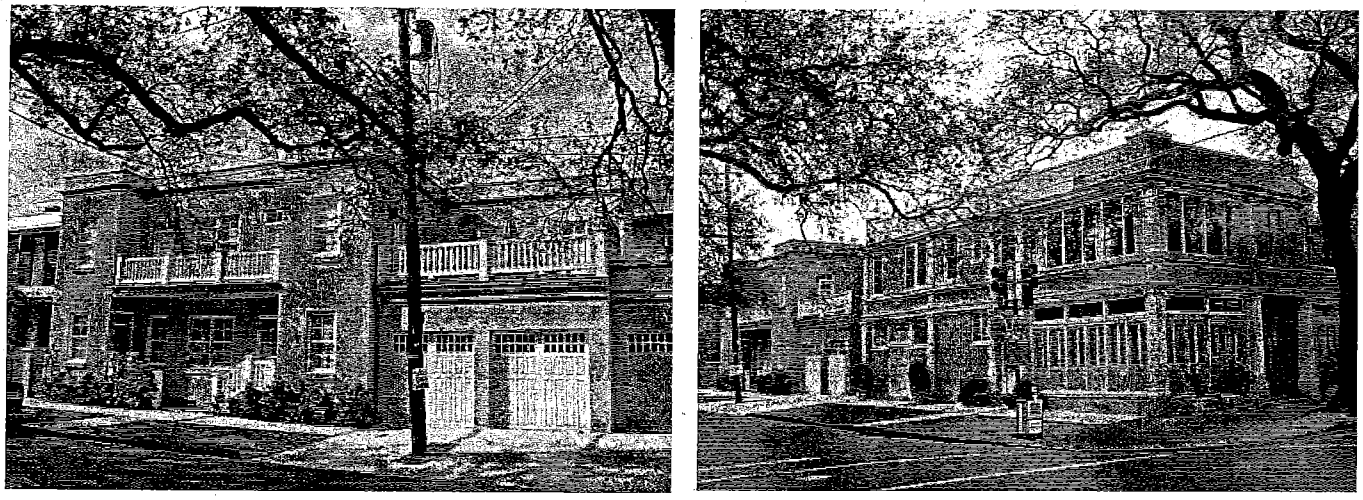


Figure 6. A new addition (left) is connected to the garage which separates it from the main block of the c. 1910 former florist shop (right). The addition is traditional in style, yet sufficiently restrained in design to distinguish it from the historic building.

A new addition should always be subordinate to the historic building; it should not compete in size, scale or design with the historic building. An addition that bears no relationship to the proportions and massing of the historic building—in other words, one that overpowers the historic form and changes the scale—will usually compromise the historic character as well. The appropriate size for a new addition varies from building to building; it could never be stated in a square or cubic footage ratio, but the historic building's existing proportions, site and setting can help set some general parameters for enlargement. Although even a small addition that is poorly designed can have an adverse impact, to some extent, there is a predictable relationship between the size of the historic resource and what is an appropriate size for a compatible new addition.

Generally, constructing the new addition on a secondary side or rear elevation—in addition to material preservation—will also preserve the historic character. Not only will the addition be less visible, but because a secondary elevation is usually simpler and less distinctive, the addition will have less of a physical and visual impact on the historic building. Such placement will help to preserve the building's historic form and relationship to its site and setting.

Historic landscape features, including distinctive grade variations, also need to be respected. Any new landscape features, including plants and trees, should be kept at a scale and density that will not interfere with understanding of the historic resource itself. A traditionally landscaped property should not be covered with large paved areas for parking which would drastically change the character of the site.

Despite the fact that in most cases it is recommended that the new addition be attached to a secondary elevation, sometimes this is not possible. There simply may not be a secondary elevation—some important freestanding buildings have significant materials and features on all sides. A structure or group of structures together with its setting (for example, a college campus) may be of such significance that any new addition would not only damage materials, but alter the buildings' relationship to each other and the setting. An addition attached to a highly-visible elevation of a historic building can radically alter the historic form or obscure features such as a decorative cornice or window ornamentation. Similarly, an addition that fills

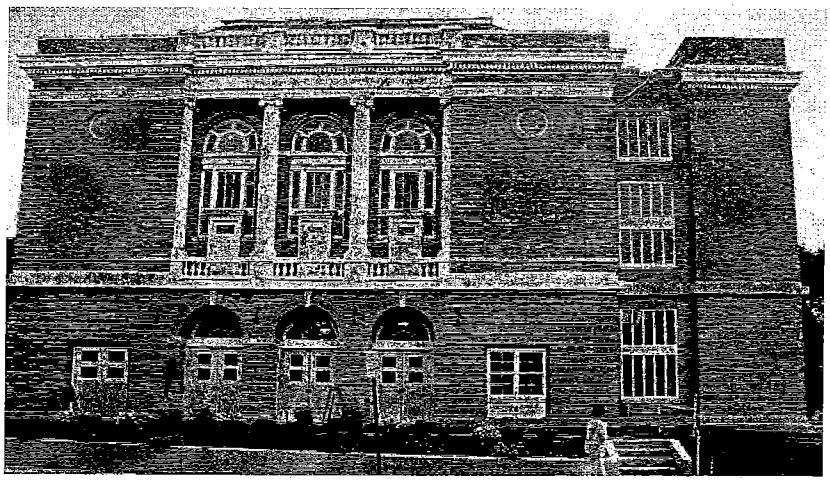


Figure 7. A vacant side lot was the only place a new stair tower could be built when this 1903 theater was rehabilitated as a performing arts center. Constructed with matching materials, the stair tower is set back with a recessed connector and, despite its prominent location, it is clearly subordinate and differentiated from the historic theater.

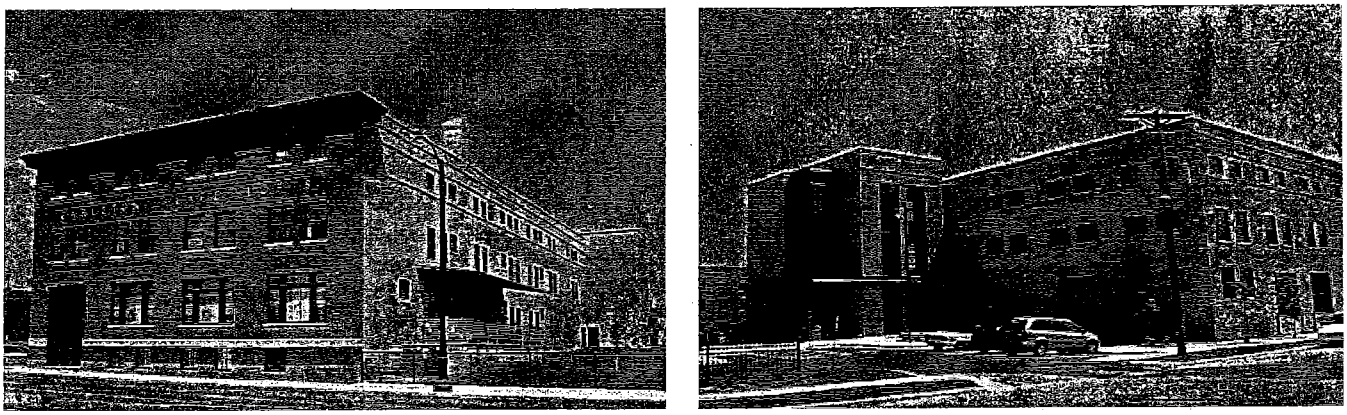


Figure 8. The rehabilitation of this large, early-20th century warehouse (left) into affordable artists' lofts included the addition of a compatible glass and brick elevator/stair tower at the back (right).



Figure 9. A simple, brick stair tower replaced two non-historic additions at the rear of this 1879 school building when it was rehabilitated as a women's and children's shelter. The addition is set back and it is not visible from the front of the school.



Figure 10. The small size and the use of matching materials ensures that the new addition on the left is compatible with the historic Romanesque Revival-style building.

in a planned void on a highly-visible elevation (such as a U-shaped plan or a feature such as a porch) will also alter the historic form and, as a result, change the historic character. Under these circumstances, an addition would have too much of a negative impact on the historic building and it would not meet the Standards. Such situations may best be handled by constructing a separate building in a location where it will not adversely affect the historic structure and its setting.

In other instances, particularly in urban areas, there may be no other place but adjacent to the primary façade to locate an addition needed for the new use. It may be possible to design a lateral addition attached on the side that is compatible with the historic building, even though it is a highly-visible new element. Certain types of historic structures, such as government buildings, metropolitan museums, churches or libraries, may be so massive in size that a relatively large-scale addition may not compromise the historic character, provided, of course, the addition is smaller than the historic building. Occasionally, the visible size of an addition can be reduced by placing some of the spaces or support systems in a part of the structure that is underground. Large new additions may sometimes be successful if they read as a separate volume, rather than as an extension of the historic structure, although the scale, massing and proportions of the addition still need to be compatible with the historic building. However, similar expansion of smaller buildings would be dramatically out of scale. In summary, where any new addition is proposed, correctly assessing the relationship between actual size and relative scale will be a key to preserving the character of the historic building.

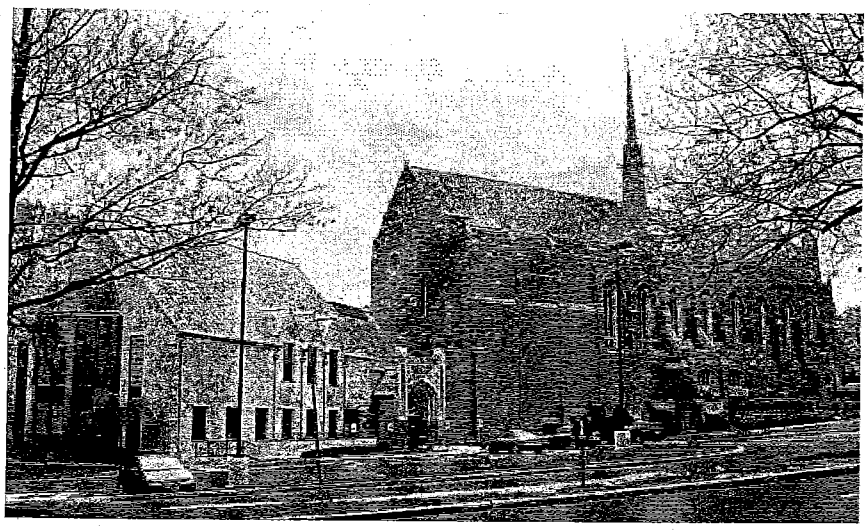
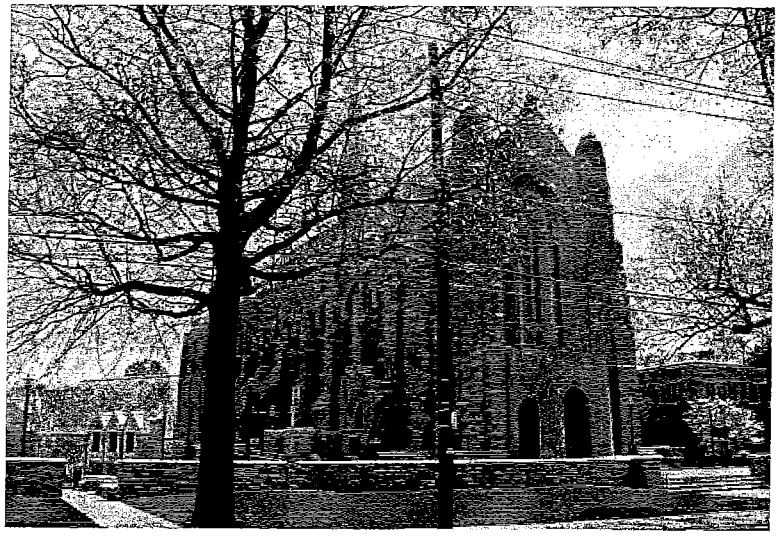


Figure 11. The addition to this early-20th century Gothic Revival-style church provides space for offices, a great hall for gatherings and an accessible entrance (left). The stucco finish, metal roof, narrow gables and the Gothic-arched entrance complement the architecture of the historic church. Placing the addition in back where the ground slopes away ensures that it is subordinate and minimizes its impact on the church (below).



Design Guidance for Compatible New Additions to Historic Buildings

There is no formula or prescription for designing a new addition that meets the Standards. A new addition to a historic building that meets the Standards can be any architectural style—traditional, contemporary or a simplified version of the historic building. However, there must be a balance between differentiation and compatibility in order to maintain the historic character and the identity of the building being enlarged. New additions that too closely resemble the historic building or are in extreme contrast to it fall short of this balance. *Inherent in all of the guidance is the concept that an addition needs to be subordinate to the historic building.*

A new addition **must preserve significant historic materials, features and form**, and **it must be compatible but differentiated from the historic building**. To achieve this, it is necessary to carefully consider the **placement or location** of the new addition, and its **size, scale and massing** when planning a new addition. To preserve a property's historic character, a new addition must be visually distinguishable from the historic building. This does not mean that the addition and the historic building should be glaringly different in terms of design, materials and other visual qualities. Instead, the new addition should take its design cues from, but not copy, the historic building.

A variety of design techniques can be effective ways to differentiate the new construction from the old, while respecting the architectural qualities and vocabulary of the historic building, including the following:

- Incorporate a simple, recessed, small-scale hyphen to physically separate the old and the new volumes or set the addition back from the wall plane(s) of the historic building.
- Avoid designs that unify the two volumes into a single architectural whole. The new addition may include simplified architectural features that reflect, but do not duplicate, similar features on the historic building. This approach will not impair the existing building's historic character as long as the new structure is subordinate in size and clearly differentiated and distinguishable so that the identity of the historic structure is not lost in a new and larger composition. The historic building must be clearly identifiable and its physical integrity must not be compromised by the new addition.



Figure 12. This 1954 synagogue (left) is accessed through a monumental entrance to the right. The new education wing (far right) added to it features the same vertical elements and color and, even though it is quite large, its smaller scale and height ensure that it is secondary to the historic resource.



Figure 13. A glass and metal structure was constructed in the courtyard as a restaurant when this 1839 building was converted to a hotel. Although such an addition might not be appropriate in a more public location, it is compatible here in the courtyard of this historic building.

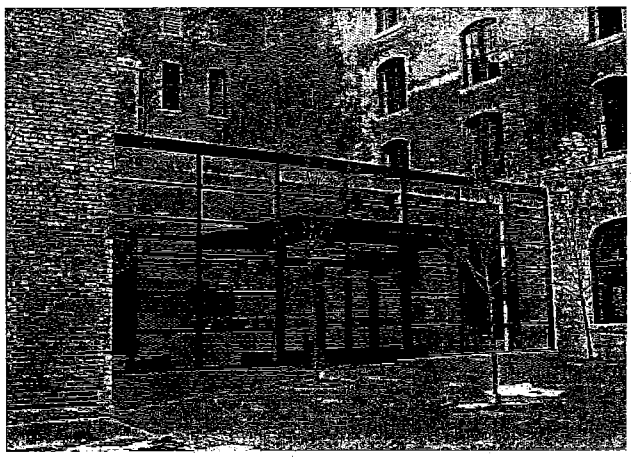


Figure 14. This glass addition was erected at the back of an 1895 former brewery during rehabilitation to provide another entrance. The addition is compatible with the plain character of this secondary elevation.

- Use building materials in the same color range or value as those of the historic building. The materials need not be the same as those on the historic building, but they should be harmonious; they should not be so different that they stand out or distract from the historic building. (Even clear glass can be as prominent as a less transparent material. Generally, glass may be most appropriate for small-scale additions, such as an entrance on a secondary elevation or a connector between an addition and the historic building.)
- Base the size, rhythm and alignment of the new addition's window and door openings on those of the historic building.
- Respect the architectural expression of the historic building type. For example, an addition to an institutional building should maintain the architectural character associated with this building type rather than using details and elements typical of residential or other building types.

These techniques are merely examples of ways to differentiate a new addition from the historic building while ensuring that the addition is compatible with it. Other ways of differentiating a new addition from the historic building may be used as long as they maintain the primacy of the historic building. Working within these basic principles still allows for a broad range of architectural expression that can range from stylistic similarity to contemporary distinction. The recommended design approach for an addition is one that neither copies the historic building exactly nor stands in stark contrast to it.

Revising an Incompatible Design for a New Addition to Meet the Standards

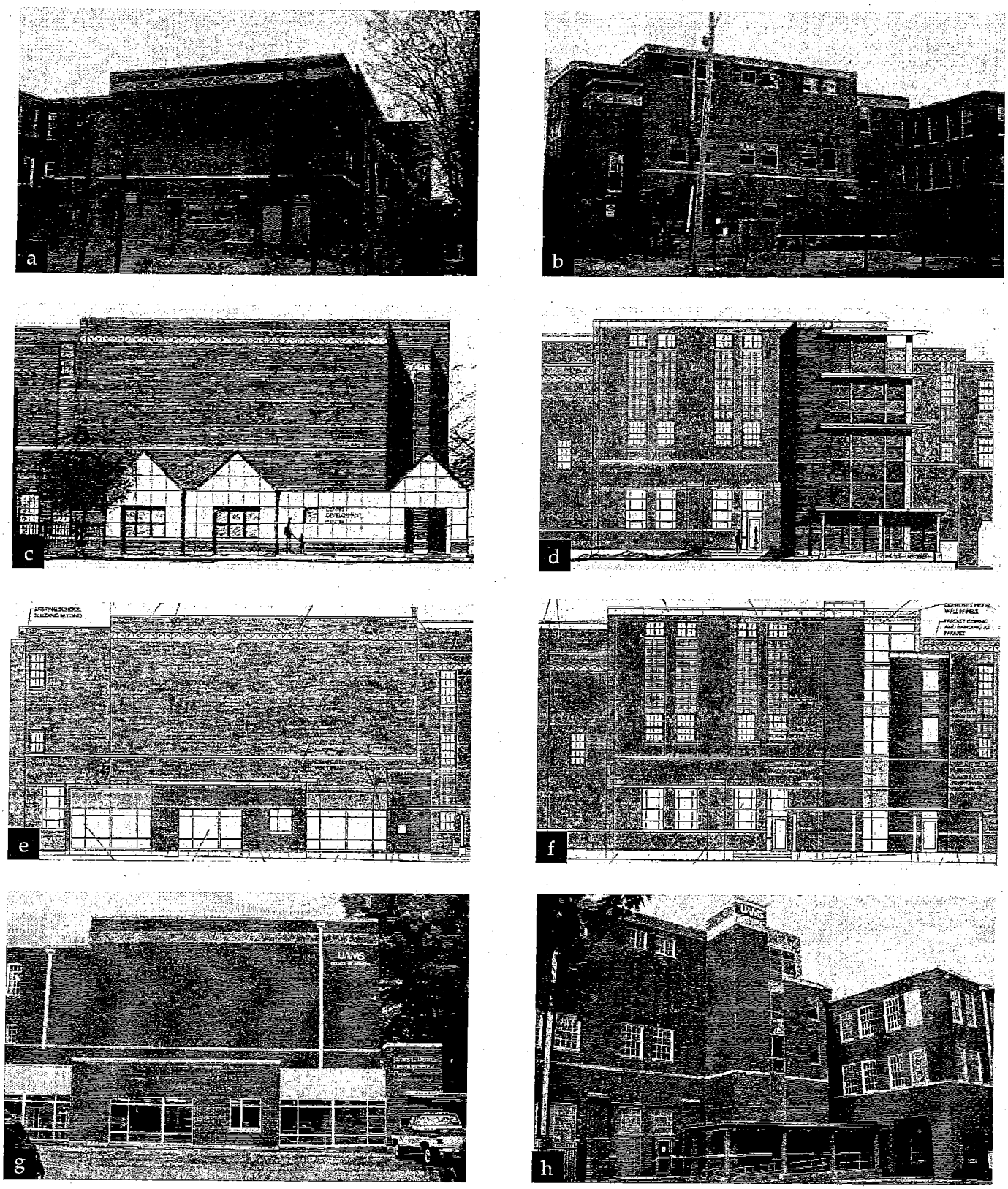


Figure 15. The rehabilitation of a c. 1930 high school auditorium for a clinic and offices proposed two additions: a one-story entrance and reception area on this elevation (a); and a four-story elevator and stair tower on another side (b). The gabled entrance (c) first proposed was not compatible with the flat-roofed auditorium and the design of the proposed stair tower (d) was also incompatible and overwhelmed the historic building. The designs were revised (e-f) resulting in new additions that meet the Standards (g-h).

Incompatible New Additions to Historic Buildings

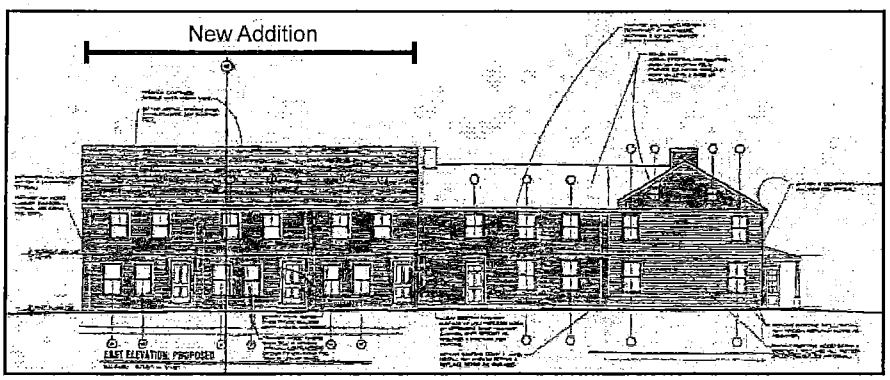


Figure 16. The proposal to add three row houses to the rear ell of this early-19th century residential property doubles its size and does not meet the Standards..



Figure 17. The small addition on the left is starkly different and it is not compatible with the eclectic, late-19th century house.





Figure 18. The expansion of a one- and one-half story historic bungalow (left) with a large two-story rear addition (right) has greatly altered and obscured its distinctive shape and form.



Figure 19. The upper two floors of this early-20th century office building were part of the original design, but were not built. During rehabilitation, the two stories were finally constructed. This treatment does not meet the Standards because the addition has given the building an appearance it never had historically.

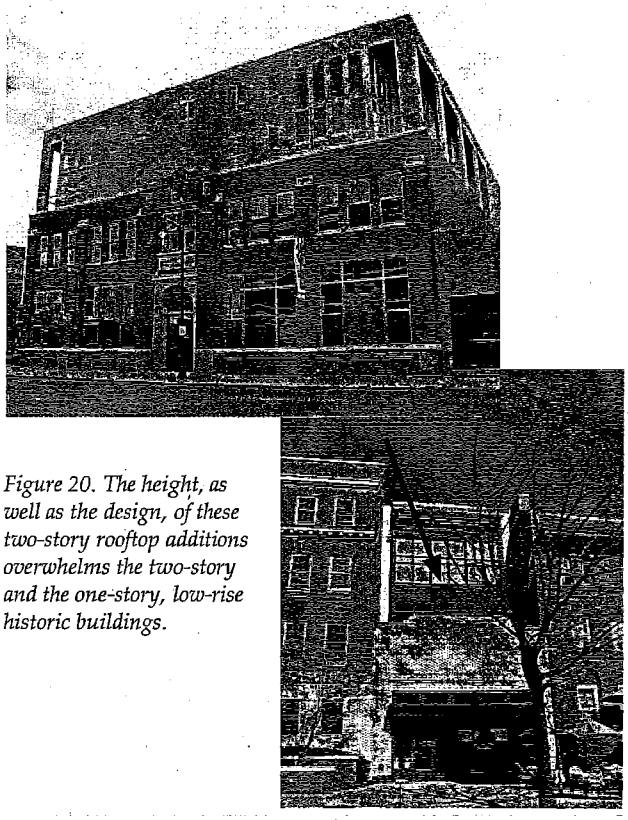


Figure 20. The height, as well as the design, of these two-story rooftop additions overwhelms the two-story and the one-story, low-rise historic buildings.

New Additions in Densely-Built Environments

In built-up urban areas, locating a new addition on a less visible side or rear elevation may not be possible simply because there is no available space. In this instance, there may be alternative ways to help preserve the historic character. One approach when connecting a new addition to a historic building on a primary elevation is to use a hyphen to separate them. A subtle variation in material, detailing and color may also provide the degree of differentiation necessary to avoid changing the essential proportions and character of the historic building.

A densely-built neighborhood such as a downtown commercial core offers a particular opportunity to design an addition that will have a minimal impact on the historic building. Often the site for such an addition is a vacant lot where another building formerly stood. Treating the addition as a separate or infill building may be the best approach when designing an addition that will have the least impact on the historic building and the district. In these instances there may be no need for a direct visual link to the historic building. Height and setback from the street should generally be consistent with those of the historic building and other surrounding buildings in the district. Thus, in most urban commercial areas the addition should not be set back from the façade of the historic building. A tight urban setting may sometimes even accommodate a larger addition if the primary elevation is designed to give the appearance of being several buildings by breaking up the facade into elements that are consistent with the scale of the historic building and adjacent buildings.

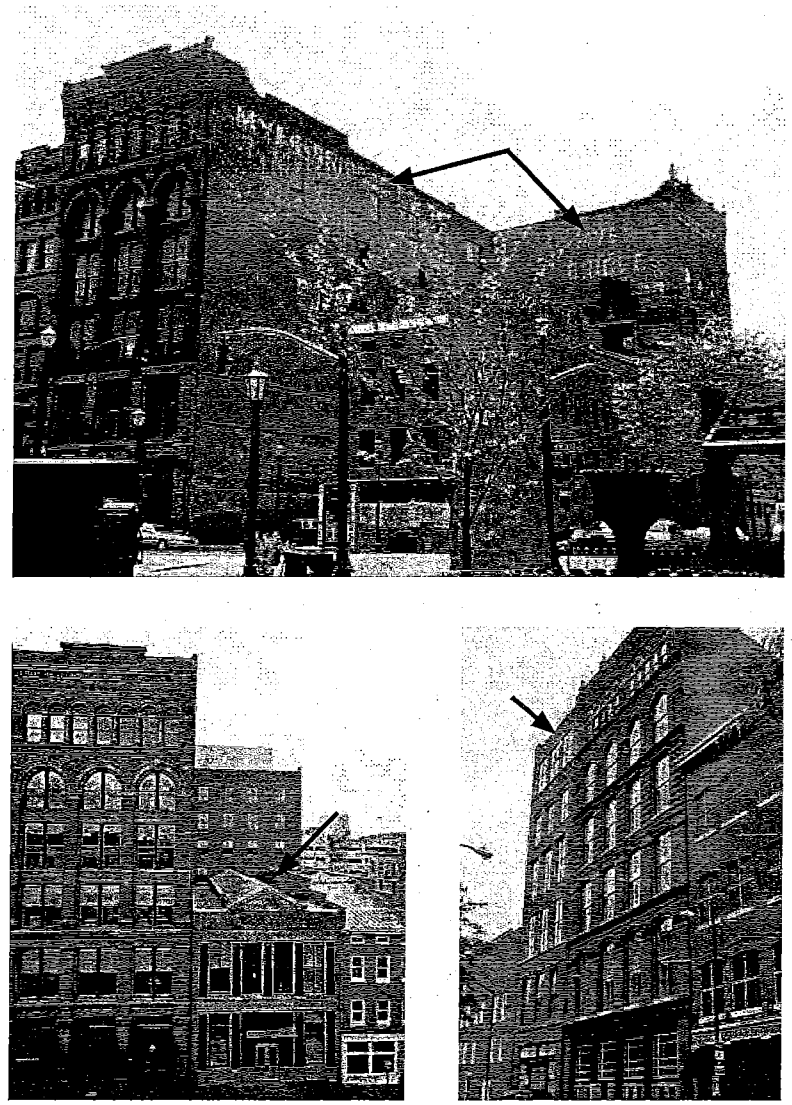


Figure 21. Both wings of this historic L-shaped building (top), which fronts on two city streets, adjoined vacant lots. A two-story addition was constructed on one lot (above, left) and a six-story addition was built on the other (above, right). Like the historic building, which has two different facades, the compatible new additions are also different and appear to be separate structures rather than part of the historic building.

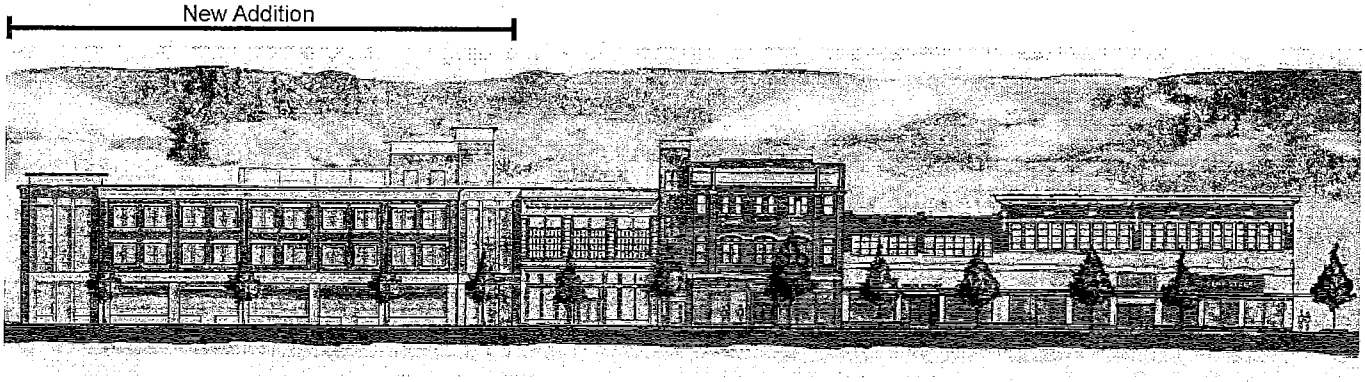
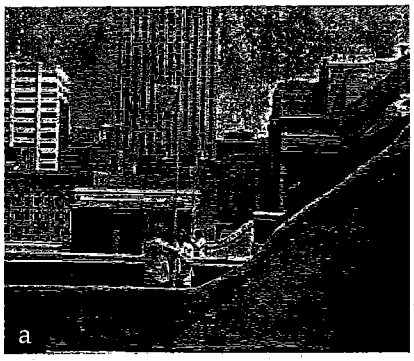


Figure 22. The proposed new addition is compatible with the historic buildings that remain on the block. Its design with multiple storefronts helps break up the mass.







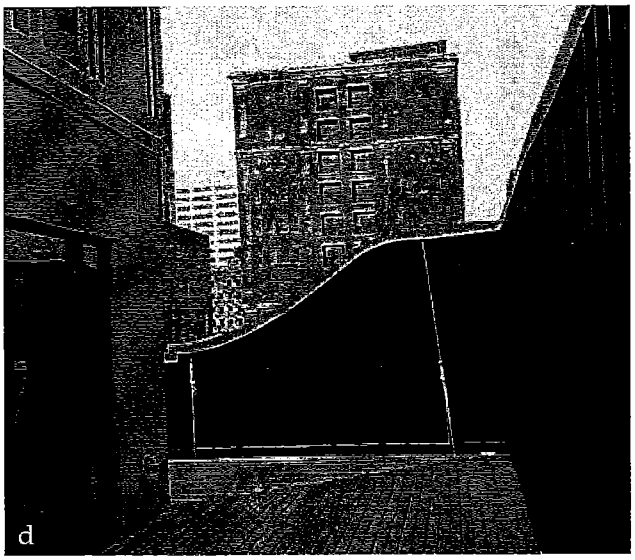


Figure 23. Colored flags marking the location of a proposed penthouse addition (a) were placed on the roof to help evaluate the impact and visibility of an addition planned for this historic furniture store (b). Based on this evaluation, the addition was constructed as proposed. It is minimally visible and compatible with the 1912 structure (c). The tall parapet wall conceals the addition from the street below (d).

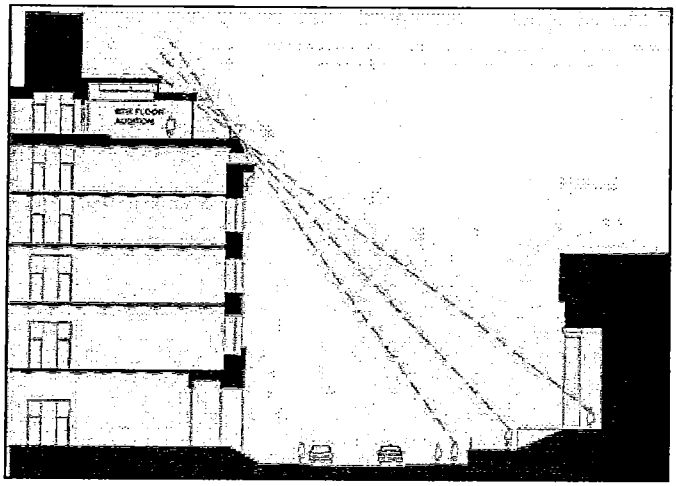
Rooftop Additions

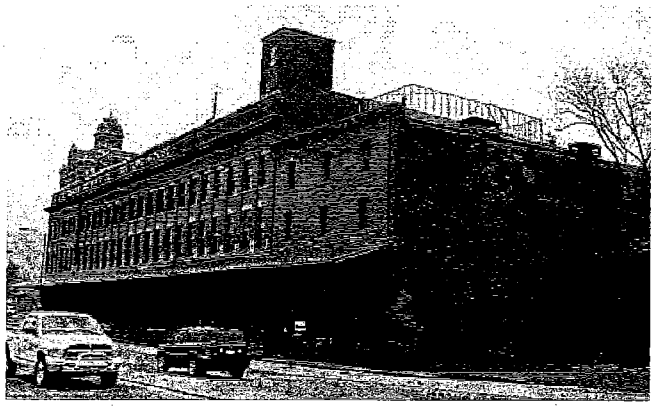
The guidance provided on designing a compatible new addition to a historic building applies equally to new rooftop additions. A rooftop addition should preserve the character of a historic building by preserving historic materials, features and form; and it should be compatible but differentiated from the historic building.

However, there are several other design principles that apply specifically to rooftop additions. Generally, a rooftop addition should not be more than one story in height to minimize its visibility and its impact on the proportion and profile of the historic building. A rooftop addition should almost always be set back at least one full bay from the primary elevation of the building, as well as from the other elevations if the building is free-standing or highly visible.

It is difficult, if not impossible, to minimize the impact of adding an entire new floor to relatively low buildings, such as small-scale residential or commercial structures, even if the new addition is set back from the plane of the façade. Constructing another floor on top of a small, one, two or three-story building is seldom appropriate for buildings of this size as it would measurably alter the building's proportions and profile, and negatively impact its historic character. On the other hand, a rooftop addition on an eight-story building, for example, in a historic district consisting primarily of tall buildings might not affect the historic character because the new construction may blend in with the surrounding buildings and be only minimally visible within the district. A rooftop addition in a densely-built urban area is more likely to be compatible on a building that is adjacent to similarly-sized or taller buildings.

A number of methods may be used to help evaluate the effect of a proposed rooftop addition on a historic building and district, including pedestrian sight lines, three-dimensional schematics and computer-generated design. However, drawings generally do not provide a true "picture" of the appearance and visibility of a proposed rooftop addition. For this reason, it is often necessary to construct a rough, temporary, full-size or skeletal mock up of a portion of the proposed addition, which can then be photographed and evaluated from critical vantage points on surrounding streets.





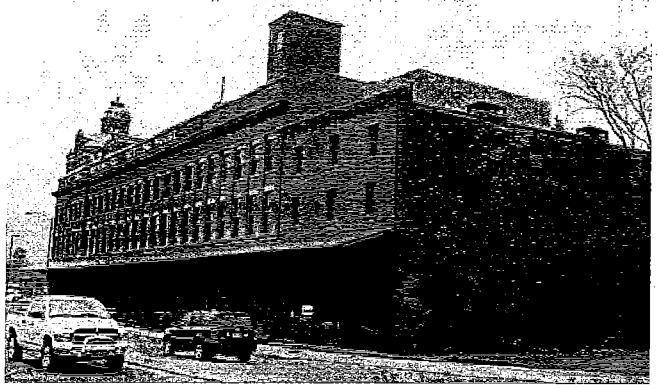


*Figure 24. **How to Evaluate a Proposed Rooftop Addition.** A sight-line study (above) only factors in views from directly across the street, which can be very restrictive and does not illustrate the full effect of an addition from other public rights of way. A mock up (above, right) or a mock up enhanced by a computer-generated rendering (below, right) is essential to evaluate the impact of a proposed rooftop addition on the historic building.*

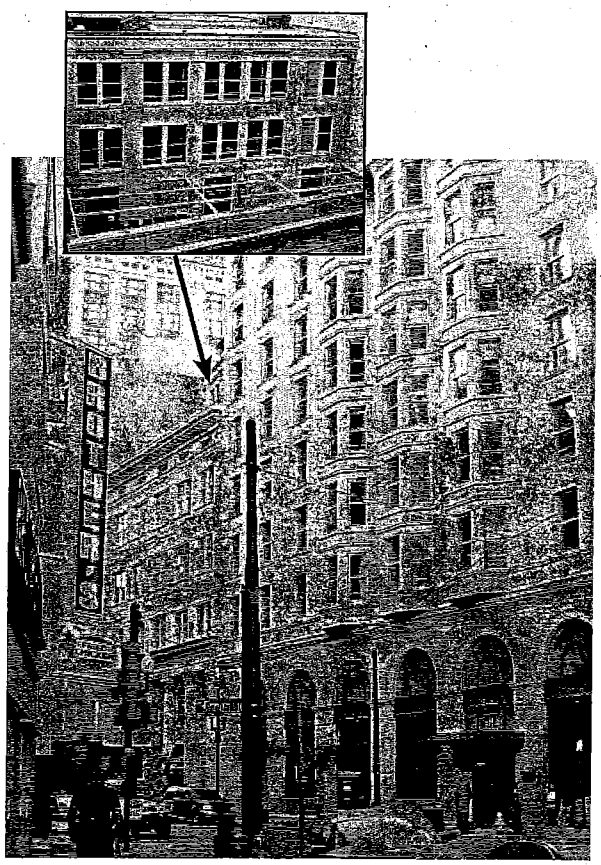
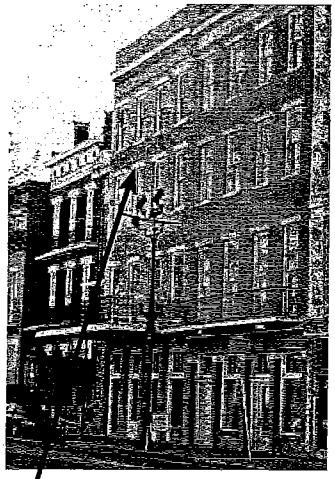


Figure 25. It was possible to add a compatible, three-story, penthouse addition to the roof of this five-story, historic bank building because the addition is set far back, it is surrounded by taller buildings and a deep parapet conceals almost all of the addition from below.



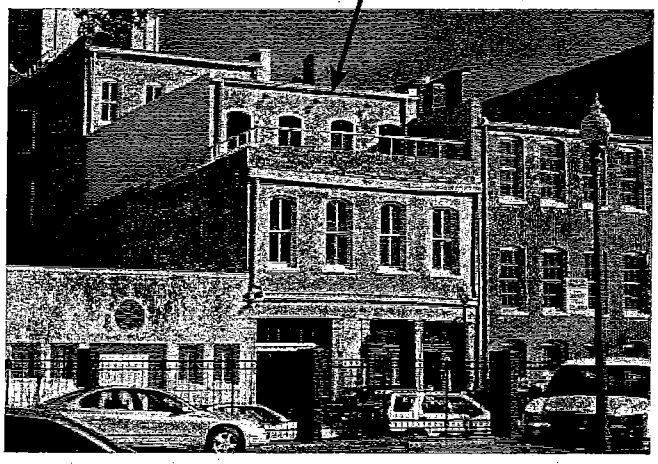


Figure 26. A rooftop addition would have negatively impacted the character of the primary facade (right) of this mid-19th century, four-story structure and the low-rise historic district. However, a third floor was successfully added on the two-story rear portion (below) of the same building with little impact to the building or the district because it blends in with the height of the adjacent building.

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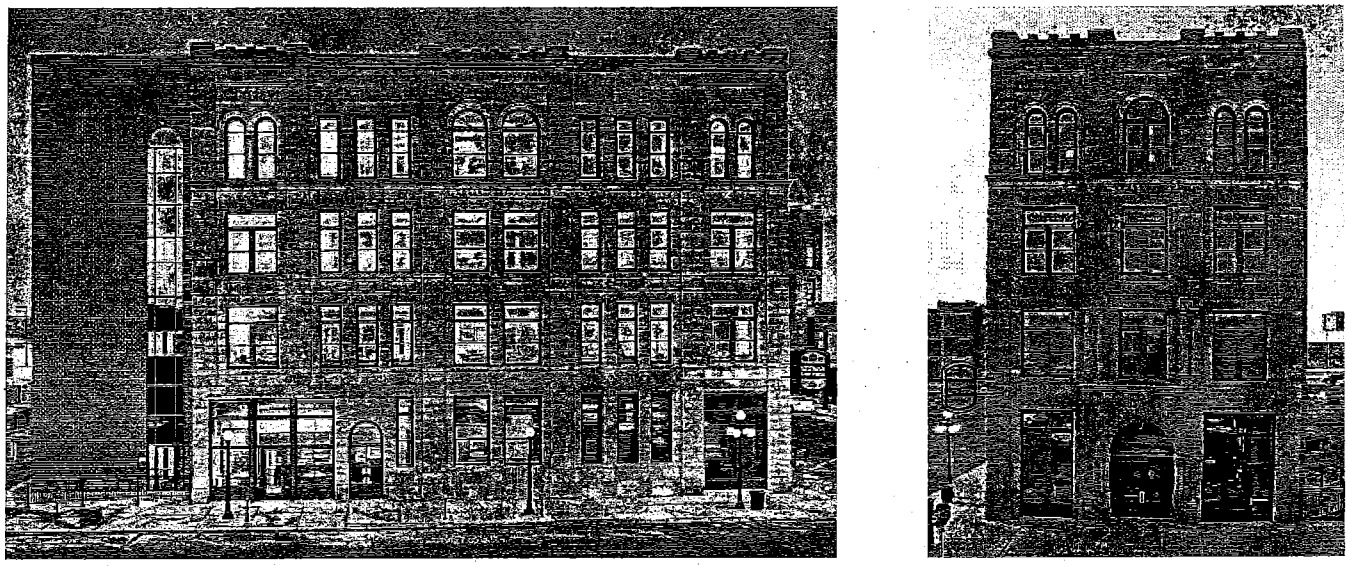

Figure 27. Although the new brick stair/elevator tower (left) is not visible from the front (right), it is on a prominent side elevation of this 1890 stone bank. The compatible addition is set back and does not compete with the historic building. Photos: Chadd Gossmann, Aurora Photography, LLC.

Designing a New Exterior Addition to a Historic Building

This guidance should be applied to help in designing a compatible new addition that that will meet the *Secretary of the Interior's Standards for Rehabilitation*:

- A new addition should be simple and unobtrusive in design, and should be distinguished from the historic building—a recessed connector can help to differentiate the new from the old.
- A new addition should not be highly visible from the public right of way; a rear or other secondary elevation is usually the best location for a new addition.
- The construction materials and the color of the new addition should be harmonious with the historic building materials.
- The new addition should be smaller than the historic building—it should be subordinate in both size and design to the historic building.

The same guidance should be applied when designing a compatible **rooftop** addition, plus the following:

- A rooftop addition is generally not appropriate for a one, two or three story building—and often is not appropriate for taller buildings.
- A rooftop addition should be minimally visible.
- Generally, a rooftop addition must be set back at least one full bay from the primary elevation of the building, as well as from the other elevations if the building is freestanding or highly visible.
- Generally, a rooftop addition should not be more than one story in height.
- Generally, a rooftop addition is more likely to be compatible on a building that is adjacent to similarly-sized or taller buildings.



Figure 28. A small addition (left) was constructed when this 1880s train station was converted for office use. The paired doors with transoms and arched windows on the compatible addition reflect, but do not replicate, the historic building (right).



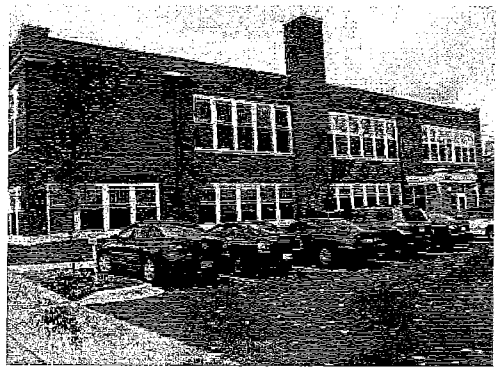

Figure 29. This simple glass and brick entrance (left) added to a secondary elevation of a 1920s school building (right) is compatible with the original structure.

Summary

Because a new exterior addition to a historic building can damage or destroy significant materials and can change the building's character, an addition should be considered only after it has been determined that the new use cannot be met by altering non-significant, or secondary, interior spaces. If the new use cannot be met in this way, then an attached addition may be an acceptable alternative if carefully planned and designed. A new addition to a historic building should be constructed in a manner that preserves significant materials, features and form, and preserves the building's historic character. Finally, an addition should be differentiated from the historic building so that the new work is compatible with—and does not detract from—the historic building, and cannot itself be confused as historic.

Additional Reading

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Day, Steven, AIA. "Modernism Meets History: New Additions to Historic Structures." *Preservation Seattle* [Historic Seattle's online monthly preservation magazine.] May 2003. www.historicseattle.org/preservationseattle/publicpolicy/defaultmay2.htm.

Incentives! A Guide to the Federal Historic Preservation Tax Incentives Program for Income-Producing Properties. "Avoiding Incompatible Treatments: New Additions & Rooftop Additions." Technical Preservation Services Branch, National Park Service. Online at www.nps.gov/history/hps/tps/.

Interpreting the Standards Bulletins (ITS). Technical Preservation Services Branch, National Park Service. Online at www.nps.gov/history/hps/tps/.

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The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings. (Authors: W. Brown Morton, III, Gary L. Hume, Kay D. Weeks, and H. Ward Jandl. Project Directors: Anne E. Grimmer and Kay D. Weeks.) Washington, D.C.: U.S. Department of the Interior, National Park Service, Preservation Assistance Division, 1992. Online at www.nps.gov/history/hps/tps/.

Semes, Steven W. "Differentiated and Compatible: The Secretary's Standards revisited." *Traditional Building.* February 2009. (Vol. 22, No. 1), pp. 20-23.

Semes, Steven W. *The Future of the Past: A Conservation Ethic for Architecture, Urbanism, and Historic Preservation.* (In association with The Institute of Classical Architecture and Classical America.) New York, NY: W.W. Norton & Company, 2009.



Figure 30. The small addition on the right of this late-19th century commercial structure is clearly secondary and compatible in size, materials and design with the historic building.

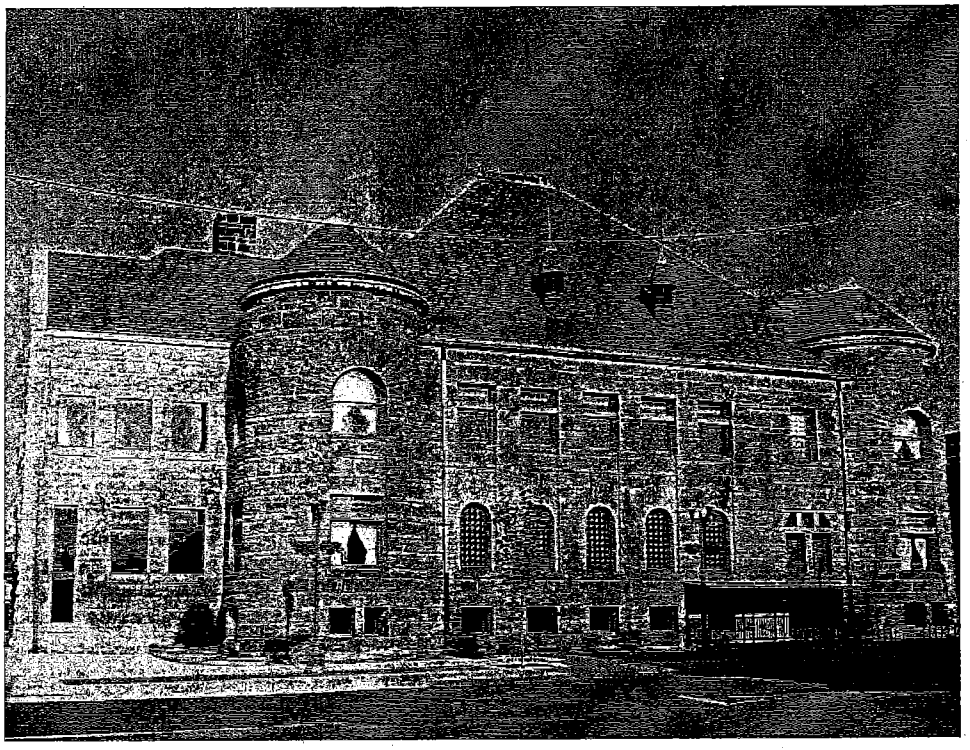

Figure 31. An elevator/stair tower was added at the back of this Richardsonian Romanesque-style theater when it was rehabilitated. Rough-cut stone and simple cut-out openings ensure that the addition is compatible and subordinate to the historic building. Photo: Chuck Liddy, AIA.

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This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. The Technical Preservation Services Branch, National Park Service, prepares standards, guidelines and other educational materials on responsible historic preservation treatments for a broad public audience. Additional information about the programs of Technical Preservation Services is available on the website at www.nps.gov/history/hps/tps. Comments about this publication should be addressed to: Charles E. Fisher, Technical Preservation Publications Program Manager, Technical Preservation Services-2255, National Park Service, 1849 C Street, NW, Washington, DC 20240. This publication is not copyrighted and can be reproduced without penalty. Normal procedures for credit to the author and the National Park Service are appreciated.

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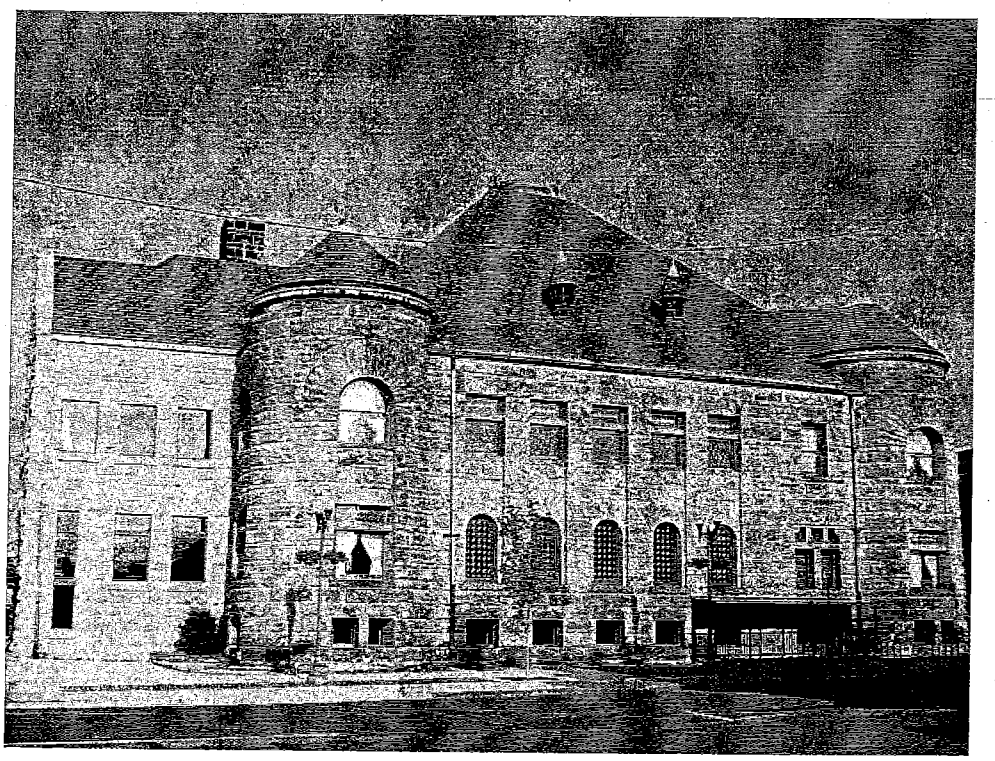

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April 27, 2013

Board President David Chiu and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: Argument in Support of Appeal of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035)
• Shadow Impacts on Union Square • Noise Impacts

Dear President Chiu and Supervisors:

This office represents appellants 765 Market Street Residential Owner's Association ("ROA"), Friends of Yerba Buena ("FYB"), Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins (collectively "Appellants") regarding the 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). I am writing to provide additional argument in support of appellants' grounds for appeal relating to Shadow Impacts on Union Square and Noise Impacts.

1. Shadow Impacts on Union Square

By adopting Proposition K (codified at Planning Code § 295), the voters of San Francisco adopted a substantive limit on development prohibiting the approval of buildings subject to the ordinance casting new shadows on Union Square between one hour after sunrise and one hour before sunset unless the Planning Commission finds the resulting adverse impact on use of the park to be less than significant.

For purposes of CEQA, this ordinance establishes a threshold of significance for shadow impacts: i.e., any new shadow between one hour after sunrise and one hour before sunset is potentially significant. It also establishes a mitigation measure: disapproval of the project unless the Planning Commission finds the impact on use of the park is less than significant.

Proposition K tasked the Planning Commission and the Recreation and Park Commission with adopting "criteria for the implementation" of this law. In 1989, these agencies adopted numerical performance standards (known as "cumulative shadow limits") for each park under the

jurisdiction the Recreation and Park Commission.[1] These numerical limits are the performance standard by which the Planning Commission determines if individual projects will have a significant or less-than-significant impact on use of a park. In CEQA terminology, the "cumulative shadow limits" are mitigation measures.

In October of 2012, the Planning Commission and Park and Recreation Commission increased the cumulative shadow limit for Union Square, making it less environmentally protective.[2] Now, these agencies are proposing to do the same thing again.[3]

Under CEQA however, before deleting or modifying a previously adopted mitigation measure, the lead agency "must state a legitimate reason" and "must support that statement of reason with substantial evidence." (*Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 359 ["when an earlier adopted mitigation measure has been deleted, the deference provided to governing bodies with respect to land use planning decisions must be tempered by the presumption that the governing body adopted the mitigation measure in the first place only after due investigation and consideration"]; accord *Katzeff v. California Dept. of Forestry and Fire Protection* (2010) 181 Cal.App.4th 601, 612; *Lincoln Place Tenants Association v. City of Los Angeles* (2005) 130 Cal.App.4th 1491, 1507-1508.)

Here, the EIR offers no legitimate reason to water down the protections afforded by Proposition K and the previous decision of the Planning and Recreation and Park Commissions establishing the cumulative shadow limit for Union Square. The EIR's casual assertion that "There is no feasible mitigation for the proposed project's contribution to cumulative shadow impacts, because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters"[4] is not a legitimate reason, because these are not legally valid grounds to find that leaving the cumulative shadow limit intact is infeasible. "The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project." *Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1181.

Moreover, the Planning Commission's proposal to increase the cumulative shadow limit is inconsistent with several policies of the Downtown Plan, including:

---

[1]Exhibit 1 [Joint Resolution 11595 (2-7-1989)].

[2]Exhibit 2 [706 Mission, Executive Summary of Planning Commission Staff Report], pp. 6-7.)

[3]Exhibit 2, pp. 6-7; DEIR, p. IV.I-60.

[4]DEIR, p. IV.I-60.

> POLICY 9.3 Give priority to development of two categories of highly valued open space; sunlit plazas and parks.
> Providing ground level plazas and parks benefits the most people. If developed according to guidelines for access, sunlight design, facilities, and size, these spaces will join those existing highly prized spaces such as Redwood Park, Sidney Walton Park, Justin Herman Plaza, and the State Compensation Building Plaza.
>
> POLICY 10.5 Address the need for human comfort in the design of open spaces by minimizing wind and maximizing sunshine.

2. Noise Impacts

The EIR's analysis of whether Noise Impact NO-1 (Construction Noise) will be significant with the adoption of Mitigation Measures M-NO-1a and -1b does not meet CEQA's requirements for the informational content of an EIR.

As discussed in the attached letter report from acoustical engineer Frank Hubach (Exhibit 3), the EIR does not provide sufficient information to evaluate the significance of the construction noise that will be experienced by sensitive noise receptors in the area even with adoption of the mitigation measures identified in the EIR. The missing information includes specifying the amount of noise attenuation (i.e., reduction) that will occur as a result of the distances between the generation of noise by construction equipment and sensitive noise receptors in the area; specifying the amount of noise attenuation that will occur as a result of the various types of noise reduction techniques that are identified as mitigation measures; and specifying when mitigation measures that will only be used when "feasible" or "possible" will actually be feasible or possible. Without this information, it is not possible to independently review the EIR's conclusions.

Several mitigation measures included in Mitigation Measure M-NO-1a will only be implemented when "feasible" or "possible," as shown here:

> The following practices shall be incorporated into the construction contract agreement documents to be implemented by the construction contractor:
> • Provide best available noise control techniques for equipment and trucks, such as providing acoustic enclosures and mufflers for stationary equipment, shroud or shield impact tools, and installing barriers around particularly noisy activities at the construction sites so that the line of sight between the construction activities and nearby sensitive receptor locations is blocked to the maximum feasible extent. The placement of barriers or acoustic blankets shall be reviewed and approved by the Director of Public Works prior to issuance of permits for construction activities.
> • Use construction equipment with lower noise emission ratings whenever possible, particularly for air compressors.
> • Provide sound-control devices on equipment no less effective than those provided

by the manufacturer.
• Locate stationary equipment, material stockpiles, and vehicle staging areas as far as practicable from sensitive receptor locations.
• Prohibit unnecessary idling of internal combustion engines.
• Require applicable construction-related vehicles and equipment to use designated truck routes to access the project sites.
• Prior to the issuance of the building permit, along with the submission of construction documents, the project sponsor shall designate a Noise Disturbance Coordinator (on-site construction complaint and enforcement manager) and submit to the Planning Department and Department of Building Inspection (DBI) a protocol to respond to and track complaints pertaining to construction noise. This shall include (1) a procedure and phone numbers for notifying DBI, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign conspicuously posted on-site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction; (3) identification of the Noise Disturbance Coordinator for the project (name, phone number, email address); and (4) notification of property owners and occupants within 300 feet of the project construction area at least 14 days in advance of extreme noise generating activities (activities expected to generate levels of 90 dBA or greater) about the estimated duration of the activity.
• Obtain a work permit from the Director of Public Works or the Director of Building Inspection for any nighttime work, pursuant to San Francisco Noise Ordinance Section 2908.
• Obtain noise variances (as necessary) consistent with San Francisco Police Code Section 2910.

Mitigation Measure M-NO-1b: Noise-Reducing Techniques and Muffling Devices for Pile Installation
If piles are determined to be necessary, the project sponsor shall require its construction contractor to use noise-reducing pile installation techniques including: avoiding impact pile driving where possible, pre-drilling pile holes (if feasible, based on soils; see Mitigation Measure M-NO-2b, pp. IV.F.26-IV.F.27) to the maximum feasible depth, installing intake and exhaust mufflers on pile installation equipment, vibrating piles into place when feasible, and installing shrouds around the pile driving hammer where feasible. Should impact pile driving be necessary for the proposed project, the project sponsor would require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring uses, and establish pile-driving hours, in consultation with the Director of Public Works, to disturb the fewest people. At least 48 hours prior to pile driving activities, the project sponsor shall notify building owners and occupants within 500 feet of the project site of the dates, hours, and expected duration of pile driving.

(DEIR, p. IV.F-20.) Thus, the EIR anticipates that there will be occasions when these mitigation measure are ineffective because they are not possible or feasible. Since the EIR finds this impact to be "Less than Significant with Mitigation," the EIR must disclose that the uncertainty surrounding the implementation of these measures requires determining that the impact is "Significant."

Also, subdivision (d) of section 2909 of the San Francisco Noise Ordinance establishes thresholds for determining significance of noise impacts on nearby residents of 45 dBA nightime/55 dBA daytime noise, stating:

> Fixed Residential Interior Noise Limits. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.[5]

This standard is based on the experience of sensitive receptors (i.e., preventing sleep disturbance, protecting public health, and preventing the acoustical environment from progressive deterioration).

But the EIR suggests that the Project can violate these interior noise standards without causing a significant impact because, as "non-permanent" generators of noise, the Project's construction equipment is exempt from section 2909(d). The EIR does so by falsely asserting that section 2909 includes the word "permanent" as a limitation on the types of noise sources that will be considered "fixed" and therefore subject to these interior noise standards. (DEIR, p. IV.F-16.) This false assertion indicates that the EIR assumes that "complying" with the San Francisco Noise Ordinance equates to achieving less than significant impacts.

The EIR's assumption in this regard violates CEQA, because compliance with regulatory standards cannot be used as a substitute for a fact based analysis of whether an impact is significant. While San Francisco is free to adopt a Noise Ordinance that exempts specific noise sources from its regulatory effect, it is not free, under CEQA, to fail to disclose the significance of noise that exceeds these interior noise limits.[6]

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[5]Exhibit 4 [San Francisco Noise Ordinance].

[6]*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109 ["the fact that a particular environmental effect meets a particular threshold cannot be used as an automatic determinant that the effect is or is not significant. . . . . a threshold of significance cannot be applied in a way that would foreclose the consideration of other substantial evidence tending to show the environmental effect to which the threshold relates might be significant"].)

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

List of Exhibits

1. Joint Resolution 11595, Planning Commission and Recreation and Park Commission, (2-7-1989)

2. 706 Mission, Executive Summary of Planning Commission Staff Report (March 28, 2013).

3. Letter dated April 26, 2013 from Acoustical Engineer Frank Hubach.

4. San Francisco Noise Ordinance

L:\706 Mission\Administrative Proceedings\LGW Docs\LGW 009e 042913 BOS Brief re US Shade Noise.wpd

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Protect The Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th 1099, 1109 [11 Cal.Rptr.3d 104, 111]

EXHIBIT 1

SAN FRANCISCO

CITY PLANNING COMMISSION

RESOLUTION NO. 11595

JOINT RESOLUTION OF THE CITY PLANNING COMMISSION AND RECREATION AND PARK COMMISSION ADOPTING CRITERIA FOR DETERMINATIONS OF SIGNIFICANT SHADOWS IN FOURTEEN DOWNTOWN PARKS WHICH ARE SUBJECT TO BEING SHADOWED BY NEW DEVELOPMENT AND DECLARING THE INTENTION TO APPLY THESE CRITERIA REGARDING SHADOW IMPACTS PRIOR TO CONSIDERATION OF AN APPLICATION FOR A STRUCTURE THAT WOULD SHADOW A PROTECTED PROPERTY.

WHEREAS, The people of the City and County of San Francisco in June 1984 adopted an initiative ordinance, commonly known as Proposition K; and

WHEREAS, Proposition K requires that the City Planning Commission disapprove any building permit application authorizing the construction of any structure that will have any adverse impact on the use of property under the jurisdiction of the Recreation and Park Department because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant; and

WHEREAS, Proposition K provides that the City Planning Commission and the Recreation and Park Commission shall adopt criteria for the implementation of that ordinance; and

WHEREAS, Proposition K can most effectively be implemented by analyzing properties in the City protected by that legislation which could be shadowed by new development, the current patterns of use of such properties, how such properties might be used in the future including considerations of possible future design and redevelopment of the property, and the various shadowing that could be created by various structures, including the amount of shadowing, the duration, and location; and

WHEREAS, The City Planning Commission and Recreation and Park Commission endorsed the submission by the Department of City Planning to the Mayuor of a request for a supplemental appropriation in order to fund an analysis of properties that could be shadowed by new development (Resolution No. 13887); and

WHEREAS, A contract was awarded to the University of California at Berkeley's College of Environmental Design to develop a computerized system which could analyze existing shadow conditions on Proposition K properties and provide information to these Commissions necessary to establish rules or guidelines delineating the type of shadowing that can be determined to be significant or insignificant; and

WHEREAS, a computerized system of analysis was developed and used to analyze existing shadow conditions on fourteen downtown parks under the jurisdiction of the Recreation and Park Department; and

WHEREAS, The information developed by this computer analysis was then evaluated jointly by the staffs at the Department of City Planning and the Recreation and Park Department; and

WHEREAS, Recommendations for determinations of significant new shadows based on these staff evaluations were presented jointly to the Commissions in October and November of 1987; and

WHEREAS, Additional presentations were made to both Commissions in 1988 and 1989; and

WHEREAS, A duly advertised public hearing was held on these recommendations; and

THEREFORE BE IT RESOLVED, That the criteria and the staff proposal for consideration by both Commissions presented in the memorandum to the Planning Commission and the Recreation and Park Commission dated February 3, 1989 regarding "Proposition K -- The Sunlight Ordinance" and describing criteria for determining significance be adopted as rules and guidelines for the determinations of significant shadows for the fourteen downtown parks analyzed.

I hereby certify that the foregoing Resolution was ADOPTED by the City Planning Commission on February 7, 1989.

Lori Yamauchi
Secretary

AYES	Commissioners Bierman, Dick, Engmann, Hu, Johnson, Morales and Tom
NOES	None
ABSENT	None
ADOPTED	February 7, 1989

AKG:181

City and County of San Francisco
The Planning Department

1660 Mission Street
San Francisco, CA 94103-2414

MEMORANDUM

February 3, 1989*

TO: The City Planning Commission
The Recreation and Parks Commission

FROM: Department of Parks and Recreation
Department of City Planning

RE: Proposition K—The Sunlight Ordinance

BACKGROUND

The Sunlight Ordinance (Section 295 of the City Planning Code) requires the Planning Commission, prior to the issuance of a permit for a project that exceeds 40 feet in height, to make a finding that any shadow on property under the jurisdiction of the Park and recreation Department cast by the project is insignificant.

The Ordinance further requires that the Planning Commission and the Parks and Recreation Commission jointly adopt the criteria to be used by the Planning Commission in the implementation of the Ordinance.

PROPOSED CRITERIA FOR DETERMINING SIGNIFICANCE

The approach recommended by staff involves two steps. The first step is to set an absolute cumulative limit for new shadow allowed in an open space. The Absolute Cumulative Limit is the additional shadow-foot-hours expressed as a percentage of the total foot-hours for each park over a period of one year. The second step is to determine individual building impacts and allocate a portion of the additional allowable shadow among specific projects within the Absolute Cumulative Limit.

Details on the methodology for measuring and modeling shadows are explained in the memorandum to the Recreation and Parks Commission and the Planning Commission on "Proposition K--The Sunlight Ordinance," dated November 1, 1987.

Absolute Limit

It is recommended that a quantitative limit be set on the amount of new shadow (summed up over a period of one year) which could be allowed in each park based on the current shadow conditions in the park and the size of the park. A large park with little shadow could be permitted a larger Absolute Cumulative Limit than a smaller park with a lot of shadow, for example.

ADMINISTRATION (415) 558-6414 | CITY PLANNING COMMISSION (415) 558-6414 | PLANS AND PROGRAMS (415) 558-6264 | IMPLEMENTATION/ZONING (415) 558-6377

FAX: 558-6409 FAX: 558-6426

This absolute cumulative limit could be used up by one or more new buildings, but, the final determination of how much of this limit could be used by an individual building and what form the new shadow will take should be determined on a case by case basis. However, any shadow cast beyond this limit would be considered significant and could not be allowed.

Allocation of The Absolute Cumulative Limit Among Individual Buildings

Each open space has distinctive characteristics of existing shadows and the shadow that would be created by a new building. Each potential shadow also has distinctive characteristics. Depending on the proposed new building's location the shadow could be fast or slow moving (shadows of buildings near the open space will move through the open space slower than a building farther away from the open space). The proposed new building's height and location will also determine the size and shape of potential new shadow in the park, when (e.g. time of day, time of season) and where in the park the new shadow would be cast. Since a potential shadow may have immensely varied impacts at different times of day, or different seasons; or duration of the shadow, or the size or the location of the shadow, the evaluation of impact depends on a variety of qualitative factors.

The factors to be considered in allocating additional shadow within the Absolute Cumulative Limit will vary from park to park based on the characteristics of that park and the pattern of its existing shadows.

Qualitative criteria for each park should be based on existing shadow profiles, important times of day, important seasons in the year, size and duration of new shadows and the public good served by buildings casting new shadow. These bases are explained below:

Value of the Sunlight

Time of Day (morning, mid-day, afternoon)
Based on existing shadow conditions and location of a given park, the time of day values of sunlight will have to be established. For example, afternoon and morning sun resources may be more important for preservation in neighborhood parks whereas mid-day sun may be more important in downtown parks. Additionally, some parks may have more shadow during certain times of the day when compared with other parks.

Time of Year (Spring, Summer, Fall, Winter)
In the same way that the time of day value of sunlight has to be established, sunlight value during times of year will also have to be determined.

Shadow Characteristics

Size of Shadow
Small shadows will generally be preferred to large shadows unless they last for long periods of time or fall on parts of the park where sunlight is particularly critical to users.

Duration of Shadow

Shadows lasting a short period of time will generally be preferred to shadows which last a long time unless the fleeting shadows fall during a critical time of day or season and/or are so large that they disrupt use of the park.

Location of Shadow

Efforts should be made to avoid shadows in areas of the park where existing or future use of the park is intense and where a new shadow could have detrimental effects on park vegetation.

Building Characteristics

Public Good Served By Shadow Caster

Buildings in the public interest in terms of a needed use or building design and urban form may be allocated a larger portion of the Absolute Cumulative Limit than other buildings. For example, the Civic Center Urban Design Plan calls for a building at the same height as the existing library to continue the cornice on Marshall Square thus completing the gap in the framing of Civic Center Plaza. A new library building to accommodate the growing needs of the Public Library is proposed at that space. This new building would cast new shadows in the morning hours on Civic Center Plaza. If the new building could not cast shadows, the ability to use the site for the library would be severely limited. Most of the Civic Center Plaza shadow "budget" could perhaps be allocated to be used by this library.

STAFF PROPOSAL FOR CONSIDERATION BY BOTH COMMISSIONS

The Proposition K mandate is to minimize new shadow impacts and protect the sun resource on San Francisco open spaces. On the basis of several public hearings on the subject, the objective is to construe Proposition K very strictly in terms of the additional shadow on parks. In order to accomplish this objective an Absolute Cumulative Limit is proposed for each individual park. This limit is the additional amount of shadow-foot-hours expressed as a percentage of total-foot-hours of each park as measured by the Sunlight Access Computer System (SACS) developed for the City by the University of California at Berkeley. Additionally, for each open space, criteria for the approval of new buildings have been proposed to evaluate allocations within the Absolute Cumulative Limit.

There are two major factors affecting the impact of shadow on the use of a park which are relevant to setting standards. One is the size of the park and the other is the amount of existing shadow on the park. Taking these two factors into account the staff recommends that the following standards be adopted.

In smaller parks (less than two acres) which are already shadowed 20% or more of the time during the year, it is recommended that no additional shadow

be permitted. On this basis the Absolute Cumulative Limit should be set at zero for the following parks:

Name Of Park	Absolute Cumulative Limit
Maritime Plaza	0%
Embarcadero Plaza I (north)	0%
Portsmouth Square	0%
St. Mary's Square	0%
Boeddecker Park	0%
Chinese Playground	0%
Sgt. Macaulley Park	0%
Huntington Park	0%
South of Market Park	0%

In larger parks (two acres or more) which are shadowed between 20% and 40% of the time during the year it is recommended that up to an additional 0.1% of the current shadow should be permitted if the specific shadow meets the additional qualitative criteria for the park. On this basis the Absolute Cumulative Limit for the following parks should be set at 0.1%:

Name of Park	Absolute Cumulative Limit
Embarcadero Plaza II (south)	0.1%
Union Square	0.1%

Some parks, although within this category above, have surrounding height limits that preclude the possibility of any new shadow. Therefore, the Absolute Cumulative Limit for these parks should be set at 0%. These parks are:

Name of Park	Absolute Cumulative Limit
Washington Square	0%
North Beach	0%

In larger parks which are shadowed less than 20% of the time during the year, it is recommended that additional shadow of up to 1.0% could be permitted if the specific shadow meets the additional qualitative criteria for that park. On this basis the Absolute cumulative criteria for the following park should be set at 1.0%:

Name of Park	Absolute Cumulative Limit
Civic Center Plaza	1.0%

For the three parks on which additional shadow is recommended, it is further recommended that individual project shadows within the Absolute Cumulative Limit be allocated according to the following qualitative criteria for each park.

Union Square

LOCATION: Geary, Post, Powell, Stockton
Located in the center of the City's retail district.

SIZE: 105,515 square feet
This park ranks as the third largest Downtown park.

CHARACTERISTICS: The park is surrounded by tall buildings to the east, west and the south. This relatively flat formal park is slightly elevated from the surrounding streets. Features include park furniture for sitting and lawn areas. The greatest intensity of park use occurs during mid-day hours. Users are downtown workers, shoppers, tourists. Many pedestrians use the park as a mid-block crossing. This park is the location for many civic demonstrations and cultural activities. Union Square is near the Powell Street cable car line and major hotels. A parking facility is located beneath the park.

SUN AND SHADOW CONDITIONS:

Yearly Shadow: 38.3% of the total year round sunshine is used up by existing shadows. The shadow profile for this park is generally a "U" shaped shadow distribution with significant shadows in the morning and even greater shadows in the afternoon hours. The "U" shaped distribution is increasingly flat in the Winter due to increased mid-day shadows.

Seasonal Shadow:

Summer: Least shadow impacts - greatest sun resource. Shadowed in early morning and late afternoon with relatively more shadow during the afternoon hours. Approximately 30% of the sun resource is in shadows at the time of the Summer Solstice.

Spring/Fall: Major shadow impacts during the early morning and late afternoon hours. Morning shadows increase as Fall approaches. The least shadow impacts occur between 9:30 AM and 2:30 PM. During Equinox approximately 35% of the park sun resource is in shade.

Winter: The greatest shadow impacts on Union Square occur during the Winter months. In Winter, nearly 50% of the park is in shadow for the entire day. There is very little sunlight available before 9:30 AM and after 2:30 PM during the winter. The Winter Solstice conditions are such that 60% of the park sun resource is in shadow.

ADDITIONAL SHADOW

Absolute Limit: Increase of up to 0.1% of total foot-hours for the park based on size and amount of existing shadow. A maximum of 392,663.5 new shadow foot-hours could be allowed.

Qualitative Criteria:

- Avoid additional shadows during mid-day.

Civic Center Plaza

LOCATION: Polk, Grove, Larkin, McAllister
In the Civic Center, with major government offices, library and Brook Hall surrounding the open space.

SIZE: 222,995 square feet
Civic Center Plaza is the largest downtown park.

CHARACTERISTICS: Heaviest use occurs during mid-day hours. Users are civic center workers, tourists and street people. Features include some park furniture for sitting, lawn area and fountain. This park is the location for many civic demonstrations, assemblies and cultural activities. This is a relatively flat formal park. A parking garage is located beneath the park. Adopted redesign of the park will accommodate more use by neighborhood children and day care providers.

SUN AND SHADOW CONDITIONS:

Yearly Shadow: 7.4% of the total year round sunshine is used up by existing shadows. Civic Center is one of the sunniest of the downtown parks. During most of the year the daily shadow distribution profile is that of a relatively flat "U" shape with greater shadows in the afternoon than in the morning. By Winter the "U" shape has flattened further by decreases in shadows early and late and increased shadows at mid-day.

Seasonal Shadow:

Summer: Sunny all day except in the late afternoon hours when an average of less than 40% of the park is in shade. Some shadows very early in the morning and very late in the afternoon. Almost no shadows from 9 AM to 4 PM. Approximately 5% in shadows during the Summer Solstice.

Spring/Fall: In general summer shadow conditions continue from the Spring and into the Fall. There are however less shadow impacts during the early morning hours and more shadows in the afternoon than occur during the Summer months. Approximately 5% in shadows during the Equinox.

Winter: Nearly 75% of the park remains in sun during the Winter months. In late afternoon hours there are increased shadow impacts on the open space. Approximately 10% in shadows during the Winter Solstice.

ADDITIONAL SHADOW

Absolute Limit:	Increase of up to 1.0% of total foot-hours for the park based on size of the park and the amount of existing shadow. A maximum of 8,272,486.1 new shadow foot hours could be allowed.
Qualitative Criteria:	Preserve afternoon sun, particularly on seating areas and lawn areas.

Embarcadero Center 2

LOCATION: Embarcadero, Clay & Steuart
This open space is located at the Eastern edge of the Financial District.

SIZE: 149,698 square feet
The second largest Downtown park.

CHARACTERISTICS: This park is a plaza surrounded by large office buildings with many ground floor restaurants opening on to the space. The plaza contains a large fountain, open air cafes and is predominately paved. There is a flat grass area at the South end of the plaza. The space has excellent access from Market Street and South of Market Street. During lunch hour the park is heavily used by workers from the Financial District. Tourist use of the park is also heavy due to its location at the base of Market Street, proximity to the Ferry Building, California Street cable car line and the Hyatt Regency. Noon concerts, fashion shows and performances create a great deal of day use of the park.

SUN AND SHADOW CONDITIONS:

Yearly Shadow: This open space has significant sun resources during the morning hours. Afternoon shadows are heavy. The "J" shape to the shadow profile is consistent throughout the Spring, Fall and Summer due to the morning sun and the heavy afternoon shadows. The "J" shaped shade curve disappears in the Winter. In the Winter no more than 50% of the park is in the sun after the noon hour. The shape of the curve in Winter is represented by a shaft of sun in the morning and a nearly solid block of shadow in the post morning hours. Overall, 37.6% of the annual sun resource is currently in shadow.

Seasonal Shadow:

Summer: Between 8:30 am and noon there are almost no shadows in the plaza. Before 8:30 am nearly 40% of the space is in the shade. After the mid-morning sun the shadows gradually increase until 100% of the park is in shadow at the end of the day. 30% shaded during the Summer Solstice.

Spring/Fall: For two hours in the mid-morning there is 100% sun in the park. After 11:30 am the shadows increase such that mid-afternoon shadows are greater than in Summer but never reach the 100% shadows of late afternoon Summer days. 60% shaded during the Equinox.

Winter: During the Winter there is a brief two hour period where the park is in the sun. After 10 am shadows increase rapidly and by noon in mid-December 90% of the plaza is in the shade. 80% shaded during the Winter Solstice.

ADDITIONAL SHADOW

Absolute Limit: Increase of up to 0.1% of total foot-hours for the park based on size of park and amount of existing shadows. A maximum of 557,086.1 new shadow foot-hours could be allowed.

Qualitative Criteria: Avoid mid-day and Winter shadows.

EXHIBIT 2

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
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San Francisco,
CA 94103-2479

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415.558.6377

Executive Summary

SECTION 309 DETERMINATION OF COMPLIANCE
ZONING MAP AMENDMENT
PLANNING CODE TEXT AMENDMENT
GENERAL PLAN REFERRAL
SECTION 295 SHADOW ANALYSIS

HEARING DATE: APRIL 11, 2013

Date:	March 28, 2013
Case No.:	**2008.1084EHKXRTZ**
Project Address:	**706 Mission Street**
Project Site Zoning:	C-3-R (Downtown, Retail, Commercial) 400-I Height and Bulk District
Block/Lots:	3706/093, 275, portions of 277 (706 Mission Street) 0308/001 (Union Square)
Project Sponsor:	706 Mission Street, LLC c/o Sean Jeffries of Millennium Partners 735 Market Street, 4th Floor San Francisco, CA 94107
Staff Contact:	Kevin Guy – (415) 558-6163 *Kevin.Guy@sfgov.org*
Recommendations:	***Adopt CEQA Findings*** ***Approve Section 309 Determination of Compliance with Conditions*** ***Recommend Approval (Zoning Map/Planning Code Text Amendments)*** ***Adopt General Plan Referral Findings*** ***Raise Cumulative Shadow Limit for Union Square*** ***Adopt Findings Regarding Shadow Impacts***

PROJECT DESCRIPTION

The Project would rehabilitate the existing 10-story, 144-foot tall Aronson Building, and construct a new, adjacent 47-story tower, reaching a roof height of 520 feet with a 30-foot tall mechanical penthouse. The two buildings would be connected and would contain up to 215 dwelling units, a "core-and-shell" museum space measuring approximately 52,000 square feet that will house the permanent home of the Mexican Museum, and approximately 4,800 square feet of retail space. The project would reconfigure portions of the existing Jessie Square Garage to increase the number of parking spaces from 442 spaces to 470 spaces, add loading and service vehicle spaces, and would allocate up to 215 parking spaces within the garage to serve the proposed residential uses. The Project Sponsor has proposed a "flex option" that would retain approximately 61,000 square feet of office uses within the existing Aronson Building, and would reduce the residential component of the project to approximately 191 dwelling units.

The Project includes the reclassification of the subject property from the existing 400-foot height limit to a 520-foot height limit, as well as the adoption of the "Yerba Buena Center Mixed-Use Special Use District" ("SUD"). The proposed SUD would modify specific Planning Code regulations related to permitted uses, the provision of a cultural/museum use within the SUD, floor area ratio limitations, dwelling unit exposure, height of rooftop equipment, bulk limitations, and curb cut locations.

Through transactional documents between the project sponsor and the Successor Agency to the Redevelopment Agency ("Successor Agency"), the Successor Agency would convey to the Project Sponsor the Jessie Square garage and the portion of property located between the Aronson Building parcel and Jessie Square that would be developed with the tower portion of the Project (portions of Lot 277, Assessor's Block 3706). The Successor Agency would also convey to the Project Sponsor the parcel containing the garage access driveway (Lot 275, Assessor's Block 3706) from Stevenson Street. In addition, the Project Sponsor would provide $5 million endowment for the operation of the Mexican Museum, and would contribute an additional affordable housing fee to the Successor Agency equal to 8% of the residential units.

SITE DESCRIPTION AND PRESENT USE

The Project Site measures 72,181 sq. ft. and is comprised of three separate parcels within Assessor's Block 3706. Lot 093 is located at the northwest corner of Third and Mission Streets, and is currently developed with the existing 10-story, 144-foot tall Aronson Building. The Aronson Building is designated as a Category I (Significant) Building in Article 11 of the Planning Code, and is located within the New Montgomery-Mission-Second Street Conservation District. The building contains approximately 96,000 sq. ft. of office uses and approximately 10,600 sq. ft. of ground-floor retail uses.

Lot 275 is improved with an existing vehicular access ramp that leads from Stevenson Street into the subterranean Jessie Square Garage. Lot 277 includes the property located between the Aronson Building parcel and Jessie Square, fronting along Mission Street. This property is the location of the proposed tower portion of the Project, and is currently unimproved except for a subsurface foundation structure. Lot 277 also includes the subterranean Jessie Square Garage, which is improved with the Jessie Square public plaza on the surface. The Project would reconfigure and utilize a portion of the Jessie Square garage, which is considered a part of the Project Site. However, the Jessie Square plaza located on the surface of a portion of Lot 277 would not be changed by this Project, and is not considered part of the Project Site.

SURROUNDING PROPERTIES & NEIGHBORHOOD

The Project Site is situated within the C-3-R Downtown Commercial zoning district, and is within the former Yerba Buena Center Redevelopment Area, a context characterized by intense urban development and a diverse mix of uses. Numerous cultural institutions are clustered in the immediate vicinity, including SFMOMA, the Yerba Buena Center for the Arts, the Museum of the African Diaspora, the Contemporary Jewish Museum, the Cartoon Art Museum, the Children's Creativity Museum, the California Historical Museum, and others. Multiple hotels and high-rise residential and office buildings are also located in the vicinity, including the W Hotel, the St. Regis Hotel and Residences, the Four Seasons, the Palace Hotel, the Paramount Apartments, One Hawthorne Street, the Westin, the Marriott Marquis, and the Pacific Telephone building. Significant open spaces in the vicinity include Yerba Buena

Gardens to the south, and Jessie Square immediately to the west of the project site. The Moscone Convention Center facilities are located one block to the southwest, and the edge of the Union Square shopping district is situated two blocks northwest of the site. The Financial District is located in the blocks to the northeast and to the north. The western edge of the recently-adopted Transit Center District Plan area is located one-half block to the east at Annie Street.

ENVIRONMENTAL REVIEW

On June 27, 2012, the Department published a draft Environmental Impact Report (EIR) for public review (Case No. 2008.1084E). The draft EIR was available for public comment until August 13, 2012. On August 2, 2012, the Commission conducted a duly noticed public hearing at a regularly scheduled meeting to solicit comments regarding the draft EIR. On March 7, 2013, the Department published a Comments and Responses document, responding to comments made regarding the draft EIR prepared for the Project. On March 21, 2013, the Planning Commission held a duly noticed public hearing and certified the final EIR for the Project.

HEARING NOTIFICATION REQUIREMENTS

TYPE	REQUIRED PERIOD	REQUIRED NOTICE DATE	ACTUAL NOTICE DATE	ACTUAL PERIOD
Classified News Ad	20 days	March 22, 2013	March 22, 2013	20 days
Posted Notice	20 days	March 22, 2013	March 22, 2013	20 days
Mailed Notice	20 days	March 22, 2013	March 22, 2013	20 days

PUBLIC COMMENT

To date, the Department has not received any specific communications related to the requested entitlements. However, numerous written and verbal comments were provided during the public comment period for the draft EIR prepared for the Project. These comments related to a wide variety of topic areas, and were addressed as part of the Comments and Responses document prepared during the environmental review of the Project.

ISSUES AND OTHER CONSIDERATIONS

- **Height Reclassification/Special Use District.** The Project proposes to reclassify the property from the 400-I to the 520-I Height and Bulk District, and to establish the "Yerba Buena Center Mixed-Use Special Use District" (SUD) on the property. The proposed SUD would modify specific Planning Code regulations related to permitted uses, the provision of a cultural/museum use within the SUD, floor area ratio limitations, dwelling unit exposure, height of rooftop equipment, bulk limitations, and curb cut locations, as follows:

  - Permitted Uses – The SUD specifies that development within the SUD must include a cultural, museum, or similar public-serving institutional use measuring at least 35,000 sq. ft., no fewer than 162 dwelling units, and ground-floor retail or cultural uses within the Aronson Building.

  - Floor Area Ratio – Section 124 establishes basic floor area ratios (FAR) for all zoning districts. As set forth in Section 124(a), the FAR for the C-3-R District is 6.0 to 1. Under Sections 123 and 128, the FAR can be increased to a maximum of 9.0 to 1 with the purchase of transferable development rights (TDR). The FAR of the Project would exceed the base maximum FAR limit, as well as the

maximum FAR that could be achieved through the purchase of TDR . The proposed SUD would exempt the Project from the FAR limitations of Section 124, and the Project would not require the purchase of TDR.

- Dwelling Unit Exposure – Dwelling units on the south side of the Project would have exposure onto Mission Street, and units within the east side of the Aronson Building would have exposure onto Third Street. However, units that solely have exposure to the Westin walkway to the north, to Jessie Square to the west, and east-facing units within the tower above the 20th floor do not meet the requirements for dwelling unit exposure onto on-site open areas. The proposed SUD would exempt the Project from the exposure requirements of Section 140. It should be noted that Jessie Square and the Westin walkway are open spaces that are unlikely to be developed with structures in the future. Therefore, units that face these areas would continue to enjoy access to light and air. Additionally, units in the Tower that face east would have exposure onto the open area above the Aronson Building, as well as the width of Third Street beyond. Therefore, these units would also continue to enjoy access to light and air.

- Rooftop Equipment Height - The Project would reach a height of 520 feet to the roof, with rooftop mechanical structures and screening reaching a maximum height of approximately 550 feet. The Project Sponsor has proposed to reclassify the Project Site from the 400-I Height and Bulk District to the 520-I Height and Bulk District. In addition, the SUD would allow for an additional 30 feet of height above the roof to accommodate mechanical equipment and screening.

- Bulk Limitations - Section 270 establishes bulk controls by district. In the "-I" Bulk District, all portions of the building above a height of 150 feet are limited to a maximum length dimension of 170 feet and a maximum diagonal dimension of 200 feet. Above a height of 150 feet, the maximum horizontal length of the Project is approximately 123 feet, and the maximum diagonal dimension is approximately 158 feet. Therefore, the Project complies with the bulk controls of the "-I" Bulk District. The proposed SUD would further limit the maximum bulk controls to the maximum horizontal and diagonal dimensions proposed for the Project.

- Curb Cuts - Section 155 regulates the design of parking and loading facilities. Section 155(r)(3) specifies that no curb cuts may be permitted on the segment of Mission Street abutting the Project, except through Conditional Use authorization. The SUD proposed for the project would modify the regulations of Section 155 to allow a curb cut on Mission Street through an exception granted through the Section 309 review process, rather than through Conditional Use authorization.

- **Planning Code Exceptions.** The project does not strictly conform to several aspects of the Planning Code. As part of the Section 309 review process, the Commission may grant exceptions from certain requirements of the Planning Code for projects that meet specified criteria. The Project requests exceptions regarding "Rear Yard" (Section 134), "Reduction of Ground-Level Wind Currents in C-3 Districts" (Section 148), "Limitations on Residential Accessory Parking" (Section 151.1), and "General Standards for Off-Street Parking and Loading" to allow curb cuts on Mission and Third Streets (Section 155). Compliance with the specific criteria for each exception is summarized below, and is described in the attached draft Section 309 motion.

  - **Rear Yard.** The Planning Code requires that the project provide a rear yard equal to 25 percent of the lot depth at the first level containing a dwelling unit, and at every subsequent level.

Exceptions to the rear yard requirements may be granted if the building location and configuration assure adequate light and air to the residential units and the open space provided. The property fronts on both Mission and Third Streets. Therefore, a complying rear yard would be situated toward the interior of the property, either abutting the Westin walkway or Jessie Square. It is unlikely that these open areas on the adjacent properties would be redeveloped in the foreseeable future. Therefore, adequate light and separation will be provided by the open spaces for residential units within the Project. The Project exceeds the Code requirements for common and private residential open space. In addition, residents would have convenient access to Jessie Plaza, Yerba Buena Gardens, and other large open public open spaces in the vicinity.

- **Ground Level Wind Currents.** The Code requires that new buildings in C-3 Districts must be designed so as to not cause ground-level wind currents to exceed specified comfort levels. When preexisting ambient wind speeds exceed the comfort levels, new buildings must be designed to attenuate ambient wind speeds to meet the specified comfort level. According to the wind analysis prepared for the project, 67 of the 95 test points in the vicinity currently exceed the pedestrian comfort level. Seven of the existing comfort exceedances would be eliminated, and nine new exceedances would be created, for a net increase of two exceedances. An exception under Section 148 (a) is therefore required. An exception to these requirements may be granted if the building cannot be shaped to meet the requirements without creating an ungainly building form and unduly restricting the development potential of the building site.

  The Project would result in relatively modest changes in ground-level winds. The average wind speed would increase slightly from 12.6 to 12.7 mph. the average wind speed across all test points (nine mph) would not change appreciably, nor would the amount of time (17 percent) during which winds exceed the applicable criteria. The Project would not create any new exceedances in areas used for public seating. The Project incorporates several design features intended to baffle winds and reduce ground-level wind speeds. The third floor of the museum cantilevers over the on-site open space below, shielding this open space and redirecting some wind flows away from Jessie Square. The exterior of this cantilever includes projecting fins that will capture and diffuse winds before reaching the ground. In addition, the exterior of the museum at the first and second floors is chamfered to avoid localized wind eddies that would result from a typical rectilinear exterior.

- **Residential Accessory Parking.** The Planning Code does not require that residential uses in the C-3-R District provide off-street parking, but allows up to .25 cars per dwelling unit as-of-right. Residential uses may provide up to .75 cars per dwelling unit (or up to one car for each dwelling unit with at least two bedrooms and at 1,000 square feet of floor area), if the Commission makes specific findings that the parking is provided in a space-efficient manner, that the additional parking will not adversely affect pedestrian, bicycle, and transit movement, that the parking will not degrade the quality of the streetscape, and that free carshare memberships will be provided to households in the project.

  While the parking is being provided at the maximum possible 1:1 ratio, the relatively small number of 215 off-street parking spaces is not expected to generate substantial traffic that would adversely impact pedestrian, transit, or bicycle movement. Given the proximity of the Project Site to the employment opportunities and retail services of the Downtown Core, it is expected that residents will prioritize walking, bicycle travel, or transit use over private automobile travel. In

addition, the proposed residential spaces are being reallocated from spaces within the existing garage that are currently used for general public parking. Residential uses generally generate fewer daily trips than the uses that are served by the existing public parking. Therefore, the conversion of spaces for residential use would not create new vehicular movement compared with existing conditions.

- **Curb Cuts.** Section 155 regulates the design of parking and loading facilities. Section 155(r)(4) specifies that no curb cuts may be permitted on the segment of Third Street abutting the Project. Within the C-3 Districts, the Planning Commission may grant an exception for this curb cut through the Section 309 Review process. Section 155(r)(3) specifies that no curb cuts may be permitted on the segment of Mission Street abutting the Project, except through Conditional Use authorization. The SUD proposed for the project would modify the regulations of Section 155 to allow a curb cut on Mission Street through an exception granted through the Section 309 review process, rather than through Conditional Use authorization.

  Currently, the access for the Jessie Square garage is provided by an ingress/ egress driveway from Stevenson Street, as well as an egress-only driveway that exits onto Mission Street. The Project would retain the Mission Street curb cut, but would relocate it slightly, approximately 2.5 feet to the east. This curb cut would continue its present function to provide egress from the Jessie Street garage, helping to divide vehicular travel between the Stevenson Street and Mission Street driveways.

  The Project also proposes to utilize an existing curb cut on Third Street for ingress-only vehicular access for residents. This curb-cut would access a driveway leading to two valet-operated car elevators, which would move vehicles into the Jessie Square garage. This curb cut was previously used to access a loading dock for the Aronson Building. This loading dock would be demolished as part of the Project. The EIR concludes that the Project, including the use of the existing curb-cuts on Third Street and Mission Street, would not result any significant pedestrian impacts, such as overcrowding on public sidewalks or creating potentially hazardous conditions. Given the limitations on the use of the curb cut (for inbound, valet service only), and given that the use of the curb cut would not cause any significant pedestrian impacts, the exception to allow the Project to utilize the Third Street curb cut is appropriate. However, because there could be improvements that might enhance pedestrian comfort and/or provide pedestrian amenities at the project site and in the vicinity, a condition of approval has been added requiring that the Project Sponsor collaborate with the Planning Department, DPW, and SFMTA to conduct a study to assess the existing pedestrian environment on the subject block, and to make recommendations for improvements that could be implemented to enhance pedestrian comfort and provide pedestrian amenities.

- **Shadow Impacts.** Section 295 (also known as Proposition K from 1984) requires that the Planning Commission disapprove any building permit application to construct a structure that will cast shadow on property under the jurisdiction of the Recreation and Park Department, unless it is determined that the shadow would not have an adverse impact on park use. In 1989, the Planning Commission and the Recreation and Park Commission adopted criteria for the implementation of Section 295, which included the adopting of Absolute Cumulative Shadow Limits (ACLs) for certain parks in and around the Downtown core.

A technical memorandum, prepared by Turnstone Consulting, was submitted on June 9, 2011, analyzing the potential shadow impacts of the Project to properties under the jurisdiction of the Recreation and Parks Department (Case No. 2008.1084K). The memorandum concluded that the Project would cast 337,744 sfh of net new shadow on Union Square on a yearly basis, which would be an increase of about 0.09% of the theoretical annual available sunlight ("TAAS") on Union Square.

October 11, 2012, the Planning Commission and the Recreation and Park Commission held a joint public hearing and raised the absolute cumulative shadow limits for seven open spaces under the jurisdiction of the Recreation and Park Department that could be shadowed by likely cumulative development sites in the Transit Center District Plan ("TCDP") Area, including Union Square. As part of this action, the Planning Commission and the Recreation and Park Commission designated the ACLs exclusively for shadows that are anticipated from the development of projects within the TCDP. Because the proposed Project lies outside the TCDP area, the Project requires a separate amendment to the ACL for Union Square.

The impact of the shadow cast by the Project on Union Square would be limited. The new shadow would occur for a limited amount of time during the year, from October 11th to November 8th, and from February 2nd to March 2nd for no more than one hour on any given day. The new shadow would not occur after 9:30 a.m. (the maximum new shadow range would be 8:30 a.m. to 9:30 a.m.), and would be consistent with the 1989 Memo qualitative standards for Union Square in that the new net shadow would not occur during mid-day hours. Usage of Union Square is relatively low in the morning hours.

REQUIRED ACTIONS

In order for the project to proceed, the Commission must 1) Adopt findings under the California Environmental Quality Act, including findings rejecting alternatives as infeasible and adopting a Statement of Overriding Considerations and Mitigation, Monitoring, and Reporting Programs; 2) Adopt Findings of Consistency with the General Plan and Priority Policies of Planning Code Section 101.1; 3) Approved jointly with the Recreation and Park Commission an increase of the absolute cumulative shadow limit for Union Square; 4) Adopt findings that the net new shadow cast by the project on Union Square will not be adverse to the use of the park, and to allocate to the Project the absolute cumulative shadow limit for Union Square; 5) Recommend that the Board of Supervisors approve a Height Reclassification to reclassify the site from the 400-I Height and Bulk District to the 520-I Height and Bulk District; 6) Recommend that the Board of Supervisors approve a Zoning Text Amendment and Zoning Map Amendment to establish the "Yerba Buena Center Mixed-Use Special Use District" (SUD) on the site; and, 7) Approve a Determination of Compliance pursuant to Planning Code Section 309, with requests for exceptions from Planning Code requirements including "Reduction of Ground-Level Wind Currents in C-3 Districts", "Off-Street Parking Quantity", "Rear Yard, and "General Standards for Off-Street Parking and Loading" to allow curb cuts on Third and Mission Streets.

BASIS FOR RECOMMENDATION

- The Project will add housing opportunities within an intense, walkable urban context.
- The Project will provide space for a permanent home for the Mexican Museum, within a cluster of art musuems and cultural instutions, in an area served by abundant existing and planned transit service.

- The Project will contribute to an operating endowment for the Mexican Museum.
- The Project will rehabilitate the existing Aronson Building, which is a Category I (Significant) Building in Article 11 of the Planning Code located within the New Montgomery-Mission-Second Street Conservation District
- The Project would enhance the City's supply of affordable housing by participating in the Inclusionary Affordable Housing Program. The project will also contribute an additional affordable housing fee to the Successor Agency equal to 8% of the residential units.
- Residents of the Project would be able to walk or utilize transit to commute and satisfy convenience needs without reliance on the private automobile. This pedestrian traffic will activate the sidewalks and open space areas in the vicinity.
- The project meets all applicable requirements of the Planning Code, aside from the exceptions requested pursuant to Planning Code Section 309, and the Planning Code provisions that would be modified by the proposed SUD.

RECOMMENDATION:	Approval with Conditions

Attachments:

Draft CEQA Findings, including Mitigation, Monitoring, and Reporting Program (to be transmitted under separate cover)
Draft Section 309 Motion
Draft Section 295 Resolution
Draft Section 295 Motion
Draft General Plan Referral Motion
Draft Resolution for Height Reclassification and Planning Code Text Amendment
- Including Draft Ordinance

Shadow Analysis Technical Memorandum
Residential Pipeline Report
Term Sheet, excerpt from Exclusive Negotiation Agreement between Project Sponsor and Successor Agency
Block Book Map
Aerial Photograph
Zoning District Map
Graphics Package from Project Sponsor

EXHIBIT 3

26 April 2013

Mr. Tom Lippe, Esq.
Lippe Gaffney Wagner LLP
329 Bryant Street, Suite 3D
San Francisco, CA 94107

Project: 706 Mission Street

Dear Mr. Lippe,

I have reviewed the draft EIR dated 27 June 2012 and *Chapter IV. Environmental Setting, Impacts and Mitigation F. Noise.* This letter report comprises an analysis critique and example calculations. Pile driving is the focus as the greatest source of noise and vibration.

NOISE –

Criteria -

Impact Evaluation on page IV.F.19, item NO-1 states "less than significant with mitigation". The following is stated in the 2nd paragraph on page IV.F.21:

> *"However, **as long as** construction activities that would occur as part of the proposed project **comply with the Noise Ordinance** and feasible mitigation measures to reduce noise levels at sensitive receptor locations are implemented, construction noise impacts would be **reduced to less-than-significant** levels and be consistent with all applicable construction noise standards established in the Noise Ordinance (Article 29 of the Police Code)."*

Note this merely states the obvious that if there is compliance with the Noise Ordinance, then the impact is less than significant. "Feasible mitigation measures" is vague and ambiguous. It seems likely there will be some cases where the Noise Ordinance will be exceeded even with mitigation. This is not stated.

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In Chapter IV.F. page 15 the San Francisco Noise Ordinance Section 2907 Construction Equipment is cited as:

> "...limits noise levels from construction equipment as specified under the ordinance to 80 dBA Leq at 100 feet..."

On the following page 16 Section 2909 is cited as:

> *"Section 2909 also states in subsection (d) that no fixed (**permanent**) noise source (as defined by the Noise Ordinance)..."*

The Noise Ordinance Section 2901 Definitions (e) states:

> *"Fixed source" means a machine or device capable of creating a noise level at the property upon which it is **regularly located**..."*

The word "permanent" is not used in this definition given by the Noise Ordinance and only appears in the EIR. It falsely implies the wording is from Section 2909. Due to the length of time pile driving will occur it may be considered "regularly located". In that case, the daytime limit would be **55 dBA** for residential property as per Section 2909.

It is stated on page IV.F.20 that pile driving could be as loud as 95 dBA at 100 feet. That implies 15 dBA of feasible mitigation would be needed to comply with San Francisco Noise Ordinance Section 2907 for Construction Equipment.

Direct comparison to these criteria above are not given in the EIR analyses.

Analyses -

In Chapter IV.F. page 22 Mitigation Measure M-NO-1a discussed giving notice for anticipated noise levels of 90 dBA, or greater. However, this is not fully defined as no distance is given. This needs to be clarified before it can be analyzed meaningfully and put into context.

A table of sensitive receptors, distances, and predicted interior noise levels both **with and without** mitigation is needed. The following sample calculations demonstrate what is missing in the draft EIR.

The following calculation uses the 101 dBA typical pile driving source level from Table IV.F.5 on page 20 and predicts interior noise impact at the Four Seasons Hotel at an approximate 300 feet distance. The parameters are attenuation over distance and window Transmission Loss. The attenuation value is given by fundamental physics. The window is assumed to be closed with mechanical ventilation. The Transmission Loss is an estimate based on typical exterior glazing. These attenuation and transmission loss parameters are not studied in the EIR. The result is at the Noise Ordinance interior residential limit. Buildings that are closer would clearly require mitigation.

Four Seasons Hotel					
pile driving	101	dB	at	50	feet
distance attenuation	-16	dB	over	300	feet
window Transmission Loss	-30	dB			
interior	55	dB			

The next calculation has assumed non-operable window Transmission Loss and distance attenuation (similar to the Four Seasons Hotel example above), but now taken at 90 feet for the Paramount Residences.

Paramount Residences				
pile driving	101	dB at	50	feet
distance attenuation	-5	dB over	90	feet
window Transmission Loss	-30	dB		
interior	66	dB		

The next example calculation adds a shroud on the pile driver as a mitigation. The shroud value of 10 dB is a rough estimate of the insertion loss. The EIR should state anticipated dB values for shrouds and all other potential mitigations.

Paramount Residences WITH mitigation				
pile driving	101	dB at	50	feet
shroud	-10	dB		
distance attenuation	-5	dB over	90	feet
window Transmission Loss	-30	dB		
interior	56	dB		

The following example is at the closest distance cited in the EIR - 40 feet. Again a

shroud is used, but still results in 8 dBA over the 55 dBA interior residential limit.

Westin Hotel WITH mitigation				
pile driving	101	dB at	50	feet
shroud	-10	dB		
distance attenuation	2	dB over	40	feet
window Transmission Loss	-30	dB		
interior	63	dB		

Operable windows are frequently assumed to have 15 dB Transmission Loss due to relatively small window area compared to the total wall area. Note that in all four of the example calculations above if operable windows are used the results would be a nominal 15 dBA louder.

Vibration -

Paragraph 4 on page IV.F.23 states:

"impact activities" (such as demolition and impact pile driving, if needed) within the project site could produce detectable vibration within nearby buildings, which could cause human annoyance and result in significant impacts ***unless proper mitigation is implemented."***

While "proper mitigation" is needed, it is never stated that "proper" is even possible. It may be that proper mitigation includes giving 14 days notice.

Table IV.F.6 on page 24 does show the results of calculations for vibration impact to various receptors without mitigation. They are just a fraction of a dB below the "threshold for potential annoyance" for "Other Off-site Buildings". It is unrealistic to assume three significant digits (79.6 VdB) of accuracy in the model to conveniently be less than the 80 VdB limit. Buildings that are closer will suffer annoyance and/or potential damage. Mitigation includes a community liaison to address complaints. However, this does not discuss if true mitigation will actually reduce impact to less than significant. Similar predictions with mitigation are needed.

MITIGATION -

There have been several mitigation techniques implied e.g. shrouds, pre-drilling, etc. It is also stated that these are to be employed "if feasible". There needs to be a technical comment in terms of the decibel benefit of each of these mitigations. Feasibility needs to be expanded to demonstrate the probability of any of the mitigations to actually be of benefit. If none of the mitigation techniques in application for this project is feasible, then there is no mitigation.

SUMMARY -

The full magnitude of the noise and vibration impact has been implied, but not fully disclosed and documented with calculations. The data show the predicted noise and vibration are both right at the limit at 300 feet distance. Mitigation of both noise and vibration will be needed, but perhaps there are locations where that may not be enough. There is a need to present in greater detail some of the mitigation techniques described and assure with calculations that noise and vibration will be less than the limits given.

Very truly yours,

Frank J. Hubach
President

FJH:fjh

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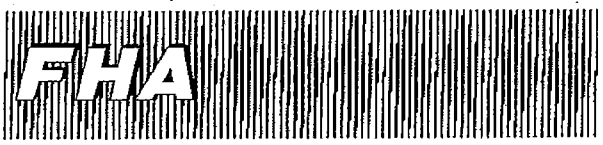

Frank J. Hubach - Expert Witness Experience

2007 Bendahan v. Dovichi, Superior Court, Sacramento County. Residential noise nuisance case. Conducted acoustical tests of air-conditioning equipment at residence as related to noise code and advised counsel. (case settled)

2007 500 Bryant Street HOA v. 500 Bryant Street Partners, Superior Court, San Francisco County. Conducted acoustical tests in condominiums and analyzed data related to traffic noise control and California Building Code. Made recommendations to counsel and participated in Joint Expert Meeting. (case pending)

2007 Paseo Plaza Homeowners' Assoc. v. SFC Block 4 Residential Associates, et al, Superior Court, Santa Clara County. Reviewed acoustical tests, construction documents and depositions of other experts. Gave deposition related to urban noise control for condominiums and California Building Code. (case settled)

2006 Smolich v. Meritage Homes and Sierra Pacific Industries v. Meritage Homes, Superior Court, Placer County. Reviewed test reports and conducted acoustical test related to City of Lincoln Conditions of Use for industrial noise and residential subdivision adjacency. Conducted noise mitigation analyses and offered design solutions. Provided extensive consultation to counsel and participated in acousticians meeting. (case pending)

2006 Lyle v. Bogavich, Superior Court, Sacramento County. Residential noise nuisance case. Conducted acoustical tests of wood working tools at residence as related to noise code.

2003 Seagate Technology LLC and CH2M Hill Industrial Design Corporation and Tasso Katselas Associates, Pittsburgh, PA. Reviewed construction documents, test reports and design reports relative to excessive vibration, structural dynamics and mechanical equipment vibration control for sensitive electronics cleanroom. Supervised independent design analyses using Finite Element Analyses. Provided consultation to counsel regarding industry standards, design criteria and procedures, and potential for mitigation.

2001 Retained by counsel for pre-filing investigation. Conducted acoustical tests of interior noise at residence in San Jose, California. Civil case regarding construction deficiency and noise code.

2001 Retained by counsel for pre-filing investigation. Conducted acoustical tests of interior noise at residence in Oakland, California. Civil case regarding mechanical equipment noise control and industry standards.

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Frank J. Hubach
Expert Witness Experience

2000 OC America Construction, Inc. v. KCH Services, Inc., Superior Court, State of Washington. Reviewed acoustical tests, construction documents and depositions. Gave deposition in arbitration proceedings for construction litigation regarding specifications for noise control of large industrial exhaust systems.

1999 Kidd v. City of Fairfield, et al, United States District Court, Eastern District of California. Reviewed depositions and investigated crime site regarding speech intelligibility during incident. Provided consultation to counsel.

1997 Orlando v. Robbins, Superior Court, San Francisco County. Conducted acoustical tests in apartment and analyzed data related to noise ordinance. Consulted with counsel before and during deposition of acoustical expert.

1993 Lakeside v. State of California, Superior Court, Alameda County. Conducted acoustical tests regarding noise impact to residences from proposed CalTrans freeway construction. Gave deposition.

1991 Retained as expert in Municipal Court, San Francisco. Conducted acoustical tests and testified in Civil case regarding nightclub noise and noise ordinance.

1989 Retained as expert in Municipal Court, Berkeley, CA. Conducted acoustical tests. Civil case regarding acoustical privacy, neighbor's noise and noise ordinance.

1983, 1987 Retained as expert by Alameda County Public Defender. Conducted acoustical tests at crime scene. Criminal case regarding speech intelligibility at crime scene.

1986 Retained as expert in Superior Court, Marin County. Criminal case regarding acoustical privacy and intelligibility in courtroom between counsel and handcuffed client in murder case (shackles motion). Advised counsel regarding acoustical standards and test methodologies.

1984 Stephens v. Stephens, Superior Court, Marin County. Conducted acoustical tests at crime scene. Criminal case regarding speech intelligibility at crime scene.

1982 "Wrongful Death Case" v. Richmond Police ("Richmond Cowboys"), Federal Court, San Francisco. Retained as expert in high profile case. Conducted objective and subjective acoustical tests and recreated crime scene. Provided extensive court room testimony regarding speech intelligibility at crime scene.

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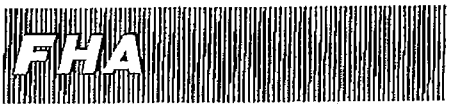
RESUME



FRANK J. HUBACH

Frank J. Hubach, President of FHA, has over twenty years experience in noise and vibration control for advanced technology, industrial and commercial projects. Design and testing of facilities where micro-vibration is of great concern for metrology and lithography has been his focus. Projects range from comprehensive campus master planning to remodeling in the private, public and institutional sectors. Structural dynamics and mechanical systems for cleanrooms and laboratories have been the specialty. His musical and audio engineering background also makes him well suited for acoustic design of critical listening rooms for recording, broadcast and performance.

Mr. Hubach has over thirty years experience in construction, electronics and audio engineering. He is considered a leading authority on noise and vibration control for microelectronics manufacturing. Mr. Hubach has published several papers and been a speaker at numerous conferences and seminars. He has given expert witness testimony in state and federal courts for acoustic forensics, noise control and construction.

EDUCATION

1971 Bachelor of Engineering Electrical Engineering	New York University Bronx, NY
1970 to 1972 Coursework Graduate Studies in Acoustics and Electronics	New York University Bronx, NY

PROFESSIONAL HISTORY

1984 to Present President	Frank Hubach Associates, Inc. Richmond, CA
1978 to 1984 Associate/V.P./Treas./President	Acoustical Consultants, Inc. San Francisco, CA
1975 to 1978 President/Owner/Audio Engineer	Pacific Application Systems Mill Valley, CA
1974 to 1975 V.P./Commercial Contractors	American Wall Systems, Inc. Middletown, NY
1971 to 1974 Recording Engineer	Record Plant Recording/Freelance New York, NY

SEMINARS/PAPERS

SEMINARS
(contributing speaker)

UNIVERSITY OF WISCONSIN

"Controlling Vibration in Microelectronic Manufacturing Facilities" - 1989 and 1990

UNIVERSITY OF GLASGOW

"Design of Vibration Free Environments for Precision Manufacturing" - 1986

PAPERS

Advanced Techniques for Controlling Building Vibration. 1993 CleanRooms West Convention Conference in Santa Clara, CA, September 1993.

Hubach, Frank J. and Edwards, Bob, Empirical Determination of Sound Isolation Requirements for Recording Studio Isolation Booths. 93rd Audio Engineering Society (AES) Convention in San Francisco, CA, October 1992.

Controlling Horizontal Microscale Vibration in Building Floor Entablatures. 1991 Symposium on Optical Science and Engineering (for SPIE) in San Jose, CA, October 1991.

Vibration Attenuation in Soil. National Conference on Noise Control Engineering (for INCE) in Tarrytown, NY, July 1991.

Neal, Stephen R.W. and Hubach, Frank J., Historic Artwork Preservation and Vibration Mitigation During Building Renovation. National Conference on Noise Control Engineering (for INCE) in Tarrytown, NY, July 1991.

EXHIBIT 4

ARTICLE 29: REGULATION OF NOISE

Sec. 2900.	Declaration of Policy.
Sec. 2901.	Definitions.
Sec. 2902.	Noise Level Measurement.
Sec. 2904.	Waste Disposal Services.
Sec. 2905.	Vehicles and Nonstationary Source Repairs.
Sec. 2907.	Construction Equipment.
Sec. 2908.	Construction Work at Night.
Sec. 2909.	Noise Limits.
Sec. 2910.	Variances.
Sec. 2912.	Additional Responsibilities of the Department of Public Health and the Department of Building Inspection.
Sec. 2913.	Use of Amplified Sound on Unenclosed Tour Buses.
Sec. 2916.	Enforcement.
Sec. 2917.	Violations.
Sec. 2918.	City Agency Noise Task Force.
Sec. 2920.	Authority to Adopt Rules and Regulations.
Sec. 2922.	Preemption.
Sec. 2924.	City Undertaking Limited to Promotion of General Welfare.
Sec. 2926.	Severability.

SEC. 2900. DECLARATION OF POLICY.

(a) Building on decades of scientific research, the World Health Organization and the U.S.

Environmental Protection Agency have determined that persistent exposure to elevated levels of community noise is responsible for public health problems including, but not limited to: compromised speech, persistent annoyance, sleep disturbance, physiological and psychological stress, heart disease, high blood pressure, colitis, ulcers, depression, and feelings of helplessness.

(b) The General Plan for San Francisco identifies noise as a serious environmental pollutant that must be managed and mitigated through the planning and development process. But given our dense urban environment. San Francisco has a significant challenge in protecting public health from the adverse effects of community noise arising from diverse sources such as transportation, construction, mechanical equipment, entertainment, and human and animal behavior.

(c) In order to protect public health, it is hereby declared to be the policy of San Francisco to prohibit unwanted, excessive, and avoidable noise. It shall be the policy of San Francisco to maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means, in those areas of San Francisco where noise levels are above acceptable levels as defined by the World Health Organization's Guidelines on Community Noise.

(d) It shall be the goal of the noise task force described in this Article to determine if there are additional adverse and avoidable noise sources not covered in this statute that warrant regulation and to report to the Board of Supervisors and recommend amendments to this Article over the next three years. In addition, the noise task force shall develop interdepartmental mechanisms for the efficient disposition and any enforcement required in response to noise complaints.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2901. DEFINITIONS.

(a) "Ambient" means the lowest sound level repeating itself during a minimum ten-minute period as measured with a type 1, precision sound level meter, using slow response and "A " weighting. The minimum sound level shall be determined with the noise source at issue silent, and in the same location as the measurement of the noise level of the source or sources at issue. However, for purposes of this chapter, in no case shall the ambient be considered or determined to be less than: (1) Thirty-five dBA for interior residential noise, and (2) Forty-five dBA in all other locations. If a significant portion of the ambient is produced by one or more individual identifiable sources of noise that contribute cumulatively to the sound level and may be operating continuously during the minimum ten-minute measurement period, determination of the ambient shall be accomplished with these separate identifiable noise sources silent or otherwise removed or subtracted from the measured ambient sound level.

(b) "Director" means the Director or department head of any City department having administrative or enforcement responsibilities under this Article or any other provision of the Municipal Code regarding noise control, as well as his or her designee.

(c) "Dwelling Unit" means

(1) a dwelling space consisting of essentially complete independent living facilities for one or more persons, including, for example, permanent provisions for living and sleeping;

(2) a room in group housing, even if such room lacks private cooking facilities and private plumbing facilities, such as rooms in senior citizen housing, single room occupancy or residential hotels, dorms, hostels, or shelters; or,

(3) a housekeeping room as defined in the Housing Code.

(d) "Emergency work" means work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from an imminent exposure to danger or work by private or public utilities when restoring utility service. This term shall not include testing of emergency equipment.

(e) "Fixed source" means a machine or device capable of creating a noise level at the property upon which it is regularly located, including but not limited to: industrial and commercial process machinery and equipment, pumps, fans, air-conditioning apparatus or refrigeration machines.

(f) "Low frequency ambient" means the lowest sound level repeating itself during a ten-minute period as measured with a sound level meter, using slow response and "C" weighting. The minimum sound level shall be determined with the music or entertainment noise source at issue silent, and in the same location as the measurement of the noise level of the source or sources at issue. However, for purposes of this chapter, in no case shall the local ambient be considered or determined to be less than: (1) Forty-five dBC for interior residential noise, and (2) Fifty-five dBC in all other locations. If a significant portion of the ambient is produced by one or more individual identifiable sources that would otherwise be operating continuously during the minimum ten-minute measurement period, determination of the low-frequency ambient shall be accomplished with these separate identifiable noise sources silent or otherwise removed or subtracted from the measured ambient sound.

(g) "Noise level" means the maximum continuous sound level or repetitive peak sound level, produced by a source or group of sources as measured with a sound level meter. In order to measure a noise level, the controls of the sound level meter should be arranged to the setting appropriate to the type of noise being measured. For example, the settings should be slow response for continuous noise sources and fast response for noises with rapid onset and decline.

(h) "Person" means a person, firm, association, copartnership, joint venture, corporation, or any entity, public or private in nature, but shall not include the City and County of San Francisco.

(i) "Place of Entertainment" has the same meaning as the term is defined in San Francisco Police Code Section 1060.

(j) "Powered construction equipment" means any tools, machinery, or equipment used in connection with construction operations which can be driven by energy in any form other than manpower, including all types of motor vehicles when used in the construction process of any construction site, regardless of whether such construction site be located on-highway or off-highway, and further including all helicopters or other aircraft when used in the construction process except as may be preempted for regulation by State or Federal law.

(k) "Property plane" means a vertical plane including the property line that determines the property boundaries in space.

(l) "Public Property " means property leased or owned by a governmental entity, to which the public or a substantial group of persons has access, including but not limited to any street, highway, parking lot, plaza, transportation facility, school, place of amusement, park, or playground located within the City and County of San Francisco.

(m) "Residential Property" means any property that has at least one dwelling unit and has been

approved for human habitation by the City and County of San Francisco.

(n) "Sound level," expressed in decibels (dB), means a logarithmic indication of the ratio between the acoustic energy present at a given location and the lowest amount of acoustic energy audible to sensitive human ears and weighted by frequency to account for characteristics of human hearing, as given in the American National Standards Institute Standard S1.1, "Acoustic Terminology," paragraph 2.9, or successor reference. All references to dB in this chapter refer to the A-level or C-level weighting scale, abbreviated dBA or dBC, measured as set forth in this section.

(o) "Limited Live Performance Locale" has the same meaning as the term is defined in San Francisco Police Code Section 1060.

(Amended by Ord. 309-73, App. 8/10/73; Ord. 278-08, File No. 081119, App. 11/25/2008; Ord. 172-11, File No. 110506, App. 9/12/2011, Eff. 10/12/2011; Ord. 100-12, File No. 120405, App. 6/8/2012, Eff. 7/8/2012)

SECS. 2901.1-2901.14. RESERVED.

(Repealed by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2902. NOISE LEVEL MEASUREMENT.

A person measuring the outside noise level shall take measurements with the microphone not less than four feet above the ground, at least four and one-half feet distant from walls or similar large reflecting surfaces, and protected from the effects of wind noises and other extraneous sounds by the use of appropriate windscreens. A person measuring the inside noise level measurements shall take measurements with the microphone at least three feet distant from any wall, and the average measurement of at least three microphone positions throughout the room shall be used to determine the inside noise level measurement.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2903. RESERVED.

(Added by Ord. 274-72, App. 9/20/72; repealed by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2904. WASTE DISPOSAL SERVICES.

It shall be unlawful for any person authorized to engage in waste removal, collection, or disposal services or recycling removal or collection services to provide such services so as to create an unnecessary amount of noise, in the judgment of the Director of Public Health. For the purpose of this Section, noise emitted by equipment shall not be deemed unnecessary or without justification if the person engaged in such services hast to the extent the Director of Public Health has Judged reasonably feasible, incorporated available sound-deadening devices into equipment used in rendering those services.

Notwithstanding the foregoing, it shall be unlawful for any person authorized to engage in waste removal, collection, or disposal services, or recycling removal or garbage-collection services to operate hydraulic compaction or mechanical processing systems on any truck-mounted waste, recycling, or

garbage loading and/or compacting equipment or similar mechanical device so as to create mechanical or hydraulic noise exceeding 75 dBA when measured at a distance of 50 feet from the equipments. This maximum noise level does not apply to the noise associated with crushing, impacting, dropping, or moving garbage on the truck, but only to the truck's mechanical processing system. All other waste disposal or collection noises are subject to the Director of Public Health's judgment as described in this Section.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2905. VEHICLE AND NONSTATIONARY SOURCE REPAIRS.

It shall be unlawful for any person within any residential area of the City and County to repair, rebuild, or test any motor vehicle or nonstationary source in such a manner as to cause unnecessary, excessive or offensive noise.

(Added by Ord. 274-72, App. 9/20/72)

SEC. 2906. RESERVED.

(Added by Ord. 274-72, App. 9/20/72; repealed by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2907. CONSTRUCTION EQUIPMENT.

(a) Except as provided for in Subsections (b), (c), and (d) hereof, it shall be unlawful for any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance.

(b) The provisions of Subsections (a) of this Section shall not be applicable to impact tools and equipment, provided that such impact tools and equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation.

(c) The provisions of Subsection (a) of this Section shall not be applicable to construction equipment used in connection with emergency work.

(d) Helicopters shall not be used for construction purposes for more than two hours in any single day or more than four hours in any single week.

(Amended by Ord. 309-73, App. 8/10/73; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2908. CONSTRUCTION WORK AT NIGHT.

It shall be unlawful for any person, between the hours of 8:00 p.m. of any day and 7:00 a.m. of the following day to erect, construct, demolish, excavate for, alter or repair any building or structure if the noise level created thereby is in excess of the ambient noise level by 5 dBA at the nearest property plane, unless a special permit therefor has been applied for and granted by the Director of Public Works or the Director of Building Inspection. In granting such special permit the Director of Public Works or the Director of Building Inspection shall consider: if construction noise in the vicinity of the proposed work site would be less objectionable at night than during daytime because of different population levels or different neighboring activities if obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during daytime; if the kind of work to be performed emits noises at such a low level as to not cause significant disturbance in the vicinity of the work site, if the neighborhood of the proposed work site is primarily residential in character wherein sleep could be disturbed: if great economic hardship would occur if the work were spread over a longer timers if the work will abate or prevent hazard to life or property; and if the proposed night work is in the general public interest. The Director of Public Works or the Director of Building Inspection shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise emissions, as required in the public interest.

The provisions of this Section shall not be applicable to emergency work.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2909. NOISE LIMITS.

(a) **Residential Property Noise Limits.**

(1) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on residential property over which the person has ownership or control, a noise level more than five dBA above the ambient at any point outside of the property plane.

(2) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on multi-unit residential property over which the person has ownership or control, a noise level more than five dBA above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

(b) **Commercial And Industrial Property Noise Limits.** No person shall produce or allow to be produced by any machine or device, music or entertainment or any combination of same, on commercial or industrial property over which the person has ownership or control, a noise level more than eight dBA above the local ambient at any point outside of the property plane. With respect to noise generated from a licensed Place of Entertainment or licensed Limited Live Performance Locale, in addition to the above dBA criteria a secondary low frequency dBC criteria shall apply to the definition above. No noise or music associated with a licensed Place of Entertainment or licensed Limited Live Performance Locale shall exceed the low frequency ambient noise level defined in Section 2901(f) by more than 8 dBC.

(c) **Public Property Noise Limits.** No person shall produce or allow to be produced by any machine or device, or any combination of same, on public property, a noise level more than ten dBA above the local ambient at a distance of twenty-five feet or more, unless the machine or device is being

operated to serve or maintain the property or as otherwise provided in this Article.

(d) **Fixed Residential Interior Noise Limits.** In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

(e) **Noise Caused By Activities Subject To Permits From the City and County of San Francisco.** None of the noise limits set forth in this Section apply to activity for which the City and County of San Francisco has issued a permit that contains noise limit provisions that are different from those set forth in this Article.

(Added by Ord. 274-72, App. 9/20/72; amended by Ord. 278-08, File No. 081119, App. 11/25/2008; Ord. 172-11, File No. 110506, App. 9/12/2011, Eff. 10/12/2011)

SEC. 2910. VARIANCES.

The Directors of Public Health, Public Works, Building Inspection, or the Entertainment Commission, or the Chief of Police may grant variances to noise regulations, over which they have jurisdiction pursuant to Section 2916. All administrative decisions granting or denying variances are appealable to the San Francisco Board of Appeals.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2911. RESERVED.

(Added by Ord. 274-72, App. 9/20/72; repealed by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2912. ADDITIONAL RESPONSIBILITIES OF THE DEPARTMENT OF PUBLIC HEALTH AND THE DEPARTMENT OF BUILDING INSPECTION.

(a) The Department of Public Health shall designate a Noise Prevention and Control Officer to coordinate the responsibilities of the Department of Public Health under this Article and the Health Code with respect to noise.

(b) The Department of Public Health may monitor the noise complaint response by all City agencies charged with regulating noise under this Article. City Departments and Agencies charged with responsibility for responding to noise complaints shall cooperate and share information with the Department of Public Health in tracking and monitoring complaint responses.

(c) At least every two years the Department of Public Health shall make recommendations to the Planning Commission for noise assessment and prevention in land use planning or environmental review.

(d) The Department of Public Health may investigate and take enforcement action on any noise complaint resulting in human health impacts. The Director of the Department of Public Health shall be the sole determiner of what constitutes a human health impact with respect to noise.

(e) The Department of Building Inspection shall send acoustical reports submitted with each building permit to the Department of Public Health within 15 days of the date the building permit applicant submits the acoustical report to the Department of Building Inspection.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2913. USE OF AMPLIFIED SOUND ON UNENCLOSED TOUR BUSES.

(a) For purposes of this Section, "Unenclosed Tour Bus" shall mean a privately-owned passenger vehicle for hire with a capacity of nine or more passengers, including the driver, that:

(1) is used primarily for the conveyance of passengers over the public streets, for the purpose of visiting or viewing places of interest; and

(2) lacks either a permanently attached solid roof covering all seating areas of the vehicle or permanently attached side panels, which with any doors or windows closed, fully enclose the sides of the vehicle.

(b) Effective October 1, 2012, it shall be a violation of this Section for any Person to operate an Unenclosed Tour Bus using electronically amplified sound to communicate with passengers without having received authorization from the Director of the Department of Public Health or his or her designee ("Director of Public Health") that the sound system is in compliance with the requirements of this Section.

(c) The Director of Public Health may approve the electronically amplified sound system on an Unenclosed Tour Bus and issue a Certificate of Authorization to Operate Electronically Amplified Sound on Unenclosed Tour Buses ("Certificate") where the Director of Public Health determines that either:

(1) At maximum volume and without modification, the sound system is not audible at a distance of 50 or more feet outside the vehicle with the vehicle windows open and any operable or removable roof or side panels opened or removed; or

(2) The sound system includes volume limiting technology, which in its default mode prevents the sound system from being heard at a distance of 50 or more feet outside the vehicle. Such a system may include an override mode for use in emergencies.

(d) Following a hearing, the Director of Public Health may suspend or revoke a Certificate for any violation of this Section. The Director of Public Health may base such action on 1) the Director of Public Health's determination that the Certificate holder has violated this Section; or 2) a citation from the San Francisco Police Department for any violation of this Section or California Vehicle Code Section 27007, or any successor provisions. A Certificate holder may appeal the suspension or revocation of a Certificate to the Board of Appeals.

(e) The Owner or Operator of the Unenclosed Tour Bus shall post the Certificate in a clearly visible location on the exterior of the vehicle.

(f) The Director of Public Health shall review the compliance history of each approved Unenclosed Tour Bus and reinspect the Unenclosed Tour Bus annually, and upon any change in ownership, and if found in compliance with this Section and any implementing regulations, the Director of Public Health may reissue the Certificate.

(g) The Director of Public Health shall report to the Board of Supervisors one year from the effective date of this ordinance and every two years thereafter:

(1) the number of Certificates issued to Unenclosed Tour Buses;

(2) the number of complaints received by the Director of Public Health regarding Unenclosed Tour Buses; and

(3) the effectiveness of the Department of Public Health's program to regulate amplified sound from Unenclosed Tour Buses and any suggested changes to the program.

(h) Decisions by the Director of Public Health regarding the issuance or reissuance of Certificates may be appealed to the Board of Appeals.

(i) The fee for the initial application to obtain a Certificate and for each yearly renewal shall be $394, payable to the Director of Public Health. The initial application fee shall be due at the time of application. The annual fee to renew the Certificate shall be due on July 1.

Beginning with fiscal year 2013-2014, fees set forth in this Section may be adjusted each year, without further action by the Board of Supervisors, as set forth in this Section.

Not later than April 1, the Director of Public Health shall report to the Controller the revenues generated by the fees for the prior fiscal year and the prior fiscal year's costs of operation, as well as any other information that the Controller determines appropriate to the performance of the duties set forth in this Section.

Not later than May 15, the Controller shall determine whether the current fees have produced or are projected to produce revenues sufficient to support the costs of providing the services for which the fees are assessed and that the fees will not produce revenue that is significantly more than the costs of providing the services for which the fees are assessed.

The Controller shall, if necessary, adjust the fees upward or downward for the upcoming fiscal year as appropriate to ensure that the program recovers the costs of operation without producing revenue which is significantly more than such costs. The adjusted rates shall become operative on July 1.

(j) The requirements of this Section shall not apply to an Unenclosed Tour Bus equipped with and using electronically amplified sound to communicate with passengers where all non-emergency communications through the system are audible to passengers only through technology designed to make such communications audible only to the individual listener, such as individual headsets or headphones.

(k) The noise standards set forth in Section 2909 shall not apply to Unenclosed Tour Buses.

(Added by Ord. 100-12, File No. 120405, App. 6/8/2012, Eff. 7/8/2012)

(Former Sec. 2913 repealed by Ord. 278-08, File No. 081119, App. 11/25/2008)

SECS. 2914-2915. RESERVED.

(Repealed by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2916. ENFORCEMENT.

The Director of Public Health may enforce the provisions of Section 2904, 2909, and 2912 of this Article.

The Department of Building Inspection may enforce the provisions of Sections 2907 and 2908 of this Article insofar as said provisions relate to construction operations conducted on private property under appropriate permits issued pursuant to the San Francisco Building Code, Housing Code, Electrical Code and Plumbing Code. Insofar as these provisions relate to construction operations conducted on publicly-owned property subject to the police power of the City and County of San Francisco, the Department of Public Worlds may enforce the provisions of Sections 2907 and 2908 of this Article. The Executive Director of the Entertainment Commission may enforce noise standards associated with licensed Places of Entertainment and licensed Limited Live Performance Locales.

The Chief of Police or his or her designee ("Chief of Police") shall also enforce the provisions of Section 2913. The Chief of Police shall make law enforcement activities related to Unenclosed Tour Buses under Section 2913 a priority for one year after the effective date of the ordinance enacting that Section.

The Chief of Police may enforce the provisions of this Article that relate to noise created by humans or any other noise source not specifically assigned or designated to another Department or Agency.

(Added by Ord. 274-72, App. 9/20/72; amended by Ord. 278-08, File No. 081119, App. 11/25/2008; Ord. 172-11, File No. 110506, App. 9/12/2011, Eff. 10/12/2011; Ord. 100-12, File No. 120405, App. 6/8/2012, Eff. 7/8/2012)

SEC. 2917. VIOLATIONS.

(a) **Criminal Penalties.** Any person violating any of the provisions of this Article shall be deemed guilty of an infraction and upon conviction thereof, shall be fined in an amount not exceeding (1) $100 for a first violation of this Article; (2) $200 for a second violation of this Article; and (3) up to $300 for each additional violation of this Article within one year of the date of a second or subsequent violation. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such.

(b) **Administrative Penalties.** Administrative penalties shall be assessed and collected by the Departments specified in Section 2916 in accordance with San Francisco Administrative Code Chapter 100.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2918. CITY AGENCY NOISE TASK FORCE.

(a) **Membership.**

(1) **Voting Members.** The Director of Public Health shall convene and coordinate an interdepartmental task force for the purpose of coordinating and evaluating enforcement of this Article and recommending to the Planning Department necessary changes in the General Plan to address, maintain, and improve the acoustical quality of the San Francisco environment. The task force shall be comprised of one representative from each of the following City departments: the Department of Public Health, the Department of Public Works, the Department of Building Inspection, the Planning Department, the Police Department, the Entertainment Commission, and Animal Care and Control. The members of the task force shall be appointed by their respective Department Directors.

(2) **Non-Voting Members.** The Task Force shall invite other City departments, such as the Fire Department, the 311 Customer Service Center, and the Municipal Railway, to send a representative to sit as a non-voting member of the task force with respect to vehicle noise, and community representatives when the Director of Public Health deems necessary additional expertise, resources, or other assistance.

(b) **Meetings.** The task force shall meet on a regular basis and exchange information regarding noise abatement matters including but not limited to: motor vehicle noise control, coordination of complaint response, animal noise control, implementation of building codes related to acoustical insulation of new residential construction, oversight of complaints regarding entertainment noise, implementation of General Plan Policies related to noise, environmental review, maintenance and upgrades to noise control ordinance as needed, and coordination of noise abatement activities that involve more than one department. Upon the Director of Public Health's request, the Task Force shall provide consultation services and assistance to the Director of Public Health for the purpose of facilitating coordinated implementation of the duties imposed on the Director of Public Health by this ordinance.

(c) **Reporting.** The Director of Public Health shall report to the Board of Supervisors every year for three years with respect to progress and findings of the Task Force and any necessary changes in the Regulation of Noise Ordinance, Article 29, San Francisco Police Code, that may be required to maintain and improve the acoustical environment of San Francisco. At the end of three years, the task force shall sunset unless continued by the Board of Supervisors.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2920. AUTHORITY TO ADOPT RULES AND REGULATIONS.

The Director of Public Health may issue and amend rules, regulations, standards, guidelines, or conditions to implement and enforce this Article.

(Added by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2922. PREEMPTION.

In adopting this Article, the Board of Supervisors does not intend to regulate or affect the rights or authority of the State to do those things that are required, directed, or expressly authorized by Federal or State law. Further, in adopting this Article, the Board of Supervisors does not intend to prohibit that which is prohibited by Federal or State law. This Article shall be construed so as not to conflict with applicable federal or state laws, rules, or regulations. Nothing in this Article shall authorize any City agency or department to impose any duties or obligations in conflict with limitations on municipal authority established by state or federal law at the time such agency or department action is taken.

(Added by Ord. 278-08, File No. 081119, App. 11/25/2008; amended by Ord. 100-12, File No. 120405, App. 6/8/2012, Eff. 7/8/2012)

SEC. 2924. CITY UNDERTAKING LIMITED TO PROMOTION OF GENERAL WELFARE.

In undertaking the adoption and enforcement of this Article, the City is assuming an undertaking only to promote the general welfare. The City does not intend to impose the type of obligation that would allow a person to sue for money damages for an injury that the person claims to suffer as a result of a City officer or employee taking or failing to take an action with respect to any matter covered by this Article.

(Added by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2926. SEVERABILITY.

If any of the provisions of this Article or the application thereof to any person or circumstance is held invalid, the remainder of this Article, including the application of such part or provisions to persons or circumstances other than those to which it is held invalid, shall not be affected thereby and shall continue in full force and effect. To this end, the provisions of this Article are severable.

(Added by Ord. 278-08, File No. 081119, App. 11/25/2008)

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Notice of Electronic Transmittal

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San Francisco,
CA 94103-2479

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415.558.6409

Planning
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Notice of Submission of Appeal Response to the Appeals of the EIR Certification for the 706 Mission Street - The Mexican Museum and Residential Tower Project

CASE NO. 2008.1084E, 706 MISSION STREET – THE MEXICAN MUSEUM AND RESIDENTIAL TOWER PROJECT

DATE: April 29, 2013

TO: Angela Calvillo, Clerk of the Board of Supervisors

FROM: Sarah B. Jones, Acting Environmental Review Officer – (415) 575-9034

Debra Dwyer, Environmental Planner – Planning Department (415) 575-9031

RE: Board File No. 130308; Planning Department Case File No. 2008.1084E

In compliance with *San Francisco's Administrative Code* Section 8.12.5 "Electronic Distribution of Multi-Page Documents", the Planning Department has submitted a multi-page Appeal Response to the Appeals of the Environmental Impact Report Certification for the 706 Mission Street - The Mexican Museum and Residential Tower Project in digital format. **A hearing on the appeals will be held before the San Francisco Board of Supervisors on May 7, 2013 at 4:00 pm.**

One hard copy of the Planning Department Appeals Response, with attachments including the Appeal letters, EIR Certification Motion, Draft EIR and Responses to Comments documents and 18 CDs with the same information have been provided to the Clerk of the Board for distribution to the Supervisors. Additional hard copies may be requested by contacting Debra Dwyer of the Planning Department at 415-575-9031. The environmental documents (DEIR and RTC) are also available online from the Planning Department Web site at http://tinyurl.comsfceqadocs under Case number 2008.1084E.

SAN FRANCISCO
PLANNING DEPARTMENT

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BOARD OF SUPERVISORS
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2013 APR 29 PM 3:58

MEMO

APPEAL OF EIR CERTIFICATION
706 Mission Street – The Mexican Museum and Residential Tower Project

1650 Mission St.
Suite 400
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DATE:	April 29, 2013
TO:	President David Chiu and Members of the Board of Supervisors
FROM:	Sarah B. Jones, Acting Environmental Review Officer – (415) 575-9034 Debra Dwyer, Environmental Planner – (415) 575-9031
RE:	File No. 130308, Planning Department Case No. 2008.1084E
PROJECT SPONSOR:	706 Mission Street Co., LLC
APPELLANTS:	Thomas N. Lippe, Lippe Gaffney Wagner LLP, on behalf of 765 Market Street Residential Owners Association Susan Brandt-Hawley, Brandt-Hawley Law Group, on behalf of Tenants and Owners Development Corporation and Yerba Buena Neighborhood Consortium LLC Thomas N. Lippe, Lippe Gaffney Wagner LLP, on behalf of Friends of Yerba Buena, Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins
HEARING DATE:	May 7, 2013
ATTACHMENTS:	Letter A: Appeal Letter from Thomas N. Lippe, Lippe Gaffney Wagner LLP (with Exhibits 1 and 2), Dated April 2, 2013 Letter B: Appeal Letter from Susan Brandt-Hawley, Brandt-Hawley Law Group, Dated March 29, 2013, received by the Clerk of the Board of Supervisors on April 9, 2013 Letter C: Supplement to Appeal Letter A from Thomas N. Lippe, Lippe Gaffney Wagner LLP, Dated April 10, 2013 Letter D: Appeal Letter from Thomas N. Lippe, Lippe Gaffney Wagner LLP (with Exhibits 1 and 2), Dated April 10, 2013 E: Planning Commission Certification Motion No. 18829 F: The DEIR and Responses to Comments documents have been provided on CDs for the convenience of the readers. These documents are also available online at the Planning Department's Web site http://tinyurl.com/sfceqadocs under case file number 2008.1084E.

INTRODUCTION

This memorandum, including Attachments A through E and enclosure F, comprise a response ("Appeals Response") to letters of appeal ("Letter A", dated April 2, 2013, from Thomas N. Lippe, Lippe Gaffney Wagner LLP, on behalf of 765 Market Street Residential Owners Association, "Letter B", dated March 29, 2013 but received by the Clerk of the Board of Supervisors on April 9, 2013, from Susan Brandt-Hawley, Brandt-Hawley Law Group, on behalf of Tenants and Owners Development Corporation and Yerba Buena Neighborhood Consortium LLC [TODCO and YBNC], "Letter C" [Supplement to Attachment A], dated April 10, 2013, from Thomas N. Lippe, Lippe Gaffney Wagner LLP, on behalf of 765 Market Street Residential Owners Association, and "Letter D" dated April 10, 2013 from Thomas N. Lippe, Lippe Gaffney Wagner LLP, on behalf of Friends of Yerba Buena, Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins), by the Appellants to the Board of Supervisors regarding the Planning Commission's certification of a Final Environmental Impact Report ("FEIR") under the California Environmental Quality Act (CEQA) for the proposed 706 Mission Street – The Mexican Museum and Residential Tower Project (the "proposed project"). These three letters of appeal and the supplement to Letter A are included, respectively, as Attachments A through D of this Appeals Response.

Included with this memorandum as Attachment E is the Planning Commission's (the Commission) motion certifying the FEIR. The FEIR consists of the Draft Environmental Impact Report ("DEIR") and the Responses to Comments ("RTC") document, which were provided to the Clerk of the Board for distribution to the Board of Supervisors under separate cover on June 27, 2012 and March 7, 2013, respectively. These documents are being enclosed with this Appeals Response for the convenience of the readers (Attachment F). The environmental documents issued for this project are also available online at the Planning Department's Web site **http://tinyurl.com/sfceqadocs** under case file number 2008.1084E.

The Planning Department, pursuant to CEQA, the CEQA Guidelines, and Chapter 31 of the *San Francisco Administrative Code*, presented a FEIR for the proposed project for certification by the Planning Commission. On March 21, 2013, the Commission certified the FEIR, finding that the FEIR was adequate, accurate and fulfilled the City's requirements pursuant to CEQA, the CEQA Guidelines, and Chapter 31 of the *San Francisco Administrative Code*, as described in Attachment E.

The decision before the Board of Supervisors is whether to uphold the Planning Commission's decision to certify the FEIR and deny the appeal, or to overturn the Commission's decision to certify the FEIR, and return the proposed project to the Planning Department for staff to conduct additional environmental review.

PROJECT DESCRIPTION

The project site is on the northwest corner of Third and Mission streets, near the southern edge of San Francisco's Financial District neighborhood, and consists of three lots: the entirety of

Assessor's Block 3706, Lots 093 and 275, and portions of Assessor's Block 3706, Lot 277. Together, these lots cover an area of approximately 63,468 square feet or approximately 1.45 acres. The eastern portion of the project site is occupied by the 10-story, 154-foot-tall Aronson Building (a 144-foot-tall building with a 10-foot-tall mechanical penthouse). The historically important Aronson Building has a retail use on the ground floor and office uses on the floors above. The western portion of the project site is vacant at the surface, and this location has been chosen as the future permanent home of The Mexican Museum. Below grade, the western portion of the project site contains a two-level, double-height, approximately 18,000-gross-square-foot (gsf) vacant structure that was constructed when the Jessie Square Garage was originally built. The project site includes the four-level Jessie Square Garage, which is underneath Jessie Square. The garage has 442 parking spaces and is open to the public. The project site does not include the at-grade Jessie Square plaza, which is adjacent to and west of the project site.

The proposed project consists of the construction of a new 47-story, 550-foot-tall tower (a 520-foot-tall building with a 30-foot-tall elevator/mechanical penthouse), with two floors below grade. The new tower would be adjacent to and physically connected to the Aronson Building, which would be restored and rehabilitated as part of the proposed project. The proposed project would include a mix of residential, museum, restaurant/retail, and possibly office uses. The new tower would contain up to 215 residential units in 43 floors of residential space, including mechanical areas, and 4 floors of museum space. The Aronson Building's existing retail and office uses on the ground through tenth floors and basement-level storage and utility space would be reconfigured under the proposed project. Under the proposed project, the Aronson Building would contain retail/restaurant space on the ground floor and museum space on the second and third floors. In addition, two flex space options are proposed for the fourth through tenth floors of the Aronson Building. The residential flex option would convert these seven floors from office use to up to 28 residential units, and the office flex option would continue their use as office space. The Mexican Museum would occupy the ground through fourth floors of the proposed tower and the second and third floors and possibly some of the ground floor of the Aronson Building.

The existing Jessie Square Garage would provide parking for the proposed project. As part of the proposed project, the Commission on Community Investment and Infrastructure and its Oversight Board would convey the Jessie Square Garage and its entrance ramp to the project sponsor. The garage would be converted from a publicly owned garage to a privately owned garage. The total number of parking spaces in the Jessie Square Garage would increase from 442 to 470 with the project. Of the 470 parking spaces, 210 spaces on the upper two levels would remain available to the general public. These 210 spaces would include parking for St. Patrick's Church, the Contemporary Jewish Museum, and The Mexican Museum. The remaining 260 spaces would include parking for the project residents and leased parking. In addition to the proposed project, seven vehicular access variants are analyzed for the proposed

project in the EIR. The vehicular access variants differ from the proposed project in how vehicles enter and exit the project site and the Jessie Square Garage.

APPELLANTS' ISSUES AND PLANNING DEPARTMENT RESPONSES

The Appellants' concerns fall into several general categories of issues: Historic Architectural Resources, Aesthetics, and Land Use Impacts; Traffic and Circulation Impacts; Pedestrian Impacts; Noise Impacts; Air Quality Impacts; Greenhouse Gas Emissions Impacts; Shadow Impacts; Recreation Impacts; and Recirculation of the EIR. The Appellants' concerns are stated in this memorandum as excerpts from the Appeal Letters and are identified by specific comment numbers (A.1, B.4, etc.). Each group of concerns is followed by the Planning Department's response. The full text of the Appellants' letters of appeal is provided in Attachments A-D to this memorandum.

In the Appeal Letters, the Appellants state a general opinion that the FEIR is not procedurally or substantively adequate, accurate, or objective, and fails to lawfully identify the significant adverse environmental impacts of the proposed project or to identify mitigation measures to substantially reduce the project's significant adverse environmental impacts, and that the FEIR does not analyze an adequate range of alternatives to the proposed project. The Appellants also state that the FEIR fails to lawfully assess the significance of the adverse environmental impacts of project variants, and the RTC document inadequately responds to comments submitted on the DEIR. However, the Appellants do not provide substantial evidence or argument to support such claims. Further, the Department finds that the concerns stated by the Appellants do not raise any issues not already addressed in the DEIR and RTC documents. The Department's responses rely on summary text from the full CEQA record, which includes the DEIR, RTC document and background studies, and other documents and information in the record as appropriate.

Historic Architectural Resources, Aesthetics, and Land Use Impacts

Issue: Project Impacts on Historic Architectural Resources and Aesthetics

Comment A.8

"The EIR does not lawfully assess the significance of the Project's impacts on historic and aesthetic values in this Conservation District, especially on the historic Aronson Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues." *(Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association)*

Comments C.9 and D.9

"The EIR does not lawfully assess the significance of the Project's impacts on land use, aesthetic and historic values in this area and in this Conservation District, including the historic Aronson

Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

"a. The Aronson Building is a Category I Significant Building located within the New Montgomery-Mission-Second Conservation (NMMS) District.

"b. There are several features of the Project that bring the tower portion within the Historic Preservation Commission's permitting jurisdiction and, under Planning Code § 1111, require that the developer obtain the HPC's approval of the tower by way of a permit to alter the Aronson Building or a permit for new construction of the tower in the NMMS District.

"c. The western portion of the Aronson Building will be demolished and the tower will be built in its place, directly adjacent to the west side of the reduced Aronson Building. Also, the tower will be physically attached to and programmatically integrated with the Aronson building. Therefore, the tower is an alteration of the Aronson building requiring an HPC permit. Alternatively, the tower is 'new construction' partially on the Aronson Building parcel and, therefore, within the Conservation District.

"d. Article 11 of the Planning Code includes several zoning rules with which the tower does not comply. Section 1111.6 provides that for Significant Buildings - Category I such as the Aronson Building, any additions to height of the building 'shall be limited to one story above the height of the existing roof' and 'shall be compatible with the scale and character of the building.' Also, all alterations and new construction must be compatible with the character and scale of the Conservation District. Several violations of these zoning rules are apparent. As an alteration of the Aronson building, the tower violates the rule limiting alterations to no more than one additional story over the original building. Second, as an alteration, the tower is not compatible with the scale, particularly the height, of the Aronson building. Third, as new construction in the district, the tower is not compatible with the scale, particularly the predominant height of the district and the predominant height of the buildings that define the conservation characteristics of the district.

"e. The above described rule violations also describe significant adverse environmental effects that the EIR fails to disclose. A substantial adverse change in the significance of an historical resource is treated as a significant effect on the environment. (CEQA Guidelines, § 15064.5, subd. (b).) A 'substantial adverse change' includes demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired. (CEQA Guidelines, § 15064.5, subd. (b)(1).) Here, the tower will cause these significant adverse effects." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants provide no substantial evidence for their contention that the FEIR does not adequately assess the significance of the proposed project's impacts related to historic architectural resources, aesthetics, and land use; that the FEIR fails to identify

adequate mitigation or alternatives; or that the FEIR does not adequately respond to public comments on the DEIR. The FEIR contains a thorough and well-reasoned analysis of project impacts and provides comprehensive responses to the comments received. The FEIR concludes that the proposed project would result in less-than-significant impacts related to historic architectural resources, aesthetics, and land use. Therefore, no mitigation measures are identified for these topics. The FEIR's conclusions are supported by substantial evidence. Furthermore, the FEIR provides an alternative to minimize changes to the historic Aronson Building, to further lessen the less-than-significant impacts of the proposed project on historic architectural resources.

Status of the Aronson Building and New Montgomery-Mission-Second Street Conservation District as Historical Resources under CEQA

The Appellant notes that the Aronson Building is a Category I Significant Building located within the New Montgomery-Mission-Second Conservation District (Conservation District). As discussed in the EIR, on pp. IV.D.44-IV.D.45, the Aronson Building is identified in the *Transit Center District Plan* (TCDP) as a Category I Significant Building within the then-proposed New Montgomery-Mission-Second Street Conservation District. The Conservation District was proposed but not yet adopted at the time of publication of the DEIR (June 27, 2012). The EIR notes that "If adopted as an amendment to Article 11, the proposed Category I designation of the Aronson Building and the proposed New Montgomery-Mission-Second Street Conservation District would qualify the Aronson Building as an historical resource under CEQA." The EIR continues, "However, the building's existing inclusion in other local, State, and Federal historic resource surveys and registers is determinative of its status as an 'historical resource' under CEQA." Thus, the EIR treated both the Aronson Building and the then-proposed Conservation District as historical resources under CEQA for the purposes of analyzing potential impacts to both.

Having identified the Aronson Building as an historical resource under CEQA, the EIR analyzes the impact of the proposed project tower on the Aronson Building under Impact CP-6 on EIR pp. IV-D.54-IV.D.55. The EIR notes that the proposed project tower would be designed to read visually as an entirely separate building from the Aronson Building. The proposed tower would be located on a tertiary, previously altered, elevation of the Aronson Building in a manner that would not obscure, nor result in the loss of, any character defining feature. The tower would be clearly differentiated in its modern, contemporary design vocabulary, but would relate to the Aronson Building through setbacks, change of building plane and materials, and related floor plates at lower levels. For these reasons, the EIR concludes that design of the proposed project tower would not result in a substantial adverse change in the significance of the Aronson Building historical resource and that no mitigation measures are therefore necessary.

Having identified the New Montgomery-Mission-Second Street Conservation District as an historical resource under CEQA, the EIR analyzes the impact of the proposed project tower on

the district resource under Impact CP-7 on EIR pp. IV-D.55-IV.D.57. The EIR notes that the proposed project would not obstruct or detract from any existing visual relationship between the Aronson Building and the New Montgomery-Mission-Second Street Conservation District of which it is part and that the Aronson Building would continue to relate to the historic architectural character of the early 20th century commercial building of the district. The proposed project tower would be consistent with the existing pattern of contemporary high-rise towers at the edges of the district that now rise in the background when viewing the district from within. The EIR further notes that the rehabilitation program and demolition of non-historic annexes under the proposed project would enhance the Aronson Building's historic architectural character and thereby strengthen its contribution to the New Montgomery-Mission-Second Street Conservation District of which it is part. For these reasons, the EIR concludes that the proposed project would not materially impair the ability of the district to convey its historic significance and would not result in a substantial adverse change in the significance of any of the historic districts to which the Aronson Building contributes, and that no mitigation measures are therefore necessary.

The EIR adequately analyzes impacts of the proposed tower on both the Aronson Building historical resource and the New Montgomery-Mission-Second Street Conservation District and Aronson Historic District historical resources. The Appellants do not give any explanation or cite any substantial evidence to support the comment that the new tower will cause significant adverse effects on historical resources.

Applicability of Planning Code Article 11 Requirements to the Proposed Project Tower Component

The Appellant contends that the tower component of the proposed project is regulated under Article 11 of the Planning Code and requires Historic Preservation Commission (HPC) review and approval of a Permit to Alter. This comment does not address the adequacy or accuracy of the EIR, but rather concerns the approval actions necessary for the proposed project. As discussed above, the EIR adequately and accurately analyzes impacts of the proposed project tower on both the Aronson Building historical resource and the New Montgomery-Mission-Second Street Conservation District historical resource and Aronson Historic District historical resources.

In its DEIR comment letter of July 26, 2012, the HPC found that the EIR adequately addressed and responded to comments made previously by the Architectural Review Committee of the HPC, and that the EIR analysis regarding the treatment to the Aronson Building is adequate under CEQA.

Nonetheless, for purposes of clarification, because in 2012 the Aronson Building was designated a Category I Significant Building under Article 11 and because the lot on which the Aronson Building is located (APN Block 3706, Lot 093) was added to the expanded New Montgomery-Mission-Second Street Conservation District, the project requires a Permit to Alter from the

HPC. The Permit to Alter will address both the proposed alterations to the Aronson Building and the construction of the tower adjacent to the Aronson Building.

In determining whether to approve the project's Permit to Alter, the HPC will analyze whether the project complies with the requirements of Article 11. This issue is not properly before this Board on appeal. For the purposes of Article 11, the Planning Department has characterized the tower portion of the project as "related new construction," not as an "addition." The *Secretary of the Interior's Standards* offer the same guidelines for both additions and related new construction. Standard 9 states, "New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment." Although both additions and adjacent new construction are held to the same standard, the proposed tower has been conceived as adjacent new construction designed to address programmatic requirements separate from the Aronson Building. The vision for the proposed tower is that it be perceived as a separate entity, which is distinct from the Aronson Building.

The EIR's analysis of impacts on historic architectural resources will inform the HPC in its deliberations on the Permit to Alter required under Article 11. An approximately 38-foot, 9-inch-wide portion (approximately 34 percent) of the new 114-foot-wide tower would be located on the Aronson Building parcel, requiring review of this portion of the tower by the HPC during their hearing to consider approval of a Permit to Alter currently scheduled to occur on May 15, 2013.

Mitigation and Alternatives

Appellants contend that the FEIR does not lawfully identify and discuss mitigation measures or project alternatives that would substantially reduce significant impacts. The EIR concluded that the proposed project would not result in a substantial adverse change in the significance of the Aronson Building historical resource or in the significance of other off-site historical resources, including the Aronson Historic District and the New Montgomery-Mission-Second Street Conservation District historical resource. Therefore, no mitigation measures are necessary. The EIR identifies Mitigation Measure M-NO-2c: Vibration Monitoring and Management Plan, in Section IV.F, Noise, p. IV.F.27, which addresses the potential for direct physical damage to the Aronson Building resulting from vibration during construction of the proposed project tower.

The EIR identifies and analyzes a project alternative that would further lessen the less-than-significant historic architectural and aesthetics impacts of the proposed project. The Separate Buildings Alternative, EIR pp. VII.40-VII.65, would minimize changes to the Aronson Building; a new 47-story tower would be independently constructed adjacent to the Aronson Building without structural or interior connections between the two buildings. This alternative would further reduce the less-than-significant impact to the Aronson Building from the construction of the new tower. In response to comments received on the DEIR, as discussed in the RTC

document, pp. III.I.1-III.I.8, the range of alternatives analyzed in the EIR is adequate. Furthermore, the Appellant does not provide any substantial evidence as to why the range of alternatives analyzed in the EIR is neither reasonable nor adequate.

Aesthetics and Land Use

The Appellant contends that the EIR fails to adequately assess impacts related to aesthetics and land use. The Appellant provides no substantial evidence for this contention or even explains how this is so.

With respect to aesthetic impacts, the analysis in EIR Section IV.B, Aesthetics, pp. IV.B.1-IV.B.33, describes existing conditions and the regulatory framework related to the topic of aesthetics, and provides a well-reasoned analysis and assessment of aesthetic impacts of the proposed project, applying the thresholds for determining the significance of impacts adopted by the San Francisco Planning Department consistent with the environmental checklist in Appendix G of the CEQA Guidelines. All conclusions in the FEIR as to aesthetic impacts are supported by substantial evidence.

With respect to land use impacts, the analysis in EIR Section IV.A, Land Use and Land Use Planning, pp. IV.A.1-IV.A.15, describes existing conditions and the regulatory framework related to the topic of land use, and provides a well-reasoned analysis and assessment of land use impacts of the proposed project, applying the thresholds for determining the significance of impacts adopted by the San Francisco Planning Department consistent with the environmental checklist in Appendix G of the CEQA Guidelines. All conclusions in the FEIR as to land use impacts are supported by substantial evidence.

Adequacy of Responses to Comments

The Appellant contends that the EIR fails to adequately respond to comments regarding historic resources, aesthetics, and land use. The Appellant provides no substantial evidence to support this contention or even explains how this is so.

The Planning Department provided thorough and well-reasoned written responses to all comments received during the DEIR public comment period related to historic architectural resources on pp. III.D.1-III.D.2 of the RTC document. Comments expressed HPC concurrence with the analysis and conclusions of the EIR, expressed concern that the Aronson Building should be retained and preserved under the proposed project, and expressed concern for the impact of the proposed structural loads created by the proposed rooftop garden atop the Aronson Building. The responses explained that the HPC had determined that the EIR sufficiently addresses the previous comments made by the HPC's Architectural Review Committee, that the EIR's discussion of the treatment of the Aronson Building under the proposed project was adequate, and expresses the HPC's concurrence with the EIR's analysis and conclusions with respect to the project impacts on historic architectural resources. The

responses also confirmed that the proposed project would retain, restore, and rehabilitate the existing Aronson Building, and that the existing roof structure would be reinforced and seismically upgraded as part of the proposed project so the structure would be adequate to support the weight of the proposed solarium and rooftop garden.

The Planning Department provided thorough and well-reasoned written responses to all comments received during the DEIR public comment period related to aesthetics on pp. III.B.1-III.B.7 of the RTC document. Comments requested an additional photosimulation illustrating cumulative conditions, requested that the EIR consider the impact of the proposed project on the downtown skyline, queried whether the issue of reflected sunlight was covered in the EIR, and expressed concern about the materials and design of the proposed project tower. The Planning Department responses provide a photosimulation showing cumulative conditions from Yerba Buena Gardens Pedestrian Bridge over Howard Street (in the RTC on pp. III.B.1-III.B.3), expand the discussion of the impact of the proposed project on the downtown skyline, confirm that the issue of reflected sunlight is analyzed in the EIR, and explain that the commenter's materials and design concerns do not raise any specific environmental issues about the adequacy or accuracy of the EIR and that aspects of the project's design that could have impacts on the environment are analyzed in the EIR. The Planning Department provided thorough and well-reasoned written responses to all comments received during the DEIR public comment period related to land use on pp. III.A.1-III.A.5 of the RTC document. These comments expressed concern for the proposed changes to the Planning Code necessary to construct the proposed project. The responses explain that an inconsistency between a proposed project and a land use or planning law is not, in and of itself, a physical environmental effect, and that the physical environmental effects of the proposed project, including the construction of a 520-foot-tall tower, have been analyzed. A project sponsor may propose a project that does not meet existing zoning laws and would require legislative land use amendments. The question of whether the proposed legislative land use amendments should be approved/adopted, disapproved, or modified from what has been proposed is appropriately left to City decision-makers.

Traffic and Circulation Impacts

Issue: Incorrect Critical Movement Assumptions

Comments A.1, C.1, and D.1

"As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the DEIR, a copy of which is attached hereto as Exhibit 2, the EIR's assessment of traffic and circulation impacts is informationally deficient in number [sic] of respects, including, without limitation, the following:

"a. Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

'The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7.' (Exhibit 2, p. 2.) Nelson Nygaard demonstrate why 'Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact.' (Exhibit 2, p. 5)" *(Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: This comment raises concerns and references an Exhibit that are identical to those that were presented in RTC document Comment Letter C.3. This comment was previously addressed in the RTC document under the subtopic, "Critical Movements." The RTC document's conclusions are supported by substantial evidence, and the Appellants provide no information as to why the RTC's responses should be considered inadequate.

The Appellants' comments make reference to the July 24, 2012 Nelson Nygaard memorandum submitted as part of comments on the DEIR during the public comment period, and are identical to comments previously submitted during the DEIR public comment period. The Nelson Nygaard memorandum is presented in RTC document Comment Letter C.3. The entirety of this specific comment (C.3.3, repeated in C.3.25) is addressed and responded to in the RTC document, pp. III.E.12-III.E.17, under the subtopic, "Critical Movements." In summary, Response E.2 explains why the eastbound through movement at the intersection of Fourth and Market streets is the critical movement. The critical movement is the movement or lane with the highest flow ratio during a traffic signal phase, calculated using the 2000HCM intersection operations methodology.[1] The calculations take into account the geometry of the intersection, traffic signal cycle length, and volumes of vehicular and pedestrian traffic. Pedestrian volumes were, therefore, taken into consideration as part of the calculations for the intersection of Fourth and Market streets. The absence of a westbound left-turn movement was accounted for in these calculations; the eastbound through movement is a critical movement based on the results of the model's calculations. Therefore, the conclusion in the EIR, supported by the response to this

[1] Institute of Transportation Engineers, *2000 Highway Capacity Manual*, cited in Appendix E to the EIR, the *706 Mission Street Transportation Study*, prepared by LCW Consulting, January 24, 2012, p. 30 text and footnote 5.

identical comment submitted in July 2012, is correct. The Appellants do not provide any substantial evidence demonstrating that the response in the RTC document is inaccurate or inadequate. Therefore, in summary, the FEIR is adequate in its analysis of impacts on critical movements at the intersection of Fourth and Market streets.

Issue: Inaccurate Trip Distribution Assumptions:

Comments A.2, C.2, and D.2

"As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as Exhibit 2, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the following:

"b. Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

'The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less th[a]n significant traffic impact.' (Exhibit 2, p. 5.) Again a proper analysis of the trip distribution reveals that Variants 6 & 7 should produce less than significant impacts at the critical Fourth and Market intersection." *(Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: These comments raise concerns and reference an Exhibit that are identical to those that were presented in RTC document Comment Letter C.3. This comment was previously addressed in the RTC document under the subtopic, "Trip Assignment/Distribution and Suggested Corrections." The Appellants assert that a revised analysis of trip distribution would reveal less-than-significant transportation impacts for Variants 6 and 7, but provide no substantial evidence to support such a conclusion and provide no information as to why the RTC's response should be considered inadequate.

The Appellants' comment makes reference to the July 24, 2012 Nelson Nygaard memorandum previously submitted during the DEIR public comment period. The Nelson Nygaard memorandum is provided in RTC document Comment Letter C.3. The entirety of this specific comment (C.3.4, repeated in C.3.26) is addressed in the RTC document, pp. III.E.17-III.E.25, under the subtopic, "Trip Assignment / Distribution and Suggested Corrections." In response to the portion of Comment C.3.26 regarding trip distribution and the number of eastbound through vehicle trips at the intersection of Fourth and Market streets, Response E.3 explains that Variants 6 and 7 have different vehicular access and egress points than the proposed project and

the other variants; therefore, in the immediate vicinity of the project site vehicle trip distribution would be different from the proposed project and the other variants. Overall trip distribution for each variant was calculated using the same methodology as that for the proposed project; is consistent with that of the proposed project; and used the San Francisco Transportation Impact Analysis Guidelines[2] for trip assignment and distribution, as for the proposed project. The Appellants do not provide any substantial evidence demonstrating that the response in the RTC document is inaccurate or inadequate. No new evidence is presented supporting a statement that the conclusions reached in the EIR regarding Variants 6 and 7 and their impact (or lack of impact) on the intersection of Fourth and Market streets are incorrect. Therefore, in summary, the FEIR is adequate and accurate in its analysis of impacts to trip distribution assumptions.

Issue: Analysis of Vehicle Delays Due to Increased Pedestrian Volumes

Comments A.3, C.3, and D.3

"As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as Exhibit 2, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the following:

"c. The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

'The DEIR does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS' (Exhibit 2, p. 7.)" *(Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: These comments raise concerns and reference an Exhibit that are identical to those presented in RTC document Comment Letter C.3. This comment was previously addressed in the RTC document under the subtopic, "Consideration of Pedestrians and Parking Supply in Traffic Analysis." The RTC document's conclusions are supported by

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[2] San Francisco Planning Department. 2002. *Transportation Impact Analysis Guidelines for Environmental Review*. Online at http://www.sfplanning.org/Modules/ShowDocument.aspx?documentid=6753. Accessed April 24, 2013.

substantial evidence, and the Appellants provide no information as to why the RTC's responses should be considered inadequate.

The Appellants' comments make reference to the July 24, 2012 Nelson Nygaard memorandum previously submitted during the DEIR public comment period. The Nelson Nygaard memorandum is presented in RTC document Comment Letter C.3. The entirety of this specific comment (C.3.6, repeated in C.3.28) is addressed in the RTC document, pp. III.E.41-III.E.49, under the subtopic, "Consideration of Pedestrians and Parking Supply in Traffic Analysis." As explained in Response E.5, the analysis of intersection delay takes into account the general inefficiency of traffic and pedestrian flows affecting the capacity of an intersection and acknowledges the existing conflicts between pedestrians and vehicular traffic at the intersection of Stevenson and Third streets. The response also explains that there is nothing about the proposed project or any of its variants that would encourage illegal pedestrian crossing in the vicinity of that intersection or any other in the project vicinity. The Appellants do not provide any substantial evidence demonstrating that the response in the RTC document is inaccurate or inadequate. Therefore, in summary, the FEIR is adequate in its analysis of pedestrian impacts on traffic at the intersection of Stevenson and Third streets.

Issue: Traffic Impacts Due to On-site Parking

Comments A.4, C.4, and D.4

"As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as Exhibit 2, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the following:

"d. Excessive Onsite Parking Creates Traffic Impacts

'The proposed Project's residential parking supply of one space per unit exceeds the standard set in the Planning Code, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant.' (Exhibit 2, p. 8.)" *(Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: This comment raises concerns and references an Exhibit that are identical to those that were presented in RTC document Comment Letter C.3. This comment was previously addressed in the RTC document under the subtopic, "Consideration of Pedestrians and Parking Supply in Traffic Analysis." The RTC document's conclusions are supported by substantial evidence, and the Appellants provide no information as to why the RTC's responses should be considered inadequate.

The Appellants' comment makes reference to the July 24, 2012 Nelson Nygaard memorandum previously submitted during the DEIR public comment period. The Nelson Nygaard memorandum is presented in RTC document Comment Letter C.3. The entirety of this specific comment (C.3.7 and repeated in C.3.29) is addressed in Response E.5 in the Transportation section of the RTC document, pp. III.E.41-III.E.49, under the subtopic, "Consideration of Pedestrians and Parking Supply in Traffic Analysis." In summary, that response explains that the amount of parking proposed to serve the project would not exceed the allowable parking permitted under the Planning Code with Section 309 review, and that for residential uses the travel demand methodology used in San Francisco bases trip generation rates on land uses rather than on the amount of parking provided. As stated in the response, "research does not support the comment that states that by limiting the amount of parking on site, the traffic impact analysis for both the proposed project and vehicle access Variants 1 to 7 would lead to different transportation impact results." In particular, because the proposed project would convert existing parking spaces in the Jessie Square Garage from public to private use, if fewer spaces were allocated to the proposed residential uses, the spaces would continue to exist but would be for non-residential use. The same number of vehicle trips would be generated and assigned to study intersections. Therefore, the comment that reducing the allowable parking supply would reduce vehicle trips and resultant traffic and transit impacts of Variants 6 and 7 is not accurate. The Appellants do not provide any substantial evidence to support their claim that the FEIR is inaccurate or inadequate. Therefore, in summary, the FEIR is adequate and accurate in its analysis of traffic impacts due to on-site parking.

Issue: Improvement Measures to Reduce Vehicle Trips

Comments A.5, C.5, and D.5

"As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as Exhibit 2, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the following:

"e. There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

'The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the Project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant.' (Exhibit 2, p. 8.)" *(Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: This comment raises concerns and references an Exhibit that are identical to those that were presented in RTC document Comment Letter C.3. This comment was previously

addressed in the RTC document under the subtopic, "Proposed Mitigation and Improvement Measures." The RTC document's conclusions are supported by substantial evidence, and the Appellants provide no information as to why the RTC's responses should be considered inadequate.

The Appellants' comment makes reference to the July 24, 2012 Nelson Nygaard memorandum previously submitted during the DEIR public comment period. The Nelson Nygaard memorandum is presented in RTC document Comment Letter C.3. The entirety of this specific comment (C.3.9 and repeated in C.3.31) is addressed in the RTC document, pp. III.E.80-III.E.88, under the subtopic, "Proposed Mitigation and Improvement Measures." In summary, that response explains that the Planning Code incorporates travel demand management elements that encourage alternative mode use and the proposed project would meet all applicable Planning Code requirements. While improvement measures are not required by CEQA to be identified to reduce less-than-significant impacts, the EIR includes Improvement Measure I-TR-M, Transportation Demand Management, intended to encourage use of alternative transportation modes (RTC p. III.E.85). The Appellants do not provide any materials or substantial evidence demonstrating that the FEIR is inaccurate or inadequate. Therefore, in summary, the FEIR is adequate in its provision of improvement measures to reduce less-than-significant transportation impacts related to vehicle trips.

Pedestrian Impacts

Issue: Pedestrian Traffic and Safety

Comments A.6, C.6, and D.6

"The EIR does not lawfully assess the significance of the Project's impacts on pedestrian traffic and safety, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues." (*Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena*)

Response: The Appellants provide no substantial evidence to support the concern expressed in the Appeal Letter. The FEIR contains an analysis for the topic of pedestrian impacts, including pedestrian traffic and safety impacts. The FEIR accurately concludes that the proposed project's pedestrian impacts were determined to be less than significant. The FEIR acknowledges high pedestrian volumes on Third Street under existing conditions, and includes Improvement Measures to improve pedestrian and traffic conditions.

The Appellants provide no evidence to support the concerns expressed in the Appeal Letter. The discussion in the EIR Transportation and Circulation Section, pp. IV.E.43-IV.E.47, and in the RTC document, pp. III.E.57-III.E.69, provides a thorough, accurate and objective analysis with

respect to pedestrians and pedestrian safety impacts. The applicable significance criterion states that a proposed project would have a significant effect on the environment with respect to pedestrians if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. The quantitative pedestrian analysis conducted at Third and Mission streets did not reveal any significant pedestrian impacts. The proposed project's pedestrian impacts were determined to be less than significant, as presented in Impact TR-3 of the EIR, pp. IV.E.43-IV.E.47; therefore, no mitigation measures are identified. Analysis in the EIR of pedestrian conditions did acknowledge that there are high pedestrian volumes on Third Street under existing conditions, which includes the pedestrian crossing of Stevenson Street at Third Street. The EIR includes Improvement Measure I-TR-A, Traffic Signal Modifications (EIR p. IV.E.38), which would improve existing pedestrian and traffic conditions at the signalized intersection of Third and Stevenson streets.

As summarized in the RTC document, p. III.E.61, the proposed project would not introduce any design features that would result in pedestrian safety issues; thus, project impacts on pedestrian conditions were found to be less than significant and no mitigation is required. However, the EIR identifies three improvement measures to address the less-than-significant pedestrian impacts of the project. Improvement Measure I-TR-E: Consolidation of Traffic Signal and Overhead Wire Poles, EIR p. IV.E.46, would reduce existing pole clutter and pedestrian obstructions on the Third Street sidewalk. Two improvement measures, I-TR-F and I-TR-G, would reduce less-than-significant pedestrian–vehicle conflicts on Third Street. Improvement Measure I-TR-F, Pedestrian Measures on Third Street, EIR pp. IV.E.46-IV.E.47, would do so by positioning a traffic control attendant at the Third Street driveway and by ensuring adequate on-site queuing space. Improvement Measure I-TR-G, Reduce Pedestrian-Vehicle Conflict Areas, EIR p. IV.E.47, would reduce pedestrian conflicts along Third Street between Mission and Market streets by having the project sponsor work with the Planning Department, SFMTA, the Department of Public Works, and nearby property owners to assess the feasibility of measures or treatments to reduce potential existing and future pedestrian-vehicle conflicts along Third Street between Mission and Market streets.

As presented in the DEIR on pp. IV.E.43-IV.E.47, pedestrian impacts for the proposed project were found to be less than significant. Therefore, no alternative was required to be analyzed under CEQA to reduce or eliminate the less-than-significant project impacts on pedestrians. In response to comments received on the DEIR, as discussed in the RTC document, pp. III.I.1-III.I.8, the range of alternatives analyzed in the EIR was found adequate. Furthermore, the Appellants do not provide any substantial evidence as to why the range of alternatives analyzed in the EIR is neither reasonable nor adequate.

In summary, the FEIR provides an adequate and accurate analysis of pedestrian impacts.

Issue: Cumulative Pedestrian Impacts

Comment B.1

"As a number of the Planning Commissioners acknowledged, the EIR does not address cumulative impacts relating to pedestrian traffic and safety in the Yerba Buena CBD area. The EIR also fails to adequately consider the installation of a mid-block crosswalk across Mission from the Center of the Arts to Jessie Square. An adequate EIR must comprehensively study the area's past, present, and future projects that affect pedestrians, and must also identify a feasible mitigation plan.

"The fact that no cumulative impact analysis was done by the San Francisco Redevelopment Agency during the 40-year Yerba Buena Redevelopment Project for its program EIRs, and the fact that the Planning Department is now evaluating projects on an isolated piecemeal basis in the former Redevelopment Area, including the Museum of Modern Art Expansion Project, further exacerbate the import of the EIR's deficient analysis – with very negative real-life consequences for the 2000 elders and other residents living in the Yerba Buena neighborhood.

"The EIR's responses to comments on the issues of pedestrian traffic, capacity, and safety are correspondingly insufficient. Every lead agency is required to provide a 'good faith, reasoned analysis' in response to comments: '[c]onclusory statements unsupported by factual information will not suffice.' (Guidelines, § 15088, subd.(b); *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112, p. 1124.) *Sutter Sensible Planning, Inc. v. Board of Supervisors* (1981) 122 Cal.App.3d 813, 820, explains that EIR responses 'insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug.' Last year, *Flanders Foundation v. City of Carmel-by-the Sea* [202 Cal.App.4th 603] affirmed the importance of adequate comment responses.

"This EIR's response to the requests for cumulative pedestrian analyses notes in part that the Planning Department does not require such study for individual projects. That is irrelevant, as CEQA's mandates are a matter of state rather than local law. Absent adequate analysis and mitigation of cumulative impacts, the City cannot justify continued approvals of projects in an area demonstrably burdened with significant, solvable pedestrian capacity and safety problems. The City's deferral of analysis to the program *Central Corridor Plan EIR* a few years away, as endorsed by the majority of the Planning Commissioners, is insufficient as well as untimely to deal with cumulative environmental issues impacting this project.

"The EIR's comment responses acknowledge that cumulative impacts are addressed in many other EIR topic areas, including short-term construction impacts, aesthetic impacts, noise impacts, air quality impacts, wind impacts, and impacts of hazardous materials. (Final EIR, III.E.68-69.) This does not excuse its failure to address pedestrian issues and instead proves the point. Cumulative impact analysis and mitigation are mandated by CEQA. The City recognizes this in other areas of environmental concern and must similarly follow through with full cumulative analyses of pedestrian capacity and safety issues.

"The EIR must analyze impacts and feasible mitigation of cumulative pedestrian capacity and safety issues. The revised EIR should be circulated for additional agency and public comment, in turn resulting in the timely adoption of feasible mitigation measures." *(Letter B: Appeal Letter from Susan Brandt-Hawley, Brandt-Hawley Law Group, on behalf of Tenants and Owners Development Corporation and Yerba Buena Neighborhood Consortium LLC)*

Response: The Appellant provides no substantial evidence to support the concern expressed in the Appeal Letter. The FEIR provided a qualitative analysis of the project's contribution to any potential cumulative pedestrian impact and the Appellants provide no evidence to support their claim that the FEIR is inaccurate or inadequate for the topic of cumulative pedestrian impacts.

The RTC document, pp. III.E.57-III.E.69, provides an accurate analysis with respect to comments raised related to cumulative pedestrian and pedestrian safety impacts. As described in the RTC document under the subhead "Cumulative Pedestrian Analysis," pp. III.E.62-III.E.69, the EIR includes an assessment of project-specific transportation impacts, as well as cumulative transportation impacts. As the EIR states on p. IV.1 in the introduction to Chapter IV, Environmental Setting, Impacts and Mitigation Measures:

> Cumulative impacts from the proposed project are analyzed for each environmental topic when appropriate. When evaluating cumulative impacts, CEQA envisions the use of either a list-based approach (a list of past, present, and reasonably foreseeable projects, including projects outside the control of the lead agency), a plan-based approach (a summary of projections in an adopted general plan or related planning document), or a reasonable combination of the two.[3] In general, the City and County of San Francisco uses a plan-based approach that relies on local/regional growth projections (i.e., population, jobs, and number and type of residential units). This is the approach that is used for many of the environmental topics in this EIR.

The EIR analyzes cumulative impacts for all 18 environmental topics. For transportation analyses, the Planning Department has determined that quantitative analysis of future year cumulative traffic and transit conditions using SF-CHAMP model output are appropriate for individual projects. However, analyses of pedestrian conditions are conducted quantitatively or qualitatively, depending on the land use intensity and size of project. The significance criteria for pedestrians, presented on EIR p. IV.E.24, does not specify that a quantitative cumulative pedestrian analysis (e.g. through the use of a quantitative future-year computational modeling program like SF-CHAMP) is required to determine whether the project would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

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[3] The citation in the EIR text is footnote 1, referring to CEQA Guidelines, Section 15130(b)(1).

The proposed project's pedestrian impacts are presented in Impact TR-3 of the EIR, pp. IV.E.43-IV.E.47, and include a quantitative LOS analysis of Existing plus Project conditions on the sidewalks adjacent to the project site on Mission Street and on Third Street, and the four crosswalks and four corners at the intersection of Third Street/Mission Street for both the weekday midday and PM peak hours. Based on this quantitative analysis of the project's effects on sidewalks, crosswalks, and corners adjacent to the project site for Existing plus Project conditions, the proposed project's impacts on pedestrian conditions were determined to be less than significant, and therefore, no mitigation measures are required.

A qualitative assessment of cumulative pedestrian conditions was included in the RTC document, pp. III.E.65-III.E.69. The proposed project, being a predominantly residential development, would generate substantially fewer pedestrian trips in the project area compared to increases in pedestrian trips associated with proposed new commercial retail and office use projects and the anticipated expansion of convention-related activities. The qualitative assessment took into consideration the travel demand generated by the proposed project uses. For example, the proposed residential units would generate about 1,500 pedestrian trips on a daily basis and 260 pedestrian trips during the PM peak hour, while office uses associated with the same amount of square footage would generate about 7,300 pedestrian trips on a daily basis and 600 pedestrian trips during the PM peak hour. Therefore, the residential uses, as compared to a similar amount of office space, would generate about 80 percent fewer trips on a daily basis, and 57 percent fewer trips during the peak hour. Appellants state anecdotally that pedestrian conditions in the vicinity are poor. Yet the project-level quantitative analysis, which is based upon actual counts at the crosswalks, corners and sidewalks adjacent to the project site, demonstrates that pedestrian facilities are operating at acceptable levels. This is true under existing conditions as well as under Existing plus project conditions. As indicated in the RTC document, p. III.E.67, it is not anticipated that a development of the size of the proposed project would result in a cumulatively considerable contribution to any cumulative pedestrian impacts in the project vicinity that may occur in the future. In general, the Department utilizes a plan-based approach for cumulative analyses. However, in some instances consideration of specific projects located in the project area inform the Department's understanding of the potential for cumulative impacts. With the opening of Target, the approved San Francisco Museum of Modern Art Expansion (SFMOMA Expansion), and development anticipated under the TCDP, the proposed project's less-than-significant impacts would result in decreased contributions to the overall pedestrian conditions in the area. In the event that cumulative pedestrian impacts are identified (for example, as part of the *Central Corridor Plan EIR* analysis), the proposed project's contributions would not be cumulatively considerable, and the proposed project's cumulative impacts would be less than significant.

As stated in the RTC document, pp. III.E.66-III.E.67, quantitative cumulative pedestrian analyses are more appropriately addressed in analyses prepared for areawide plans, which

often include changes to the street network as well as land use changes, such as the recently adopted *Transit Center District Plan* and the recently published draft *Central Corridor Plan.*[4] The environmental analysis of the draft *Central Corridor Plan* has been initiated, and because the *Central Corridor Plan EIR* will be able to comprehensively assess land use and transportation network changes in the project area, it is the appropriate document for a quantitative assessment of future cumulative conditions in the project vicinity.

The Appellant provides no evidence to support the concerns regarding pedestrian capacity and safety expressed in Appeal Letter B. As indicated in the RTC document, pp. III.E.57-III.E.58, while there is a high volume of pedestrians and vehicles in the vicinity of the proposed project, the San Francisco Municipal Transportation Agency (SFMTA) has not identified any of the study intersections as being among those with the highest injury collisions (intersections with 16 or more injury collisions over a 5-year period) in SFMTA's 2010-2011 San Francisco Collision Report.[5] All signalized study intersections have crosswalks and pedestrian countdown signals. Furthermore, the sidewalk adjacent to the project site on Mission Street meets the recommended sidewalk width in the *Better Streets Plan*, while the sidewalk adjacent to the project site on Third Street meets the minimum, but less than recommended, sidewalk width as specified in the *Better Streets Plan*.

The Appellant's statement that no cumulative impact analysis was done by the San Francisco Redevelopment Agency during the 40-year Yerba Buena Redevelopment Project for its program EIRs is incorrect, and, moreover, is not at issue here in this appeal. The *Yerba Buena Center Final Subsequent EIR*, certified in December 1992, included a cumulative analysis of pedestrian conditions within the Yerba Buena Center Redevelopment Project Area.[6] Because the Subsequent EIR was analyzing proposed amendments to the Redevelopment Plan for a broad area rather than for a single development site, the pedestrian impact analysis was conducted for cumulative conditions, rather than Existing plus Project conditions. Of the nine sidewalk locations analyzed in that document, only the west sidewalk of Fourth Street between Market and Mission streets was identified as having constrained pedestrian conditions. At the time the *Yerba Buena Center Final Subsequent EIR* was being prepared, the City Department of Parking and Traffic had identified a 10-foot sidewalk widening for Fourth Street between Market Street to just north of Clementina Street, that would alleviate the constrained conditions. This sidewalk widening has been constructed. It should be noted that the Yerba Buena Center

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[4] Central Corridor Plan Draft Plan for Public Review, San Francisco Planning Department, April 2013, Available online at http://www.sf-planning.org/index.aspx?page=2557. Accessed on April 18, 2013.

[5] SFMTA, *2010-2011 San Francisco Collision Report*, August 2012. Available online at http://www.sfmta.com/cms/rtraffic/trafficrelatedindx.htm. Accessed on April 18, 2013.

[6] San Francisco Redevelopment Agency, *Yerba Buena Center Final Subsequent Environmental Impact Report*, San Francisco Planning Department, December 1992, Case No. 91.355E. A copy of this report is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, in the Planning Department EIR Library.

program analyzed in the *Yerba Buena Center Final Subsequent EIR* included 750,000 gsf of office uses on the project block (CB1), a higher-intensity use than the hotel/residential uses developed as part of the Four Seasons development, and the residential uses proposed as part of the proposed project.

Second Midblock Crossing on Mission Street

An accurate and objective response related to a midblock pedestrian crosswalk on Mission Street is provided under the subhead "Cumulative Pedestrian Analysis" in the RTC document, III.E.62-III.E.69. The original plans for Yerba Buena Gardens included a second signalized midblock pedestrian crossing across Mission Street between Third Street and Fourth Street. The existing signalized midblock pedestrian crossing is located at Yerba Buena Lane, about 260 feet from the east crosswalk on Fourth Street, and about 540 feet from the west crosswalk on Third Street. The second signalized midblock pedestrian crossing was proposed to be located about 220 feet from the west crosswalk on Third Street, and about 300 feet east of the existing signalized midblock pedestrian crossing at Yerba Buena Lane. This second mid-block crossing on Mission Street between Third Street and Yerba Buena Lane is not proposed by the project, and therefore, this feature was not analyzed as part of the project. The transportation analysis of the proposed project did not identify significant pedestrian impacts and so no mitigation measure such as a second midblock crossing would be required for the proposed project.

With respect to the Yerba Buena Redevelopment Plan environmental review, the second midblock crossing was identified as mitigation for impacts resulting from the implementation of the Plan. With respect to the implementation of this crosswalk, in April 2007, the San Francisco Redevelopment Agency requested installation of a new signalized midblock pedestrian crossing on Mission Street between Third and Fourth Streets. The City reviewed the planned installation of the second new signalized midblock pedestrian crossing on Mission Street in August 2007, as part of the Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT) review, and recommended disapproval of installation of the new signal. According to the minutes of the August 2007 ISCOTT meeting, the recommendation to disapprove installation of the new signal was based on potential delays to vehicles and buses, lack of funding, and because it was determined that an additional crossing was not needed.[7] As noted above, the proposed project impacts on pedestrian conditions in this case were considered less than significant, and therefore, no mitigation measures are required. Pedestrians destined to and from the south (e.g., Yerba Buena Gardens) would cross at Third Street, as analyzed in the EIR, or cross midblock at the existing signalized midblock crossing at Yerba Buena Lane. Given that the proposed project's impacts on pedestrians would be less than

[7] SFMTA, Minutes Interdepartmental Staff Committee on Traffic and Transportation, August 9, 2007. A copy of this document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of the files for Case No. 2008.1084E.

significant, and that there is an existing midblock pedestrian crossing at Yerba Buena Lane, the need for an additional crossing has not been demonstrated by the Appellant.

Therefore, in summary, the FEIR is adequate and accurate in its analysis of pedestrian impacts.

Noise

Issue: Construction and Stationary Operational Noise Impacts

Comments C.10 and D.10

"The EIR does not lawfully assess the significance of the Project's noise impacts in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

"a. Mitigation Measure M-NO-1a, for Impact NO-l, Construction Noise, includes a provision requiring 14 days advance notice for activities that will generate noise over 90 db. As the EIR recognizes, generating noise at this level is a significant noise impact. Therefore, the acknowledgment in the mitigation measures that noise will, in fact, be generated above this level, subject only to a notice requirement, demonstrates that this impact remains significant after mitigation.

"b. Mitigation Measure M-NO-3, for Impact NO-3 (Stationary Operational Noise Sources) is mitigated by measures that require compliance with San Francisco's noise ordinance, which provides a daytime and nightime interior receptor standards of 55 dBA and 45 dBA, respectively. State standards, as recognized in the DEIR, establish an interior receptor standard of 45 dBA. Therefore, mitigating to a standard of 55 dBA is not sufficient to find this impact less than significant." (*Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants provide no substantial evidence for their contention that the FEIR does not correctly analyze construction noise and stationary operational noise impacts, that mitigation measures would not reduce noise impacts to less-than-significant levels, or that the FEIR fails to identify appropriate alternatives to reduce noise impacts. The FEIR contains a thorough analysis of impacts and mitigation measures related to noise, no alternatives are required to analyze less-than-significant noise impacts, and the FEIR's analyses and conclusions are adequate and accurate. There were no public comments received on the DEIR related to noise, so no responses were required.

Impact NO-1, on EIR pp. IV.F.19-IV.F.21, identifies the impact of construction noise and includes a detailed assessment of the demolition, excavation, and construction activities and the types of noise sources and noise levels that would occur. In summary, Section 2907(a) of the San Francisco Noise Ordinance limits noise levels from construction equipment to 80 dBA L_{eq} at

100 feet between 7 AM and 8 PM, except for impact tools and equipment, which may exceed this noise level if intake and exhaust mufflers or other applicable noise–reduction are implemented to accomplish maximum noise attenuation. As stated in the FEIR, non-impact equipment and tools used for project construction are not expected to exceed the applicable Noise Ordinance limit of 80 dBA L_{eq} at 100 feet. The FEIR also discloses that impact activities such as pile driving could exceed 90 dBA L_{eq} at 100 feet. Consistent with Noise Ordinance requirements, two mitigation measures specifically address feasibly reducing the noise levels (M-NO-1a and M-NO-1b, pp. IV.F.21-IV.F.22), and each measure includes numerous noise control practices that would be implemented. Mitigation Measure M-NO-1b requires the project sponsor to employ intake and exhaust mufflers and other measures to reduce noise from pile driving to the maximum extent feasible. By ensuring compliance with the applicable Noise Ordinance limits for construction, implementation of these mitigation measures would reduce construction noise impacts to a less-than-significant level. The Appellants do not provide any evidence as to why the construction noise impacts would remain significant after implementing the mitigation measures.

The Appellants contend that Mitigation Measure M-NO-3: Stationary Operational Noise Sources, which requires compliance with the 45 dBA nighttime and 55 dBA daytime San Francisco Noise Ordinance limits for stationary sources, would not avoid a significant noise impact because the measure does not conform to the 24-hour interior noise standard of 45 dBA established in Title 24 of the California Code of Regulations. Impact NO-3 in the EIR, pp. IV.F.27-IV.F.29, identifies the types of new mechanical equipment that could cause increased noise levels from fixed, stationary sources and assesses the likelihood of noise levels being in excess of applicable standards, which in San Francisco is the San Francisco Noise Control Ordinance, not Title 24.

As stated in the EIR, p. IV.F.12, the State noise insulation standards contained in Title 24 of the California Code of Regulations, Noise Insulation Standards require new multifamily residential units to include insulating elements that would limit interior noise to 45 dBA on a day-night basis (Ldn), which considers all hours of a 24-hour day-night cycle. Title 24 establishes building performance standards for new structures, including residential units, and is not a CEQA standard of significance for noise impacts generated by construction. In other words, Title 24 will protect the new residents of the proposed project from the existing noise environment of the project vicinity.

The appropriate standard of significance to measure and analyze construction noise impacts to existing sensitive receptors resulting from the project itself is the San Francisco Noise Ordinance and the other standards set forth in the DEIR on p. IV.F.17. As summarized on EIR p. IV.F.16, the City's Noise Ordinance specifically protects existing residences with separate daytime and nighttime standards of 55 dBA between 7 AM and 10 PM and 45 dBA between 10 PM and 7 AM. The Appellants appear to confuse the different noise metrics of the two standards. Moreover, the project must, by law, comply with all standards contained in both the City's Noise Ordinance and the State noise insulation standards. Section 2909 of the Noise Ordinance

requires equipment noise to be controlled so that it does not produce a noise level more than 5 dBA above the ambient noise level at the property boundary (EIR p. IV.F.16), and because all off-site existing residences are at least 100 feet from the project property boundary, project-related equipment noise would attenuate over that distance so that the increase in ambient noise levels would be less than 5 dBA. Compliance with the State standards would ensure that new residential units are properly insulated to reduce interior noise levels to 45 dBA at all times. Mitigation Measure M-NO-3, pp. IV.F.29-IV.F.30, is required to ensure that a substantial permanent increase in ambient noise levels would not occur for existing residences in the project vicinity. The Appellants do not provide any evidence as to why the operational noise impact would remain significant after implementing the mitigation measure.

In summary, the FEIR is adequate and accurate in its analysis of construction and stationary operational noise impacts. The Planning Department provided a thorough, well-reasoned analysis of noise impacts and identified appropriate mitigation measures. No alternatives are required to address less-than-significant noise impacts.

Air Quality

Issue: Air Quality Impacts Related to Ozone and Average Daily Construction Emissions

Comments C.12 and D.12

"The EIR does not lawfully assess the significance of the Project's impacts on air quality, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

"a. The EIR sets forth six criteria (p. IV.G.19) by which it will analyze the significance of air quality impacts.

G. 1 Conflict with or obstruct implementation of the applicable air quality plan;

G.2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

G.3 Result in a cumulatively considerable net increase of any criteria air pollutant[1] for which the project region is in nonattainment[2] under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);

G.4 Expose sensitive receptors to substantial pollutant concentrations; or

G.5 Create objectionable odors affecting a substantial number of people.

"b. Construction of the proposed project would result in earth-moving activities and pollutants emitted by construction vehicles. The proposed project would include the 'siting of new sensitive receptors as well as the introduction of new stationary sources of emissions

subject to permitting requirements: a diesel fueled back-up emergency generator engine; and natural gas-fired mechanical systems or boilers. ...Development of the proposed project would introduce additional vehicular traffic in the project vicinity.' (EIR pp. IV.G.19-20) Further, 'land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities.' (EIR p. IV.G.22)

"c. The EIR fails to assess construction phase exposure of sensitive receptors to increased ozone pollution due to Project-caused increases emissions of ozone precursors (i.e., NOx and ROG.)

"d. Regarding ozone, PM10, and PM2.5, the EIR states, that 'Because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions.' (EIR pp. IV.G.21, 22) To the extent that, in taking this approach, the EIR categorically excludes 'temporary' impacts from being significant, this violates CEQA. Under CEQA, an EIR must analyze both short term and long term adverse impacts for their significance. The EIR appears to average emissions and thus hide impacts at periods of high stationary pollutant sources and hide variances in impacts based on proximity (distance) to the project site.

"e. **Impact AQ-1**. Impact AQ-I claims to analyze project construction for Threshold of Significance G2 and G3. Threshold of Significance G2 is 'violate any air quality standard or contribute substantially to an existing or projected air quality violation.' The assessment is based on numerical standards established by the Bay Area Air Quality Management District (BAAQMD) for ROG (54 lbs/day); NOx (54lbs/day); Exhaust PM10 (82 lbs/day); Exhaust PM2.5 (54 lbs/day). But the EIR cannot merely reference a project's compliance with another agency's regulations. Lead agencies must conduct their own fact-based analysis of project impacts, regardless of whether the project complies with other regulatory standards.

"f. Beyond the assertion of BAAQMD's standards of significance, the EIR does not present any quantitative analysis of the extent to which the Project will increase ozone precursor emissions and thereby contribute to this regional air basin's 'nonattainment' with federal and state ambient air quality standards for ozone. Without explanation, the EIR concludes that 'project construction-phase criteria air pollutant emissions that are at levels below the applicable thresholds would not ...contribute substantially to an existing or projected air quality violation.' (EIR p. IV.G.29). Table IV.G.5 shows that for NOx, while the total average daily emissions does not exceed the threshold of 54 lb/day, it does get substantially close at 49.76 lbs/day. (*Ibid.*) The EIR does not explain why it reaches the conclusion that the Project as proposed would not 'contribute' to an existing or projected air quality violation; or 'result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment.'

"g. The EIR claims to quantify construction emissions for each construction phase, but fails to disclose the emissions for each phase. (EIR p. IV.G.28) According to the EIR (EIR p. IV.E.52) there would be six partially overlapping construction phases:

- Phase 1 - Demolition (6 months)
- Phase 2 - Excavation and shoring (5 months)
- Phase 3 - Foundation and below-grade construction (5 months)
- Phase 4 - Building superstructure (14 months)
- Phase 5 - Exterior finishing (12 months)
- Phase 6 - Interior finishing (18 months)

"Instead, the EIR combined the emissions to determine 'average daily emission.' (EIR p. IV.G.28). The EIR does not disclose if there are significant impacts at particular periods that were hidden through such averaging. Elsewhere the EIR asserts that 'because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions.' (EIR pp. IV.G.21, 22). Yet, the EIR does not explain why only the averages, rather than peaks or extended periods of higher than average pollution emissions are applicable.

(Footnotes 1 and 2, cited in this text:)
"[1] As required by the 1970 federal Clean Air Act, the United States Environmental Protection Agency initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. EPA calls these pollutants **criteria air pollutants** because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. **Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead are the six criteria air pollutants** originally identified by EPA [emphasis in original]. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less **(PM10)** and particulate matter of 2.5 microns in diameter or less **(PM2.5)**. (EIR p. IV.G.2)
"[2] SFBAAB is currently designated as non-attainment for ozone and particulate matter (PMl0 and PM2.5). (EIR p.IV.G.21) NOx and ROG are precursors to ozone. (Air Quality Technical Report, EIR p. 3)" *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: **The Appellants provide no substantial evidence to support their contention that project emissions would lead to significant impacts, that mitigation measures in the FEIR are inadequate, or that new alternatives are required to address air quality impacts. The FEIR contains an adequate, accurate and objective analysis of impacts related to ozone and average daily construction emissions. There were no public comments received on the DEIR related to air quality, so no responses were required.**

The assessment approach and thresholds of significance are clearly disclosed in the EIR, pp. IV.G.20-IV.G.27. Rather than "merely reference" regulations, the EIR describes the Bay

Area Air Quality Management District's (BAAQMD) recommendations to lead agencies implementing CEQA and discloses the justifications underlying those recommendations. Contrary to the Appellants' statement, it is appropriate for the City to choose to use thresholds of significance established and adopted by the BAAQMD, as stated in the introduction to the Air Quality questions in the CEQA Checklist provided in Appendix G to the CEQA Guidelines, which states: "Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations." As explained on EIR pp. IV.G.20-IV.G.21, the Planning Department has determined that the BAAQMD's significance thresholds are appropriate for use in this EIR.

Emissions of construction phase ozone precursors (ROG and NOx) during project construction are quantified (Table IV.G.5, p. IV.G.29) and supported by detailed calculations (EIR Appendix F: *706 Mission Street Air Quality Technical Report*, with spreadsheet and model printouts found in Attachment A08 to the *Air Quality Technical Report*, available for public review at the Planning Department offices, as noted in footnote 1 in EIR Section IV.G, Air Quality). The EIR, pp. IV.G.2-IV.G.4, describes the nature of ozone as a secondary and regional air pollutant, meaning that it is not emitted directly but rather formed far downwind, following transport away from the project area and photochemical reaction during exposure to sunlight. Because ozone formation is indirectly caused by the emissions, project impacts are properly assessed by quantifying the project-related ozone precursors. The EIR accurately concludes in Impact AQ-1, pp. IV.G.28-IV.G.29, that quantification shows that low levels of precursor emissions would occur, and that increased ozone concentrations attributable to the proposed project would not be significant.

The EIR presents the ozone precursor emission rates during construction in Table IV.G.5. The Appellants assert that any emission (e.g., one molecule) could theoretically "contribute" to an existing or projected air quality violation in a nonattainment area. However, the BAAQMD and the City recognize that small levels of construction emissions will not substantially disrupt attainment planning, and that below a certain level, individual projects that emit during limited construction phases will not result in cumulatively considerable net increases of pollutants (EIR, pp. IV.G.21-IV.G.22). While any emissions of the precursors would contribute to ozone concentrations in the region, at the levels shown in Table IV.G.5, the project emissions would not contribute substantially to existing or projected violations or result in cumulatively considerable net increases.

The Appellants assert that the EIR "excludes temporary impacts" although the assessments in EIR Impacts AQ-1, AQ-2, and AQ-3 are devoted to the short-term construction phase. The EIR, in Table IV.G.5, recognizes the temporary and highly variable nature of construction and summarizes the results of the comprehensive calculations carried out to identify air emissions during construction. The Appellants inaccurately conclude that the EIR does not analyze short-term impacts. In fact, the EIR is supported by detailed emission calculations for each construction phase and each construction year (EIR Appendix F: *706 Mission Street Air Quality Technical Report*, with spreadsheet and model printouts found in Attachment A08 to the *Air*

Quality Technical Report). To assess variable construction emissions over the limited duration of construction, some averaging must occur. Contrary to "hiding" the variable construction emissions, the EIR approach does not apply annual average thresholds to construction because of the need to assess short-term (daily) impacts from the temporary construction sources. As stated on EIR pp. IV.G.21-IV.G.22, using shorter-term (daily) thresholds is more conservative than using annual average thresholds and appropriate for the limited duration of construction-phase emissions. The BAAQMD *CEQA Air Quality Guidelines*[8] recommend using average daily thresholds, and because the duration of construction would span more than one year, emissions are averaged over the total number of days impacts would occur. There would be no long-term air quality impacts from construction activities at the project site.

The EIR record of evidence in support of using the numerical Air Quality Significance Thresholds appears in the "Approach to Analysis," pp. IV.G.20-IV.G.27. The Appellants do not provide any substantial evidence as to why the impact of the construction phase emissions would remain significant after implementing the mitigation measure contained in M-AQ-3 on pp. IV.G.34-IV.G.35.

In summary, the appeal does not demonstrate that the FEIR fails to provide an adequate and accurate analysis of air quality impacts related to average daily construction emissions of ozone precursors. The Planning Department has prepared a thorough analysis of ozone and average daily construction emissions.

Issue: Air Quality Impacts Related to Construction Dust Emissions

Comments C.13 and D.13

"h. **Impact AQ-2**. The EIR fails to disclose whether construction of the Project would cause a potentially significant adverse impact from exposing sensitive receptors to substantial pollutant concentrations of fugitive dust. The EIR fails to perform this CEQA requirement despite conceding that 'demolition, excavation, and other construction activities can cause wind-blown dust and a local increase in the concentration of particulate matter' and that, 'depending on exposure, adverse health effects can occur due to particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.' (EIR pp. IV.29-30)

"i. Rather than analyze the potentially significant adverse impacts, the EIR summarily concludes that regulations and procedures of the San Francisco Health Code and Building Code, including preparation and implementation of a Dust Control Plan, 'would ensure that project generated fugitive dust air quality impacts would be less than significant' and thus 'no

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[8] BAAQMD *CEQA Air Quality Guidelines*, May 2011, pp. 2-2 - 2-3. A copy of this document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, as part of Case File No. 2008.1084E.

mitigation measures would be necessary.' There are a number of problems with this approach. First, the conclusion is not supported by reasoned analysis from facts to conclusion. Two, the Dust Control Plan is a mitigation not a part of the Project. Three, the Dust Control Plan will be submitted to the Director of Public Health after EIR certification, and is thus deferral of both impact analysis and mitigation formulation. The Dust Control Plan is deferral of impact analysis because this plan would for the first time include a map showing all sensitive receptors within 1000 feet of the site and analysis of wind direction. This is analysis that should properly be within the EIR, not created afterwards." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants provide no substantial evidence that project construction would lead to significant impacts related to dust emissions or that dust control measures would not be part of the proposed project. The FEIR contains a thorough and objective analysis of construction dust emissions, identifies required features of the City's Construction Dust Control Ordinance, and provides the specific items that Appellants contend are missing from the FEIR.

The EIR accurately assesses the impact of pollutant concentrations of fugitive dust in Impact AQ-2, EIR pp. IV.G.29-IV.G.30. The analysis describes the site-specific control measures applicable to the proposed project and takes into account the fact that the project must comply with the regulations and procedures of the San Francisco Health Code and Building Code, and that the project sponsor and/or construction contractor must prepare and implement a Dust Control Plan. The San Francisco Dust Control Ordinance is an existing regulatory requirement imposed by City ordinance and therefore is not a mitigation measure, contrary to the Appellants' assertions. The fact that the specific provisions of a project's Dust Control Plan are not identified in the FEIR does not make the requirement to prepare such a Plan and implement it once it is approved by the San Francisco Director of Public Health a deferred analysis or an ineffective requirement for controlling dust during construction. The Appellants also inaccurately state that the analysis defers showing a map of sensitive receptors; the FEIR does present such information in Figure IV.G.1, p. IV.G.12. The Air Quality Setting section of the FEIR, pp. IV.G.1-IV.G.2, discusses prevailing wind directions. The Appellants do not provide any evidence to contradict the conclusion that the impact of the fugitive dust emissions would be less than significant.

In summary, the Appellants have not demonstrated that the FEIR fails to provide an adequate analysis of air quality impacts related to construction dust emissions or that there is a deferral of impact analysis or mitigation formulation. The Planning Department has prepared a thorough analysis of construction dust emissions and properly identified the requirements of the San Francisco Dust Control Ordinance applicable to the proposed project.

Issue: Air Quality Impacts Related to Incremental Construction PM2.5 and TACs Emissions

Comments C.14 and D.14

"j. The EIR's assessment of construction phase exposure of sensitive receptors to increased emissions of PM2.5 and toxic air contaminants, including diesel particulate matter is based on numerical standards established by the BAAQMD (and EPA for PM2.5, i.e., 0.3 micrograms per cubic meter)). These thresholds are 'excess cancer risk of 10 per million, chronic or acute HI of 1.0, or annual average PM2.5 concentrations in excess of 0.3 micrograms per cubic meter.' (DEIR IV.G.31.) But the EIR provides no factual evidence to show that these general standards are appropriate for measuring the significance of this Project's impacts in this particular environmental setting, or that the EPA's standard for PM2.5, which is an annual average standard, is appropri[a]te for measuring the risk posed by construction activities that exceed the average for extended periods of time." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants incorrectly contend that the FEIR provides no evidence to show that standards used in the analysis of PM2.5 and toxic air contaminants (TACs) were appropriate, but provide no substantial evidence to support these contentions and suggest no alternative standards. The FEIR appropriately uses BAAQMD standards and provides a thorough, accurate and conservative analysis of PM2.5 and TACs emissions that supports a determination of less-than-significant impacts.

Evidence in support of using the numerical Air Quality Significance Thresholds appears in the EIR "Approach to Analysis," pp. IV.G.20-IV.G.27. The level of 0.3 micrograms per cubic meter that is used as a threshold of significance for incremental PM2.5 concentrations (EIR Table IV.G.4, p. IV.G.20) takes into account the fact that the project site is within a nonattainment area for particulate matter (as shown in Table IV.G.3, p. IV.G.14). Although local concentrations of PM2.5 in San Francisco have not exceeded 11.7 micrograms per cubic meter in recent years and therefore have not exceeded the State or Federal standards (EIR Table IV.G.1, p. IV.G.3), regional PM2.5 conditions are known to exceed the ambient standard of 12 micrograms per cubic meter on an annual basis. Accordingly, the analysis properly relies upon a stringent threshold for incremental changes. The incremental threshold of 0.3 micrograms per cubic meter allows a project impact of only 2.5 percent of the ambient standard. As stated on p. IV.G.2 of the EIR, ambient air quality standards are set at levels to protect the public health and welfare. The factual evidence demonstrating the appropriateness of the PM2.5 risk thresholds appears on EIR pp. IV.G.23-IV.G.25, under "Health Risks and Hazards from New or Modified Sources." As concluded on EIR pp. IV.G.35-IV.G.36, use of these annual thresholds for the limited duration of construction phase impacts is a conservative approach that ensures that substantial concentrations of construction period TAC emissions would not result in significant health risks to nearby sensitive receptors.

In summary, the FEIR is adequate and accurate in its analysis of air quality impacts related to incremental PM2.5 and TACs. The Planning Department has prepared a thorough analysis of construction emissions and used a conservative threshold.

Issue: Air Quality Construction-Related Health Risks

Comments C.15 and D.15

"k. **Impact AQ-3.** The EIR does not clearly state if Project construction would cause a significant impact of exposing sensitive receptors to substantial concentrations [of] PM2.5 and toxic air contaminants, including diesel particulate matter. The heading for Impact AQ-3 states only 'Less than Significant with Mitigation' and Table IV.G.7 has a 'yes' for significant excess cancer risk per million, but there is no discussion of the significance in the narrative discussion of the impact.

"l. Further, the EIR does not disclose or describe how severe this impact would likely be, contrary to CEQA's requirement of full disclosure. From Table IV.G.7 the inference is that 27.3 people will die from cancer per population of one million. However, the EIR fails to describe the risk or severity of impact to each of the populations listed at Table IV.G.6. Table IV.G.6 shows that residents of the Paramount Residences live within 100 feet of the Project, the St. Regis Residences within 150 feet, the Four Seasons Hotel and Residences 300 feet away, the Ritz-Carlton Club & Residences within 650 feet, the Yerba Buena Gardens Child Development Center 920 feet away, and the residents of the Woolf House Apartments at 1000 feet. The EIR breaks out the excess cancer risk for the Yerba Buena Gardens Child Development Center, but lumps all other sensitive receptors together.

"m. The averaging of risk and omission of analysis of risk based on proximity to the Project is particularly troublesome given that the EIR elsewhere discloses that air pollution monitoring has confirmed that health effects 'vary with modeled exposure' to particulate matter and NO2. For example, in traffic-related studies, the additional non-cancer health risk attributable to roadway proximity 'was seen within 1,000 feet of the roadway' and 'was strongest within 300 feet.'[3] (EIR p. IV.G.8) 'As a result, the ARB [Air Resource Board] recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day.' Because of the scientific data on dispersion of Toxic Air Contaminants (TACs) from a source, the BAAQMD recommends assessing impacts of sources of TACs on nearby receptors within a 1,000-foot radius. However, the requirement to analyze within 1000 feet does not obviate the need to conduct analysis for risk and potentially significant adverse impacts based on proximity. Here, in fact, the EIR concedes that 'the compact Project site and lack of buffer space between the site boundary and sensitive receptors limit the ability for construction-phase emissions to disperse.' (EIR p. IV.G.32.) The EIR admits that 'the highest pollutant concentrations would occur at the existing residential receptors across Third Street about 100 feet to the northeast' (EIR p. IV.G.32) but doesn't state what those excess cancer levels would be or if they are significant.

"n. Likewise, the EIR uses average emissions rates without disclosing the 'higher short-term rates' which would occur as emissions vary during the construction period. (EIR p. IV.G.32) Given that emissions will 'diminish substantially during the final phase of interior and finishing activities' and that averaging is used, potentially significant adverse impacts may occur, but the EIR [has] failed to investigate this impact.

(Footnote 3, cited in this text:)
"[3] Similarly, 'ARB regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area.' (EIR p. IV.G.16)"

(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)

Response: The Appellants contend that the FEIR fails to state that construction would cause substantial concentrations of PM2.5 and TACs and fails to describe the severity of the impact; however, they provide no new evidence that project emissions of PM2.5 or TACs during construction would lead to significant impacts. The FEIR contains a thorough and accurate analysis of impacts related to construction-related health risks from emissions of PM2.5 and TACs, and clearly identifies the severity of the impact both before and after mitigation.

The EIR accurately and clearly presents the result of the assessment of health risk and hazards in Impact AQ-3. EIR Table IV.G.7 (p. IV.G.32), Summary of Risk and Hazards, Unmitigated Construction Impacts to Sensitive Receptors, shows the cancer risk impact before considering mitigation, and identifies the excess cancer risk as a significant impact. EIR Table IV.G.8 (p. IV.G.34), Summary of Risk and Hazards, Mitigated Construction Impacts to Sensitive Receptors, shows the significance after mitigation and concludes that with aggressive control of diesel construction equipment emissions in Mitigation Measure M-AQ-3, the impact would be reduced to a less-than-significant level. As explained in the EIR on pp. IV.G.27 and IV.G.33, a detailed forecast of the potential construction equipment fleet and related construction activities prepared by the project sponsor was used to quantify construction emissions for the mitigated scenario.

The assessment narrative (EIR pp. IV.G.34-IV.G.36) explains the emissions control strategies that would be applied to mitigate the impact of construction health risks and hazards to a less-than-significant level. Contrary to the Appellants' assertions, the EIR specifically identifies a significant excess cancer risk as a result of the proposed project for sensitive receptors across Third Street and explains the basis for the significance determination. The EIR goes on to explain that an analysis of possible methods to reduce construction emissions was undertaken, including a project-specific review of changes to the construction fleet as proposed by the project sponsor based on coordination with likely construction equipment fleet owners and operators. Thus, the project sponsor has already complied with a portion of Mitigation Measure M-AQ-3 requiring preparation of a Construction Emissions Minimization Plan; the analysis

prepared for the EIR quantifies the emissions reduction achieved with this plan, with the results summarized in Table IV.G.8. The conclusion in the EIR, that implementation of Mitigation Measure M-AQ-3 would reduce the estimated cancer risk to below the project-level threshold of significance, is correct. Analysis details are provided in the *Air Quality Technical Report*.[9]

For all risk impact values shown in Table IV.G.7 and Table IV.G.8, the impact is shown for the maximally exposed individual sensitive receptor (MEI, across Third Street about 100 feet to the northeast), meaning that all residents at other locations farther away, such as the St. Regis Residences, the Four Seasons Hotel and Residences, and other sensitive receptors farther from the project site would experience lower impacts. The EIR's discussion of ARB recommendations related to distances from roadways is for long-term exposure to pollutants from high volumes of traffic, and is not related to short-term construction impacts. The EIR, p. IV.G.23, explains that because cancer risk and health risk from PM2.5 exposure are assessed over relatively longer-term exposure periods (9, 40, and 70 years), use of the annual average concentrations in the analysis of construction impacts ensures accurate presentation of potential risks for the shorter and limited duration of construction.

In addition, the air quality assessment conducted for the proposed project provided results for acute non-cancer hazards. The acute non-cancer hazard index standard addresses higher short-term emissions and the potential health risk resulting from short-term exposure. The acute non-cancer hazard is not based upon average emissions. Instead, it is based upon the maximum emissions that could occur during a 1-hour construction period. The acute non-cancer hazard for the proposed project was determined to be 0.019 for the maximally exposed individual, which is less than the significance threshold of 1.0. Information and the results with respect to the acute non-cancer hazard are described on EIR pp. IV.G.24 and IV.G.31-IV.G.33.

In summary, the FEIR is adequate and accurate in its analysis of air quality construction-related health risks.

Issue: Mitigating Construction-Related Health Risks

Comments C.16 and D.16

"o. **Mitigation Measure M-AQ-3**. The EIR vaguely claims that Mitigation Measure M-AQ-3 implementation would reduce the estimated cancer risk impacts experienced by off-site receptors to below the project-level threshold of significance, but fails to disclose if this reduction will be experience[d] by all off-site receptors listed in Table IV.G.6 or only a portion.

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[9] Aspen Environmental Group, *706 Mission Street Air Quality Technical Report*, February 2012. This document is included in the EIR as Appendix F, and its appendices are available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2008.1084E.

"p. The EIR relies upon a 'Construction Emissions Minimization Plan' which it claims will reduce construction period diesel by 65%, but fails to disclose how it reached this conclusion or more specifically this percentage reduction.

"q. The EIR fails to describe the changes in the proposed construction fleet, emissions factors for equipment with and without controls, and the effectiveness of these controls for the project-specific construction fleet. (EIR p. IV.G.36). In regards to these changes, the EIR cites to an attachment to the Air Quality Technical Report which is not available to the public for review as the attachment is not included in the EIR or its Appendices." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants contend that the FEIR fails to disclose how it reached the conclusion that Mitigation Measure M-AQ-3 would reduce construction-related health risks to less-than-significant levels, and that the Air Quality Technical Report is not available to the public for review. Contrary to this contention, the Planning Department provided appropriate background technical information supporting the FEIR's conclusions in the FEIR text and its Appendices; technical air quality calculations are available for public review at the Planning Department offices. The FEIR contains an accurate analysis of impacts that would result with implementation of the mitigation measure.

Mitigation Measure M-AQ-3, EIR pp. IV.G.34-IV.G.35, reflects the results of a project-specific review for feasible emission controls for each type of diesel-powered equipment in the proposed construction fleet, and describes how that fleet would be controlled. Appendix F in the EIR includes the *706 Mission Street Air Quality Technical Report* (without appendices); the complete *706 Mission Street Air Quality Technical Report* including appendices (as described on EIR p. IV.G.1, footnote 1) is available to the public for review at the San Francisco Planning Department and is included in the administrative record as part Case File No. 2008.1084E. The EIR also includes Appendix G, *Construction Emissions Minimization Spreadsheet*, which accurately details how construction emissions would be reduced. The *Construction Emissions Minimization Spreadsheet* shows the changes that each type of equipment in the construction fleet would need to implement under the mitigation measure. The emission factors and effectiveness of controls for diesel particulate matter (DPM) are shown in the spreadsheet before and after applying the mitigation measure. The EIR accurately concluded that implementation of Mitigation Measure M-AQ-3 would reduce the cancer risk impacts for all off-site receptors (EIR Table IV.G.8, p. IV.G.34, and pp. IV.G.35-IV.G.36). By reducing the significant impacts to the maximally exposed individual sensitive receptor, the mitigation measure would also reduce any significant impacts to sensitive receptors located at greater distances from the construction activities.

In summary, the FEIR is adequate and accurate in its analysis of the mitigation of construction-related health risks.

Greenhouse Gas Emissions

Issue: Greenhouse Gas Emissions Impacts

Comments C.17 and D.17

"The EIR does not lawfully assess the significance of the Project's impacts on greenhouse gases, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

"a. The analysis does not quantify the Project's GHG emissions. Therefore, it cannot and does not apply the first of its two stated 'thresholds of significance' (i.e., threshold H.1.)[4] Instead, it folds the first threshold into its second one to produce one threshold, i.e., the Project's compliance with the City's 'Strategies to Address Greenhouse Gas Emissions.' But the 'Strategies' does not have a provision addressing GHG emissions associated with the manufacture or transportation to the project site of construction materials to be used in the building. A significant fraction of the global warming impact of construction comes from the greenhouse gasses embedded in the construction materials themselves. These materials take energy, and therefore greenhouse gasses, to make.

(Footnote 4, cited in this text:)
"[4] Implementation of the proposed project would have a significant effect on greenhouse gas emissions if the project would: H.1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or H.2. Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. (DEIR 4.H-16.)" *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants state that the FEIR Greenhouse Gas (GHG) Emissions assessment is inadequate since it does not quantify the project's GHG emissions without providing evidence to demonstrate why quantification would be necessary. The FEIR contains a thorough and accurate analysis of project impacts related to GHG emissions. There were no public comments received on the DEIR related to greenhouse gases, so no responses were required.

EIR Section IV.H, Greenhouse Gas Emissions, p. IV.H.7, describes the role played by local governments in making land use planning and urban growth decisions to accommodate population growth and the changing needs of their jurisdictions. The "Approach to the Analysis" subsection (EIR pp. IV.H.16-IV.H.18) explains the City and County of San Francisco's plans and programs, and the *Strategies to Address Greenhouse Gas Emissions*, and how the City's plans, programs, and strategies guide local land use decisions and contribute to GHG emission reductions. As noted on EIR pp. IV.H.17-IV.H.18, the BAAQMD reviewed the City's strategies and concluded that they serve as a model from which other communities can learn. The

approach employed by San Francisco to determine the significance of GHG impacts is consistent with CEQA Guidelines15064.4(2), which states that the lead agency may rely on a qualitative analysis or performance standards when determining the significance of a project's GHG impact. The Appellants contend that compliance with the City's GHG Reduction Strategy would not ensure that the project would not generate GHG emissions that may have a significant impact on the environment because the GHG Reduction Strategy does not address greenhouse gases embedded in the construction materials and in the energy used to manufacture and transport the construction materials used for the project.

GHG emissions related to the manufacture and transportation of construction materials are known as "lifecycle emissions." There is no regulatory definition for "lifecycle emissions," and the California Natural Resources Agency (CNRA) has stated that requiring a lifecycle analysis may not be consistent with CEQA.[10] In issuing the amendments to the State CEQA Guidelines that became effective in March 2010, the CNRA explained that even if a standard definition for "lifecycle" existed, the term might be interpreted to refer to emissions beyond those that could be considered "indirect effects" as defined by CEQA Guidelines, and therefore, beyond what a lead agency is required to estimate and mitigate.[11] As such, the EIR need not quantify the lifecycle emissions in order to determine impact significance. Compliance with the City's GHG Reduction Strategy is an adequate and appropriate standard for determining whether the project-related GHG emissions would have a significant impact on the environment under CEQA.

In summary, the FEIR is adequate and accurate in its analysis of greenhouse gas emissions impacts.

Shadow

Issue: Shadow Impacts on City Parks

Comment A.7, C.7a, and D.7a

"The EIR does not lawfully assess the significance of the Project's shadow impacts on several City Parks, including Union Square and Jessie Square, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues." *(Letter A: Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, Letter C: Supplement to Appeal*

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[10] California Natural Resources Agency, 2009. Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97, pp. 71–72. http://ceres.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf, accessed April 15, 2013.

[11] Ibid, p. 71.

Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)

Response: The Appellants provide no substantial evidence to support the concern expressed in the Appeal Letter related to shadow impacts on City parks. The FEIR contains a thorough, detailed analysis of project-related shadow impacts on Recreation and Park Commission properties, other public open spaces, and privately owned publicly accessible open spaces. The FEIR accurately concludes that the proposed project would have less-than-significant project-level shadow impacts on parks, outdoor recreation facilities, and other public areas, and would make a cumulatively considerable contribution to significant cumulative shadow impacts on parks, outdoor recreation facilities, and other public areas. The FEIR's conclusions are supported by substantial evidence. Furthermore, the FEIR identifies two project alternatives that would reduce shadow impacts on Union Square and would substantially reduce cumulative shadow impacts when compared to the proposed project.

The Appellants provide no substantial evidence to support the concerns expressed in the Appeal Letter. The analysis in EIR Section IV.I, Wind and Shadow, pp. IV.I.30-IV.I.61, includes 32 pages of text and graphics related to the comprehensive analysis of the proposed project's shadow impacts on Recreation and Park Commission properties (Union Square, Boeddeker Park, Huntington Park), other public open spaces (Jessie Square and Yerba Buena Gardens - the Esplanade and the East Garden), Yerba Buena Lane, Hallidie Plaza, Maiden Lane, Moscone Plaza), and privately owned public accessible open spaces, referred to as POPOs (835 Market Street, 212 Stockton Street, 345 Stockton Street, 1 Kearny Street, 1 Post Street, 560 Mission Street, Westin Plaza). All conclusions in the FEIR related to shadow impacts are supported by substantial evidence.

On pp. IV.I.42-IV.I.43, the EIR found that the proposed project would cast net new shadow on Union Square during the morning hours from early October through early November and from early February through early March. However, due to the time of day and the limited times of year that would be affected, the project-related shadows would not impair the use or enjoyment of Union Square. On pp. IV.I.43-IV.I.46, the EIR found that the proposed project would not cast net new shadow on Boeddeker Park or Huntington Park at any time during the year.

On pp. IV.I.46-IV.I.55, the EIR found that the proposed would cast net new shadow on Jessie Square and Yerba Buena Lane. Throughout the year, net new project-related morning shadow on Jessie Square would recede as the day progresses, and the proposed project would not shadow the square by late morning or early afternoon, depending on the time of year. The additional shadows from the proposed project would not substantially affect the use of the seating areas in Jessie Square, because the seating areas can continue to function even if they are shadowed during the day, although the seating areas may be less pleasant without sunlight. The proposed project would cast net new shadow on Yerba Buena Lane for a short period in the morning during the summer, but this shadow would not substantially affect the use of Yerba Buena Lane. At other times throughout the year, the shadow from the proposed project would

not reach Yerba Buena Lane, or it would be masked by existing shadows cast by other buildings in the area. The proposed project would not cast net new shadow on Yerba Buena Gardens, Hallidie Plaza, or Maiden Lane at any time during the year.

On pp. IV.I.55-IV.I.58, the EIR found that the proposed project would cast net new shadow on some POPOs and public sidewalks. The EIR concluded that the shadow would not substantially affect the use of these spaces.

On p. IV.I.58, the EIR concluded that, due to the times of day and times of year that would be affected, the duration of shadow, the proportion of open space that would be affected by net new shadow, and the use of the areas affected, the project-related shadows would not substantially impair the use and enjoyment of these public open spaces, and that the project would have a less-than-significant shadow impact on public open spaces.

On pp. IV.I.58-IV.I.61, the EIR found that the proposed project, in combination with past, present, and reasonably foreseeable future projects in the project vicinity, would create new cumulative shadow in a manner that would substantially affect parks, outdoor recreation facilities, or other public areas, and that the proposed project's contribution to this significant cumulative impact would be cumulatively considerable. The EIR accurately concludes there is no feasible mitigation for the proposed project's contribution to significant cumulative shadow impacts, because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters, and that any significant development on the project site would shadow some public open spaces. Therefore, the EIR found the cumulative shadow impact to be significant and unavoidable, and the proposed project would make a cumulatively considerable contribution to this significant cumulative shadow impact.

The EIR identified two project alternatives, the Existing Zoning Alternative, pp. VII.15-VII.40, and the Reduced Shadow Alternative, pp. VII.92-VII.117, that would not result in net new shadow on Union Square and would reduce the proposed project's contribution to significant cumulative shadow impacts when compared to the proposed project, although not to a less than cumulatively considerable level. In response to comments received on the DEIR, the RTC document confirmed that the range of alternatives analyzed in the EIR is adequate (see the RTC document, pp. III.I.1-III.I.8). The Appellants do not provide any substantial evidence demonstrating why the range of alternatives analyzed in the EIR is neither reasonable nor adequate.

The Appellants contend that the EIR fails to respond adequately to comments regarding shadow. The Appellant provides no support for this contention by way of evidence or example. The Planning Department provided thorough and well-reasoned written responses to more than 30 comments related to shadow on pp. III.F.3-III.F.30 of the RTC document. These comments expressed concern over additional shadow on parks in downtown San Francisco, the proposed project's compliance with Planning Code Section 295, the legality of amending the established shadow budget on Union Square, the lack of alternatives that would reduce the

shadow impact on Jessie Square, the lack of an adequate discussion of cumulative shadow impacts, and the lack of mitigation measures to reduce the proposed project's shadow impacts. Responses to these comments explained that the EIR discussed the project's shadow impacts on all public open spaces identified in the comments; discussed the procedure for compliance with Planning Code Section 295 and noted that comments expressing opposition to increasing the shadow budget for additional net new shadow on Union Square are not related to the adequacy or accuracy of the EIR; incorporated a discussion of an alternative to reduce shadow on Jessie Square under Response I.3 in Section III.I, Alternatives, RTC pp. III.I.17-III.I.25; clarified when the project and development proposed under the *Transit Center District Plan* (TCDP) would cast net new shadow on Union Square; explained that shadow may only be reduced by eliminating or altering the building element that casts shadow; and explained that three of the alternatives analyzed in the EIR would not cast net new shadow on Union Square – the No Project Alternative, the 196-foot-tall Existing Zoning Alternative, and the 351-foot-tall Reduced Shadow Alternative.

In summary, the FEIR is adequate and accurate in its analysis of shadow impacts.

Issue: Shadow Impacts on Union Square

Comments C.7b and D.7b

"b. The EIR concludes the Project will generate more net new shadow on Union Square (337,744 square feet) than either the Planning Commission or the Recreation and Park Commission have the authority to currently allow pursuant to Proposition K, Planning Code Section 295 and the long standing Regulations adopted by City Planning and Recreation and Parks to carry out Proposition K and Planning Code Section 295.

"c. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant." But the EIR concedes that this impact will use up over 100% of the park's current shadow budget (and over 60% of the park's current shadow budget even if the reduction in shadow caused by the Macy's remodel is factored in). Not only is this incremental impact "cumulatively considerable" as the EIR concedes, it is significant in its own right.

"d. The EIR essentially concludes that only new shadows that strike Union Square between 10:00 a.m. and 3:00 p.m[.] can be significant despite the fact that both Proposition K and Planning Code Section 295 are set up to limit any new shadow on a park under the jurisdiction of Recreation and Parks from one hour after sunrise to one hour before sunset. These are the hours that have been deemed significant by the voters in passing Proposition K in 1984, the City in establishing Section 295 and the long standing regulations adopted thereunder.

"e. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant" but its cumulative shadow impact on Union Square to be "significant." This latter finding triggers an obligation that the EIR identify feasible mitigation measures that would "substantially reduce" the impact. The EIR does not even attempt to do so. Instead, the EIR finds that all mitigation measures that would substantially reduce this significant impact are

infeasible, stating: "There is no feasible mitigation for the proposed project's contribution to cumulative shadow impacts, because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters." These are not legally valid grounds for the EIR to dispense with any mitigation analysis at all.

"f. The EIR contends that "there are situations under which new shadow that is considered significant under Planning Code Section 295 would not have a significant environmental impact under CEQA. (DEIR p. IV.I-60.) This is incorrect as matter of law. (See Planning Code § 298(b) ["The City Planning Commission shall conduct a hearing and shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant"].)

"g. The Planning Commission agenda for its now canceled hearing of April 11, 2013 contained, as Items 1.a and 1.b:

"1.a. 706 MISSION STREET . . . and UNION SQUARE . . . Discussion and possible joint action by the Planning Commission and Recreation and Park Commission to raise the cumulative shadow limit for Union Square, pursuant to the jointly-approved Section 295 Implementation Memo adopted in 1989, in order to accommodate new shadow cast by the 706 Mission Street project.

"1.b. 706 MISSION STREET. . . UNION SQUARE. . . Request to Consider whether the net new shadow cast by the project at 706 Mission Street on Union Square will be adverse to the use of the park, and to authorize the allocation of the cumulative shadow limit for Union Square to the project, as required by Section 295 (the Sunlight Ordinance).

"(1) The Planning Commission's proposed decision is to increase the cumulative shadow limit for the Park by 0.09%. But the 706 Mission Street EIR does not assess a general increase in the cumulative shadow limit, i.e., one that might be allocated to a different building than 706 Mission Street. Any such different building might cast new shadow at different times of the day or year than the shadow that will be cast by the proposed 706 Mission Street building. This EIR cannot be certified for this broader approval.

"(2) The EIR also fails to account for the fact that the Planning and Recreation and Park Commission's serial adjustments to the cumulative shadow limit for Union Square (see e.g., the adjustment approved in October 2012) are based on a "moving baseline" that has no end in sight. Under this flawed logic, small changes can be incrementally approved one at a time, each considered less than significant when made. The result: sunlight on Union Square will suffer death by a thousand cuts." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants provide no substantial evidence to support the concern expressed in the Appeal Letters. The EIR adequately analyzes the proposed project's shadow impacts

and appropriately concludes that the proposed project would have a less-than-significant shadow impact on public open spaces (including Union Square), but would be a cumulatively considerable contributor to significant cumulative shadow impacts on public open spaces (including Union Square). The RTC document adequately and thoroughly explains the legality of amending the established shadow budget for Union Square pursuant to Planning Code Section 295 and how the significance of a shadow impact is determined under Planning Code Section 295 and CEQA. In addition, the FEIR evaluates two alternatives that would reduce the proposed project's cumulatively considerable contribution to significant unavoidable cumulative shadow impact, and that would eliminate the project's net new shadow impact on Union Square.

The Appellants state that the proposed project would generate more net new shadow on Union Square than the Planning Commission and the Recreation and Park Commission have the authority to allow pursuant to Planning Code Section 295. This issue is fully discussed on pp. III.F.10-III.F.11 and is summarized here. Proposition K did not establish quantitative shadow limits on Recreation and Park Commission parks, but rather directed the Planning Commission and the Recreation and Park Commission to establish criteria for determining whether a project would have a significant adverse impact on the use of such parks. On February 7, 1989, the Planning Commission and the Recreation and Park Commission jointly established shadow budgets for 14 downtown parks, including Union Square. These shadow budgets regulate the amount of net new shadow that future development projects can cast on each of these 14 downtown parks. Having established those shadow budgets, the two commissions have the authority to amend those shadow budgets and have done so several times since 1999. The most recent amendments to some of those shadow budgets, including the shadow budget for Union Square, occurred on October 11, 2012 as part of the approvals for the TCDP. The Planning Commission and the Recreation and Park Commission have the authority to further amend the shadow budget for Union Square.

Under the longstanding approach/methodology used by the Planning Department to evaluate shadow impacts, the thresholds for determining the significance of shadow impacts pursuant to CEQA and Planning Code Section 295 are different. The term "significant shadow impact" has a different meaning under Planning Code Section 295 than under CEQA. Under Planning Code Section 295 any shadow that exceeds the shadow budget for a particular park is considered "significant" for purposes of Planning Code Section 295. In contrast, the significance threshold for environmental review includes a broader range of shadow-related considerations that may include not only quantitative criteria, but also open space usage, the time of day and/or time of year that the shadow would occur, the types of facilities that would be affected, the intensity, size, shape, and location of the shadow, and the proportion of open space that would be affected. However, the shadow impact analysis conducted for CEQA informs the decisions made pursuant to Planning Code Section 295.

The Appellants state that the proposed project would have significant project-level shadow impacts on Union Square in addition to a cumulative shadow impact, to which the proposed

project would make a cumulatively considerable contribution. In addition, the Appellants state that the FEIR appears to take the position that only shadows that fall on Union Square between 10:00 AM and 3:00 PM would be considered significant even though Planning Code Section 295 applies to the period from one hour after sunrise until one hour before sunset. The Planning Department provided thorough and well-reasoned responses to these contentions on pp. III.F.17-III.F.18 of the RTC document. As summarized in the RTC document, some of the figures presented in the EIR show the net new project shadow that would occur during the period from 10:00 AM until 3:00 PM, because this is the time of day when parks and open spaces in downtown San Francisco typically experience their heaviest use. However, the EIR does not ignore the period before 10:00 AM or after 3:00 PM. The EIR discusses the proposed project's shadow impacts on Union Square, which would occur before 9:30 AM (EIR pp. IV.I.42-IV.I.43). The shadow analysis conducted by CADP, which is the basis for the EIR discussion, covers the period from one hour after sunrise until one hour before sunset. This analysis in the EIR is designed to determine whether the shadow is significant for purposes of CEQA, but it is also consistent with the provisions of Planning Code Section 295. The annual amount of net new project shadow is not the sole factor in determining the significance of the proposed project's shadow impact on Union Square for purposes of CEQA. The significance criterion used by the Planning Department with respect to shadow is whether or not a proposed project would "Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas." If so, the proposed project would be considered to have a significant shadow effect. A number of factors were considered, including the size of the area shadowed and the duration of the shadow, the time of day and the time of year when the shadow would occur, the areas of the park that would be affected, and how the shadow would impact the use of the affected areas of the park.

On p. IV.I.58, the EIR concluded that, due to the times of day and times of year that would be affected, the duration of shadow, the proportion of open space that would be affected by net new shadow, and the use of the areas affected, the project-related shadows would not substantially impair the use and enjoyment of public open spaces (including Union Square), and that the proposed project would have a less-than-significant shadow impact on public open spaces (including Union Square) under CEQA. No mitigation measures are required. These conclusions regarding the physical environmental impacts of the project remain valid, notwithstanding the fact that approval of the proposed project would require an increase in the shadow budget for Union Square under the requirements and implementing policies of Planning Code Section 295.

The Appellants state that the EIR does not attempt to identify feasible mitigation measures that would substantially reduce the proposed project's cumulatively considerable contribution to a significant cumulative shadow impact on Union Square. The EIR concluded that the proposed project would be a cumulatively considerable contributor to significant unavoidable cumulative shadow impacts on public open spaces (including Union Square).

As noted on p. III.F.29 of the RTC, shadow impacts may be reduced in the sense that the size of the area shadowed or the duration of a shadow can be reduced by eliminating or altering the building element that casts the shadow. The DEIR, pp. IV.I.60-IV.I.61, explained that there is no feasible mitigation for the proposed project's cumulative shadow impacts on public open spaces because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters, and any significant development on the project site would shadow downtown open spaces and sidewalks that may also be affected by other downtown development. Still, the proposed project was redesigned to reduce its shadow impact on Union Square. As originally proposed, the project had an elliptical tower design that was approximately 630 feet tall and 170 feet wide at the highest level. That proposal was modified to reduce the height and width of the tower to reduce shadowing. In addition, the tower massing and core were moved 15 feet to the west on the project site, and the cantilever over the Aronson Building was reduced from 106 feet to 8 feet to further reduce shadow on Union Square. The mid to lower portion of the tower, not the top portion, casts net new shadow on Union Square; therefore, no further modification of the tower could eliminate the tower's net new shadow on Union Square unless the height of the tower were reduced to approximately 351 feet or less, but even then the proposed project would still shadow other downtown open spaces and sidewalks. Thus, there is no feasible mitigation to reduce the project's contribution to a significant cumulative shadow impact on public open spaces to a less-than-significant level.

While there is no feasible mitigation for the proposed project's cumulatively considerable contribution to significant cumulative shadow impacts, as discussed on EIR pp. IV.I.60-IV.I.61, the EIR analyzed two alternatives that would reduce the proposed project's cumulatively considerable contribution to cumulative shadow impacts. Both of these alternatives would eliminate the proposed project's net new shadow on Union Square. However, the EIR concluded that even these alternatives would not reduce the proposed project's contribution to cumulative shadow impacts on public open spaces to a less than cumulatively considerable level, because any significant development on the project site would contribute to shadow on public open spaces (even without net new shadow on Union Square).

As discussed on EIR p. VII.33, the Existing Zoning Alternative, which is 196 feet tall (354 feet shorter than the proposed project), would result in no net new shadow on Union Square. However, the Existing Zoning Alternative would still shadow other public open spaces, POPOs, and public sidewalks. For this reason, the Existing Zoning Alternative would make a cumulatively considerable contribution to a significant cumulative impact on public open spaces, POPOs, and public sidewalks, albeit reduced compared to that of the proposed project as discussed on EIR p. VII.33.

Similarly, as discussed on EIR pp. VII.110-VII.111, the Reduced Shadow Alternative, which is 351 feet tall (199 feet shorter than the proposed project), would result in no net new shadow on Union Square. However, the Reduced Shadow Alternative would still shadow other public open spaces, POPOs, and public sidewalks. For this reason, the Reduced Shadow Alternative would make a cumulatively considerable contribution to a significant cumulative impact on

public open spaces, POPOs, and public sidewalks, albeit reduced compared to that of the proposed project as discussed on EIR p. VII.111.

The Appellants state that the FEIR's contention that there are situations under which new shadow that is considered significant under Planning Code Section 295 would not have a significant environmental impact under CEQA is incorrect as a matter of law. This contention is not correct, because as described above the term "significant shadow impact" has a different meaning under Planning Code Section 295 than under CEQA. This issue is fully discussed on pp. IV.I.40-IV.I.41 of the EIR and is summarized above.

The Appellants state that the FEIR does not assess a general increase in the shadow budget for Union Square (i.e., an increase in the shadow budget for a project different from 706 Mission Street) and, therefore, cannot be certified for this broader approval. This statement is correct. The EIR assessed the amount by which the shadow budget for Union Square would have to be increased for the proposed project (p. IV.I.43). The EIR did not assess the amount by which the shadow budget for Union Square would have to be increased for other projects. Each individual project must be evaluated for compliance with Planning Code Section 295. A project at a different location would have different shadow impacts on Union Square (amount of shadow, time of day, time of year) than would the proposed project and would not be able to utilize the increase in the shadow budget for Union Square that is related to 706 Mission Street. Therefore, certification of the EIR for 706 Mission Street would not pave the way for a general increase in the shadow budget for Union Square. The project sponsor for 706 Mission Street is seeking an increase in the shadow budget for Union Square for the proposed project at 706 Mission Street, not a general increase in the shadow budget for Union Square for other projects. Thus, the language from the Planning Commission agenda quoted by the Appellants states that the increase in the shadow budget for Union Square is requested "in order to accommodate new shadow cast by the 706 Mission Street project."

The Appellants state that the FEIR fails to account for the fact that the serial adjustments to the shadow budget for Union Square are based on a moving baseline that has no end in sight, with the result being that small changes can be incrementally approved one at a time and the sunlight on Union Square would suffer "death by a thousand cuts." This concern was raised during public comment on the DEIR and the Planning Department presented a thorough and well-reasoned response. The cumulative shadow impacts on Union Square from the proposed project and potential future development under the TCDP, including recent amendments to the shadow budget for Union Square, are discussed on pp. III.F.25-III.F.26 of the RTC document and are summarized here. The EIR concluded that implementation of the proposed project, in combination with potential future development under the TCDP, would result in significant cumulative shadow impacts on parks and open spaces in downtown San Francisco. In order to accommodate some of this potential future development, the shadow budgets for seven downtown parks were increased as part of the approvals for the TCDP. Only projects that meet criteria set forth in the TCDP are eligible to utilize the increased shadow budgets. The proposed project does not meet the criteria set forth in the TCDP and would be required to seek its own

increase in the shadow budget for Union Square. The decision to approve or disapprove such a request is independent of the environmental review process and will be evaluated on its own merits by City decision-makers as part of their deliberations on the proposed project. The EIR accounted for all known or planned projects that could have shadow impacts and concluded that implementation of the proposed project, in combination with reasonably foreseeable future projects, would result in significant cumulative shadow impacts on public open spaces, POPOs, and public sidewalks in downtown San Francisco. Therefore, the shadow impacts of multiple projects and potential increases to shadow budgets were adequately analyzed in the EIR. To the extent that other unforeseen projects are proposed, the EIR cannot analyze the potential impacts of those projects until formal applications have been submitted.

In summary, the FEIR is thorough and accurate in its analysis of the proposed project's shadow impacts on Union Square.

Issue: Shadow Impacts on Jessie Square

Comments C.8 and D.8

"a. The main text of the DEIR fails to quantify new shadow the Project would generate on Jessie Square. One has to go [to] the letters from Turnstone Consulting buried in the Shadow Appendix to learn that the Project will add **8,031,176** square feet of new shadow to Jessie Square - that is more than **eight million** new square feet of shadow. But somehow the DEIR finds this is to be less than significant. Instead the DEIR states on page IV.I.47 that in the spring the Project new shadowing of Jessie Square and CJM's outdoor seating area would end by 11:00 a.m. and in the summer the new shadows on the outdoor seating area of the CJM would end by noon and the Project would no longer shadow Jessie Square by 12:30 PM. These are not insignificant impacts at insignificant times of the day or year. At a minimum mitigation measures including the set back alter[n]ative in B above should be employed.

"b. The EIR fails to present any Project alternative that would reduce the Project's new shadow impacts on its immediate neighbor, Jessie Square. The Proposed Project's shadow impacts would reach other important open spaces, including Jessie Square, as described on DEIR pp. IV.I.46-47, and Figures IV.I.6 to IV.I.9. The text discusses the range of use of Jessie Square in morning periods when the Proposed Project would cast new shadows on this important space. Neither DEIR Alternative B nor E would reduce this impact, as stated on DEIR pp. VII.33 and 110[,] respectively. However, both Alternatives B and E, as illustrated in Figures VII.1 & 2 and VII.7 & 8, would rise on the west project site line with no set back above the base, as can be compared to Figure II.25, Conceptual South Elevation for the Proposed Project. Therefore, both Alternatives B and E, as presented in the DEIR, may produce a slightly greater shadow impact on Jessie Square than those from the Proposed Project.

"c. A new Alternative F should be prepared to address the adverse project shadow effects on Jessie Square. Jessie Square is a south-facing open space with excellent access from Market Street, Third Street, and Mission Street, and serves as a calm, smaller-scale open space,

compared to the larger Yerba Buena Gardens. While the range of existing activity in Jessie Square increases from mid-morning to mid-day periods, morning use is still notable, per footnote 33, DEIR p. IV.I.47.

"d. During the period from 2006 - 2007, Millennium Partners prepared and submitted to 765 Market Sheet Owners a tower design that gave more prominence to the Mexican Museum, with a bold facade on a modestly scaled tower extension about 35-40 feet high, about the same height as the other structures facing on to Jessie Square, such as the Contemporary Jewish Museum and St. Patrick's Church. The Mexican Museum on the west was attached to a residential tower that was set back approximately 40 feet from the entrance to the Museum. That proposed tower would have produced even greater shadow impacts on Union Square than the proposed Project due to its even greater height, but the concept of setting the Residential Tower back from Jessie Square by about 40 feet with an attached and identifiable Mexican Museum that opened onto the Square, would reduce the Project's shadow impacts on Jessie Square while at the same time producing an appropriately sized museum element facing directly on to the Square. A revised Alternative E in the form of a new Alternative F with the major part of the 351-foot tower mass realigned about 40 feet to the east would not only provide the same elimination of shadow effects on Union Square but it also would significantly reduce the shadow effects on Jessie Square." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants provide no substantial evidence to support the concern expressed in the Appeal Letter. The comments are identical to those that were presented in RTC document Comment Letters C.35.14 and C.3.12 through C.3.16. Comment Letter C.35.14 was previously addressed in the RTC document under the subtopic "Jessie Square Shadow Analysis." Comment Letters C.3.12 through C.3.16 were previously addressed in the RTC document under the subtopic "Suggested Alternatives to Reduce Shadow Impacts on Jessie Square." The RTC document added information to the DEIR quantifying the amount of annual net new shadow that the proposed project would cast on Jessie Square. In addition, the RTC document adequately and thoroughly explains why alternatives that would reduce the amount of project shadow on Jessie Square are not required under CEQA.

Amount and Level of Significance of Shadow on Jessie Square

The Appellants repeat a comment on the DEIR made during the public comment period in stating that the DEIR did not quantify the amount of annual net new shadow that the proposed project would cast on Jessie Square. Using technical background studies (shadow calculations) that were available to the public in the case file for this project at the time of publication of the DEIR, this information was added to the EIR on pp. III.F.22-III.F.23 of the RTC document. The Appellants state that the proposed project would "add 8,031,176 square feet of new shadow to Jessie Square." The correct unit of measurement is square-foot-hours, not square feet.

In addition, p. III.F.23 of the RTC document explains what factors were used in reaching the conclusion that the proposed project's shadow impacts on public open spaces (including Jessie Square) would be less than significant. As explained, the annual amount of net new project shadow is not the sole factor in determining the significance of the proposed project's shadow impact. For all parks and public open spaces including Jessie Square, other factors include the size of the area shadowed and the duration of the shadow, the time of day and the time of year when the shadow would occur, the areas of the square that would be affected, and how the shadow would impact the use of the affected areas of the square.

On p. IV.I. 58, the EIR concluded that, due to the times of day and times of year that would be affected, the duration of shadow, the proportion of open space that would be affected by net new shadow, and the use of the areas affected, the project-related shadows would not substantially impair the use and enjoyment of public open spaces (including Jessie Square), and that the proposed project would have a less-than-significant shadow impact on public open spaces (including Jessie Square). No mitigation measures are required.

Alternatives to Reduce Shadow on Jessie Square

The Appellants contend that the EIR fails to present alternatives that would reduce the proposed project's shadow impact on Jessie Square. These comments are the same as comments made on the DEIR during the public comment period. The Planning Department provided thorough and well-reasoned responses to these comments on pp. III.I.15-III.I.25 of the RTC document.

The EIR considered a reasonable range of alternatives that would meet basic project objectives and would reduce significant impacts, although not to less-than-significant levels. As discussed below, even an alternative proposed by the EIR commenters would make a cumulatively considerable contribution to a significant cumulative shadow impact on open spaces, POPOs, and public sidewalks in downtown San Francisco.

CEQA Guidelines Section 15126.6(a) requires the analysis of alternatives that "would avoid or substantially lessen any of the significant effects of the project." Since the EIR concluded that the proposed project would have a less-than-significant project-level shadow impact on public open spaces (including Jessie Square), an alternative that would reduce the proposed project's shadow impact on Jessie Square was not required to be analyzed in the EIR.

As noted in the EIR, the proposed project would be a cumulatively considerable contributor to significant cumulative shadow impacts on public open spaces; therefore, the EIR analyzes two alternatives that would reduce shadow on public open spaces (including Union Square): the Existing Zoning Alternative and the Reduced Shadow Alternative. The EIR concluded that although both of these alternatives would reduce the project's contribution to cumulative shadow impacts on public open spaces, the alternative would still result in a cumulatively considerable contribution to cumulative shadow impacts on public open spaces.

The Appellants state that the EIR should have analyzed an alternative with a 351-foot-tall tower that is set back 40 feet from Jessie Square (referred to by the Appellants as "Alternative F"), because such an alternative would result in a reduced shadow impact on Jessie Square. In addition, the Appellants claim that a project design with a tower that was set back approximately 40 feet from Jessie Square was presented to the owners and residents of 765 Market Street in 2006 or 2007. No such design was formally submitted to the Planning Department, as discussed on p. III.I.17 of the RTC document. In June 2008, the project sponsor formally submitted a proposal that consisted of a 630-foot-tall elliptical tower that was set back approximately 15 feet, 9 inches from Jessie Square. Since June 2008, the project sponsor has made a number of modifications to the proposal, and each of those modifications was formally submitted to the Planning Department for consideration. The Planning Department reviews proposals that are formally submitted by the project sponsor and is not required to review any prior design schemes that are not formally submitted for consideration.

Because the project-specific impacts with respect to shadow are less than significant, CEQA does not require an alternative that would reduce project-specific shadow impacts, including on Jessie Square. Although an alternative that would reduce the proposed project's less-than-significant shadow impact on Jessie Square was not required to be analyzed in the EIR, the potential shadow impact of an alternative with a 351-foot-tall tower that is set back 40 feet from Jessie Square (the suggested "Alternative F") is discussed on pp. III.I.18-III.I.22 of the RTC document. This discussion includes the findings of a shadow envelope analysis, which was conducted to determine how tall a building on the project site could be before it would cast net new shadow on Jessie Square. As explained, the shadow envelope analysis determined that: (1) the maximum height of a building on the project site that would not cast net new shadow on Jessie Square would vary depending on the building's location on the project site; (2) on the western portion of the project site, which abuts Jessie Square, the maximum height of a building that would not cast net new shadow on Jessie Square would be 20 feet; and (3) at locations further east on the project site towards Third Street, the maximum height of a building that would not cast net new shadow on Jessie Square would be higher – up to 250 feet at a location approximately 187 feet east of Jessie Square.

The suggested alternative consisting of a 351-foot-tall elliptical tower that is set back 40 feet from Jessie Square would be on the portion of the project site where a building would have to be no taller than 20 feet to 50 feet, depending on its location, in order to avoid casting additional net new shadow on Jessie Square. Such an alternative would cast net new shadow on Jessie Square for a similar but possibly reduced duration when compared to the proposed project. The 40-foot setback would likely reduce somewhat the amount of annual net new shadow that this suggested alternative would cast on Jessie Square.

The suggested "Alternative F" which, at 351 feet tall, would be 199 feet shorter than the proposed project and the same height as the Reduced Shadow Alternative, would have no project-level shadow impact on Union Square. However, the suggested alternative would still shadow other public open spaces, POPOs, and public sidewalks. For this reason, the suggested

alternative would, like the other alternatives analyzed, make a cumulatively considerable contribution to a significant cumulative impact on public open spaces, POPOs, and public sidewalks, albeit reduced somewhat compared to that of the proposed project. Alternative F is thus, from a CEQA perspective, similar to the two fully-analyzed Alternatives that reduce shadow impacts on some parks and open spaces and thus reduce, but do not eliminate the cumulative significant impact. Alternative F does not meet more of the project objectives or avoid a significant impact. Thus, it is just a permutation of the other reduced shadow alternatives, and the EIR was not required to fully analyze it. Regardless, the FEIR contains an analysis of the proposed Alternative F. The FEIR analyzed a reasonable range of alternatives for CEQA purposes.

In summary, the FEIR is thorough, adequate, and accurate in its analysis of the proposed project's shadow impacts on Jessie Square.

Recreation

Issue: Recreation Impacts

Comments C.11 and D.11

"The EIR does not lawfully assess the significance of the Project's impacts on recreation in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

"a. The Recreation analysis only looks at impacts in terms of physical deterioration and degradation of nearby parks and park facilities. It does not include any information of rates of utilization of these parks and whether the additional population brought to the area will degrade recreation by causing more overcrowding of these parks." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants provide no substantial evidence to support the concern expressed in the Appeal Letter. The FEIR contains a thorough, detailed analysis of the impacts of project-related increase in the use of public parks and recreation facilities and public open spaces. The FEIR accurately concludes that less-than-significant recreation impacts would result with the proposed project. There were no public comments on the DEIR related to Recreation, so no responses were required.

The analysis presented on EIR pp. IV.J.1-IV.J.15 describes existing conditions and the regulatory framework related to the topic of Recreation, and provides a reasoned analysis and assessment of recreation impacts of the proposed project, applying the thresholds for determining the significance of impacts adopted by the San Francisco Planning Department consistent with the environmental checklist in Appendix G of the CEQA Guidelines. With respect to legally

adequate analysis of the significance of recreation impacts, the Recreation analysis identifies the maximum net change in the on-site population and evaluates the impacts of increased usage of existing public recreation resources and the potential for the physical deterioration and degradation of those resources. The Recreation analysis also includes an evaluation of whether or not the net increase in the on-site population would result in the need to expand or construct recreation facilities. All conclusions in the FEIR as to recreation impacts are supported by substantial evidence. The Appellants provide no evidence to support the concern expressed in the Appeal Letters. The Recreation analysis presented on EIR pp. IV.J.1-IV.J.15, and summarized below, is consistent with the CEQA Guidelines and thoroughly assesses the significance of the proposed project's recreation impacts.

The impact analysis under Impact RE-1, Impact RE-2, and Impact RE-3 on EIR pp. IV.J.10-IV.J.15 evaluates the increased demand on existing public recreation resources that would be generated by the proposed project's change in land use and whether the increased demand would contribute to the physical deterioration or degradation of existing public recreation resources or be great enough to require the construction or expansion of recreation facilities leading to adverse physical effects on the environment. The thresholds for determining the significance of recreation impacts are based on Appendix G of the CEQA Guidelines, as modified by the San Francisco Planning Department, and are identified on EIR pp. IV.J.8-IV.J.9. The significance criteria are as follows:

J.1 Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated;

J.2 Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment; or

J.3 Physically degrade existing recreational resources.

As the Appellant notes, the Recreation analysis looks at impacts on recreation resources in terms of physical deterioration and degradation of nearby parks and park facilities as part of its evaluation of recreation impacts under Criterion J.1 and Criterion J.3. The public recreation resources closest to the project site are comprehensively described on EIR pp. IV.J.1-IV.J.7 under "Setting"and are presented graphically in Figure IV.I.3: Existing Public and Publicly Accessible Open Spaces within Reach of the Proposed Project's Shadow, in EIR Section IV.I, Wind and Shadow, p. IV.I.31. Available Citywide and regional recreation resources are also identified under "Setting."

As described in the EIR, pp. IV.J.1-IV.J.2, under "Setting," the City's publicly accessible open spaces and recreational facilities are categorized according to their size and particular amenities as serving the City, district, neighborhood, or subneighborhood. The service areas for each park type are based on specific distance radii around the park. As identified on EIR p. IV. J.6 under "Setting," the project site is not located in a "high need" or a park "deficient" area, as defined in

the Recreation and Open Space Element of the *General Plan*. As stated there, "high need" areas are areas with high population density or high percentages of children, seniors, or low-income households relative to the City as a whole, and "deficient" areas are areas that are not served by public open space, areas with population that exceeds the capacity of the open spaces that serve it, or areas with facilities that do not correspond well to neighborhood needs. That the area is not a "high need" or park "deficient" area demonstrates that nearby open spaces are not considered overcrowded.

In contrast, the project site is located in an area with a high concentration of public recreation resources. The discussion under Impact RE-1 on EIR pp. IV.J.10-IV.J.12, which addresses Criterion J.1, considers the additional population that would be brought to the area by the proposed project. The EIR, pp. IV.J.10-IV.J.11, identifies the net change to the on-site population that would result with the change in land use (from existing office and retail uses to residential and museum uses) under the most intensive development scenario, i.e., the residential flex option. The net change in the on-site population (residents plus museum visitors minus existing on-site employment that would be displaced) would result in an increase in the use of existing public recreation resources in the project area. This increase in demand would be spread across approximately 35 acres of public open space and recreation facilities within 1 mile of the project site such as, but not limited to, Union Square, Jessie Square, Yerba Buena Gardens, The Embarcadero Promenade, Rincon Park, and Justin Herman Plaza – all of which provide a wide range of active and passive recreational opportunities. Because open spaces in the vicinity are not considered to be overcrowded and nearby open spaces, such as Jessie Square, Yerba Buena Gardens, and Union Square, are designed for high utilization, pedestrian traffic, and assembly use, quantification of existing utilization of those open spaces is not necessary. With a variety of different public recreation resources accessible by foot or transit within a reasonable distance from the proposed project, the proposed change in land use and the resulting increase in the demand for public recreation resources would not result in or accelerate the physical deterioration of these existing public recreation resources or facilities. Thus, the recreation analysis in the EIR is thorough and accurate because it properly characterizes the existing Citywide and local public recreation resources, identifies the maximum net change to the on-site population and evaluates the impacts of increased usage of existing public recreation resources and the potential for the physical deterioration and degradation of those resources.

Under Impact RE-2 (EIR pp. IV.J.12-IV.J.13), provision of the proposed new public plaza along the base of the proposed tower, compliance with the Planning Code provisions for on-site common and private open space (as described on EIR p. IV.J.8 under "Regulatory Framework"), and the availability of a variety of public recreation resources in the project area formed the basis for the finding of a less-than-significant impact related to the need for the expansion of existing recreation facilities or the construction of new recreation facilities. Furthermore, as described under Impact RE-3 (EIR pp. IV.J.13-IV.J.14) which addresses Criterion J.3, the expected increase generated by the proposed project in the use of public recreation resources in the immediate vicinity of the project site such as Yerba Buena Gardens or Jessie Square could be accommodated such that the facilities would not be physically degraded. This is based on

information presented on EIR p. IV.J.14 related to the annual usage of Yerba Buena Gardens and the durability of park features in downtown urban parks that are expected to sustain high-volume, physical use due to their location in the urbanized downtown area. And finally, the EIR, pp. IV.J.14-IV.J.15 under Impact C-RE-1, finds that the proposed project, in combination with past, present, and reasonably foreseeable future projects in the project vicinity, would not make a cumulatively considerable contribution to significant recreation impacts. As stated in the EIR, Citywide planning efforts to update the Recreation and Open Space Element of the *General Plan* and the passage of General Obligation Bonds in 2008 and 2012 to fund the improvement and expansion of the existing park and open space network addresses perennial issues related to the equitable provision of public recreation resources and the deferred maintenance of existing public recreation resources.

Based on the above, the EIR contains an adequate, accurate, and objective analysis of impacts related to Recreation and accurately concludes that less-than-significant recreation impacts would result with implementation of the proposed project. Because project-related increases in demand for public recreation resources were found to have less-than-significant impacts, the identification of mitigation measures and/or the development of an alternative to reduce or lessen a significant impact are not required under CEQA.

During the public review period of the DEIR, no specific public comments were raised on the topic of Recreation; therefore, there is no basis for the Appellants' contention that the EIR failed to respond adequately to public comments on these issues.

In summary, the FEIR is adequate in its analysis of recreation impacts.

Recirculation of the EIR

Issue: Recirculation of the EIR

Comments C.18 and D.18

"The Board should require that the Planning Department revise the EIR to include the information discussed above and recirculate a revised draft for public comment." *(Letter C: Supplement to Appeal Letter from Thomas N. Lippe on behalf of 765 Market Street Residential Owners Association, and Letter D: Appeal Letter from Thomas N. Lippe on behalf of Friends of Yerba Buena)*

Response: The Appellants request recirculation of the DEIR in order to include their requested new information for the topics of Traffic and Circulation, Pedestrian Traffic and Safety Impacts, Shadow Impacts on Union Square, Shadow Impacts on Jessie Square, Historic Resources Impacts, Noise Impacts, Recreation Impacts, Air Quality Impacts, and Greenhouse Gas Impacts. This Appeals Response demonstrates that recirculation of the DEIR is not warranted.

The Appellants contend that the FEIR does not thoroughly or adequately address environmental analysis for the topics of Traffic and Circulation, Pedestrian Traffic and Safety Impacts, Shadow Impacts on Union Square, Shadow Impacts on Jessie Square, Historic Resources Impacts, Noise Impacts, Recreation Impacts, Air Quality Impacts, and Greenhouse Gas Impacts, and that more study is needed. EIR adequacy is defined in CEQA Guidelines Section 15151, Standards for Adequacy of an EIR, which states:

> An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

The responses to the Appellants' concerns that are presented in the FEIR and this Appeals Response do not warrant recirculation. The rules governing recirculation of a DEIR are well established. Under these rules, new information regarding a project or its environmental impacts requires recirculation of a DEIR in some instances, and not in others. The State CEQA Guidelines identify the specific circumstances in which an agency should recirculate a DEIR for a second round of public review and comment (CEQA Guidelines § 15088(a)).

The inclusion of new information in a Final EIR does not automatically require recirculation of the DEIR. The CEQA process is premised on the idea that the Final EIR will, by definition, include new information (CEQA Guidelines § 15132).

Under CEQA Guidelines Section 15088.5, a "lead agency is required to recirculate an EIR when *significant new information* is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification" (emphasis added; see also CEQA § 21092.1). "New information" within the meaning of this section may consist of information regarding changes in the project, changes in the setting, or new data (CEQA Guidelines § 15088.5(a)).

Not all new information triggers the obligation to recirculate the DEIR. Rather, the information must be "significant," such that the "EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a *substantial* adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement." (*Laurel Heights Improvement Association v. Regents of the University of California, supra,* 6 Cal 4th at p. 1129.)

CEQA Guidelines Section 15088.5(a) provides the following guidance regarding what constitutes "significant new information":

> "Significant new information" requiring recirculation includes, for example, a disclosure showing that:
>
> (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
>
> (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
>
> (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
>
> (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Responses presented in this Appeals Response do not give rise to "significant new information." Nor have there been fundamental changes to the project description or objectives. New information is "significant" only when that information implicates a new or substantially more severe environmental impact. (See CEQA Guidelines §15088.5(a) (1) & (2) [recirculation may be required with the addition of a new impact or increase in the severity of previously identified impact, when the impacts cannot be mitigated].) No new or substantially more severe environmental impact has been identified, nor has any new feasible project alternative or mitigation measure been identified that would lessen significant environmental impacts of the project. In addition, as described throughout Chapter IV, Environmental Setting, Impacts, and Mitigation, of the EIR, and in Chapter III, Responses to Comments, of the RTC document, the FEIR adequately provides supporting evidence and explanation of the methodology used to accurately analyze impacts and to support its conclusions. Therefore, recirculation is not required.

CONCLUSION

The Planning Department conducted an in-depth and thorough analysis of the potential physical environmental effects of the proposed 706 Mission Street – The Mexican Museum and Residential Tower Project, consistent with CEQA, the CEQA Guidelines, and Chapter 31 of the *San Francisco Administrative Code*. The Appellants have not demonstrated that the EIR is insufficient as an informational document, or that the Planning Commission's findings and conclusions are unsupported by substantial evidence. The Planning Department conducted all necessary studies and analyses, and provided the Planning Commission with all necessary information and documents in accordance with the Department's environmental checklist and Consultant Guidelines, and pursuant to CEQA and the State CEQA Guidelines. Substantial evidence supports the Planning Commission's findings and conclusions.

For the reasons provided in this Appeals Response, the Planning Department believes that the Final EIR complies with the requirements of Chapter 31 of the *San Francisco Administrative Code*, CEQA and the CEQA Guidelines, and provides an adequate, accurate, and objective analysis of the potential environmental impacts of the proposed project. Therefore, the Planning Department respectfully recommends that the Board uphold the Planning Commission's certification of the Final EIR.

ATTACHMENT A

Letter A: Appeal Letter from Thomas N. Lippe, Lippe Gaffe Wagner LLP, on behalf of 765 Market Street Residential Owner's Association, Dated April 2, 2013

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Thomas N. Lippe
Brian Gaffney
Keith G. Wagner
Kelly A. Franger
Henry A. Steinberg

April 2, 2013

Board President David Chiu
and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

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SAN FRANCISCO

Re: Notice of Appeal of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035)

Dear President Chiu and Supervisors:

This office represents the 765 Market Street Residential Owners Association ("ROA") regarding the proposed project known as 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). The ROA hereby appeals the Planning Commission's certification of the Final Environmental Impact Report ("FEIR") for the Project and confirms its continuing objections to the City's approval of the Project in violation of the California Environmental Quality Act (CEQA).

A copy of the Planning Commission's March 21, 2013 Motion 18829 certifying the FEIR is attached hereto as **Exhibit 1**. Further documentation in support of this appeal will follow prior to the Board hearing.

The subject EIR is not procedurally or substantively adequate, accurate, or objective. The EIR fails to lawfully identify the significant adverse environmental impacts or mitigation measures to substantially reduce the Project's significant adverse environmental impacts. The EIR also fails to lawfully assess the significance of the adverse environmental impacts of Project variants. In addition, the Responses to Comments does not adequately respond to comments submitted on the Draft EIR regarding these issues.

These legal errors are evident in the EIR's assessment of many issues, including, without limitation, the following:

1. Traffic and Circulation Impacts. A.1

As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as **Exhibit 2**, the EIR's assessment of traffic and circulation

A.1 cont'd.

impacts is informationally deficient in number of respects, including, without limitation, the following:

a. Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

"The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7." (Exhibit 2, p. 2.) Nelson Nygaard demonstrate why "Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact." (Exhibit 2, p. 5.)

A.2

b. Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

"The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact." (Exhibit 2, p. 5.) Again a proper analysis of the trip distribution reveals that Variants 6 & 7 should produce less than significant impacts at the critical Fourth and Market intersection.

A.3

c. The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

"The DEIR does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS" (Exhibit 2, p. 7.)

A.4

d. Excessive Onsite Parking Creates Traffic Impacts

"The proposed Project's residential parking supply of one space per unit exceeds the standard set in the Planning Code, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant." (Exhibit 2, p. 8.)

e. There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips A.5

"The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the Project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant." (Exhibit 2, p. 8.)

2. Pedestrian Traffic and Safety Impacts A.6

The EIR does not lawfully assess the significance of the Project's impacts on pedestrian traffic and safety, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

3. Shadow Impacts on City Parks A.7

The EIR does not lawfully assess the significance of the Project's shadow impacts on several City Parks, including Union Square and Jessie Square, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

4. Impacts on Historic Resources A.8

The EIR does not lawfully assess the significance of the Project's impacts on historic and aesthetic values in this Conservation District, especially on the historic Aronson Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

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Planning Commission Motion 18829

HEARING DATE: March 21, 2013

Date:	March 7, 2013
Case No.:	**2008.1084E**
Project Address:	**706 Mission Street – The Mexican Museum and Residential Tower Project**
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Blocks/Lots:	Block 3706, Lots 093, 275 and portions of Lot 277
Project Sponsor:	706 Mission Street Co., LLC c/o Millennium Partners 735 Market Street, 6th Floor San Francisco, CA 94103
Staff Contact:	Debra Dwyer – (415) 575-9031 Debra.Dwyer@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED MIXED-USE PROJECT AT 706 MISSION STREET (ASSESSOR'S BLOCK 3706, Lots 093, 275 and portions of Lot 277).

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on April 13, 2011.

   B. On June 27, 2012, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

EXHIBIT 1

C. Notices of availability of the DEIR and of the date and time of the public hearing were posted at the project site by the project sponsor on June 27, 2012.

D. On June 27, 2012, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies, the latter both directly and through the State Clearinghouse.

E. Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on June 27, 2012.

2. The Commission held a duly advertised public hearing on said DEIR on August 2, 2012 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on August 13, 2012.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 47-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a Draft Responses to Comments document, published on March 7, 2013, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.

4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Responses to Comments document all as required by law.

5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400 as part of case file 2008.1084E, and are part of the record before the Commission.

6. On March 21, 2013, the Commission reviewed and considered the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.

7. The Planning Commission hereby does find that the FEIR concerning File No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project, reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate and objective, and that the Responses to Comments document contains no significant revisions to the DEIR, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA and the CEQA Guidelines.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the project described in the EIR:

A. Will have a significant effect on the environment in that it would result in the following significant and unavoidable transportation and circulation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-1: Variant 6 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 6 only*)

Impact Variant TR-2: Variant 6 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 6 only*)

Impact Variant TR-5: Variant 7 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 7 only*)

Impact Variant TR-6: Variant 7 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 7 only*)

B. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following significant and unavoidable cumulative transportation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-3: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-4: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-7: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

Impact Variant TR-8: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

C. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following unavoidable significant cumulative effect with respect to shadow:

Impact C-WS-2: The proposed project, or any of its variants, in combination with past, present, and reasonably foreseeable future projects in the project vicinity would create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas resulting in a significant cumulative shadow impact. The proposed project would make a cumulatively considerable contribution to this significant cumulative shadow impact.

9. The Planning Commission will consider the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of March 21, 2013.

Jonas P. Ionin
Acting Commission Secretary

AYES: Fong, Antonini, Borden, Hillis

NOES: Moore, Sugaya

ABSENT: Wu

ADOPTED: March 21, 2013

NELSON
NYGAARD

MEMORANDUM

To: 765 Market Street Residential Owners Association

From: Bonnie Nelson and Brian Canepa

Date: July 24, 2012

Subject: Comment Letter Findings

Nelson\Nygaard was retained by 765 Market Street Residential Owners to assess the traffic and transportation analysis completed in the 706 Mission Mexican Museum and Residential Tower project Draft Environmental Impact Report (DEIR) and to identify any potential issues impacting their property. Our assessment includes the following findings:

- The DEIR analysis contains several flaws in (1) identifying which movements are "critical" at specific intersections and (2) forecasting the likely trip assignment (i.e., the anticipated path of travel) for vehicle trips that would be generated by the Project, which result in an inaccurate assessment of both the Proposed Project and vehicle access variants.
- Due to the assumptions used in the analysis of vehicular traffic, transit, parking, and pedestrians, significant impacts may be underrepresented in certain scenarios and overrepresented in others. In particular, the impacts of the Project are underrepresented and the impacts of Alternatives 6 and 7 are overrepresented in the analysis.
- Given the lack of vehicle trip reducing strategies in the DEIR, more robust improvement measures should be designated for the project to reflect San Francisco sustainable, multi-modal environment to effectively encourage walking, biking, and transit use.
- Several major City planning efforts have not been represented in the transportation analysis, which will have profound circulation impacts around the study site.

EXHIBIT 2

TRAFFIC ANALYSIS

Key Issue #1: Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

Summary: The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7.

Discussion: The analysis of PM peak hour traffic is flawed in its determination of which movements are "critical movements" at some intersections. According to the analysis, "for an intersection that operates at LOS E or LOS F under existing conditions, there may be a significant adverse impact depending on the magnitude of the project's contribution to the worsening of delay."[1] Specifically, San Francisco traffic studies determine the level of significance in such cases based on the Project contribution to "critical movements". Figure 1 shows the PM peak hour Existing Plus Project traffic volumes and "critical movements" as described in the DEIR.

Critical movements are those intersection movements that require specific allocations of "green time", thus affecting the capacity of other movements within a fixed cycle length. The Highway Capacity Manual (HCM) provides the following description of the basic parameters for conducting a Critical Movements analysis:

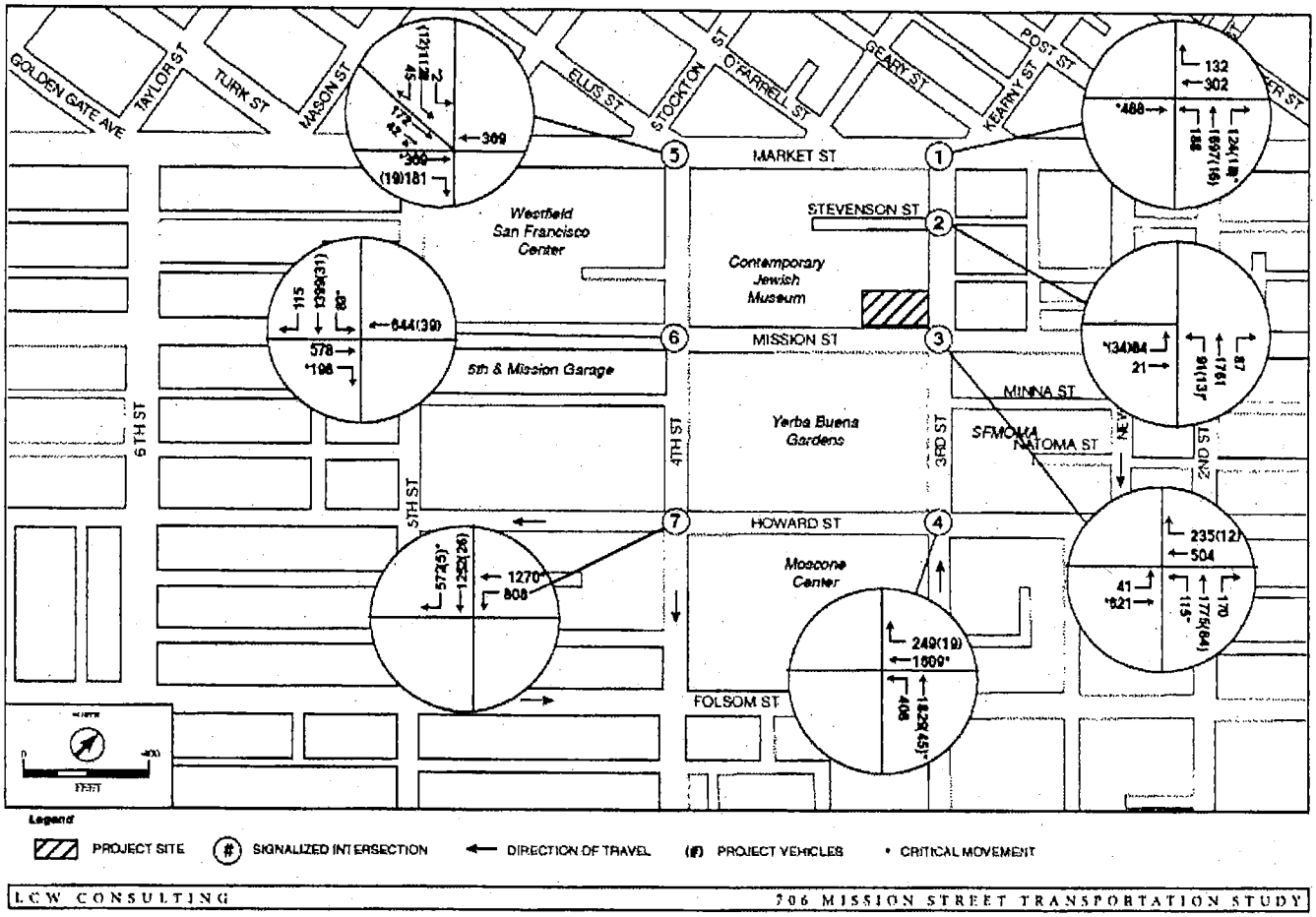
- *Critical movement analysis is based on the following fundamental basic principle: The amount of time in an hour is fixed, as is the fact that two vehicles (or a vehicle and a pedestrian) cannot safely occupy the same space at the same time. Critical movement analysis identifies the set of movements that cannot time concurrently and require the most time to serve demand. Critical movement analysis is an effective tool to quickly estimate green times for various movements at an intersection and to estimate its overall performance in terms of volume-to-capacity ratios.*

[1] Appendix E: 706 Mission Street Transportation Study (Without Appendices), p.67.

Comment Letter Findings

Concerned Neighbors from the Residences at the Four Seasons

Figure 1 Existing Plus Project Traffic Volumes, PM Peak Hour[2]



LCW CONSULTING 706 MISSION STREET TRANSPORTATION STUDY

FIGURE 18: EXISTING PLUS PROJECT TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

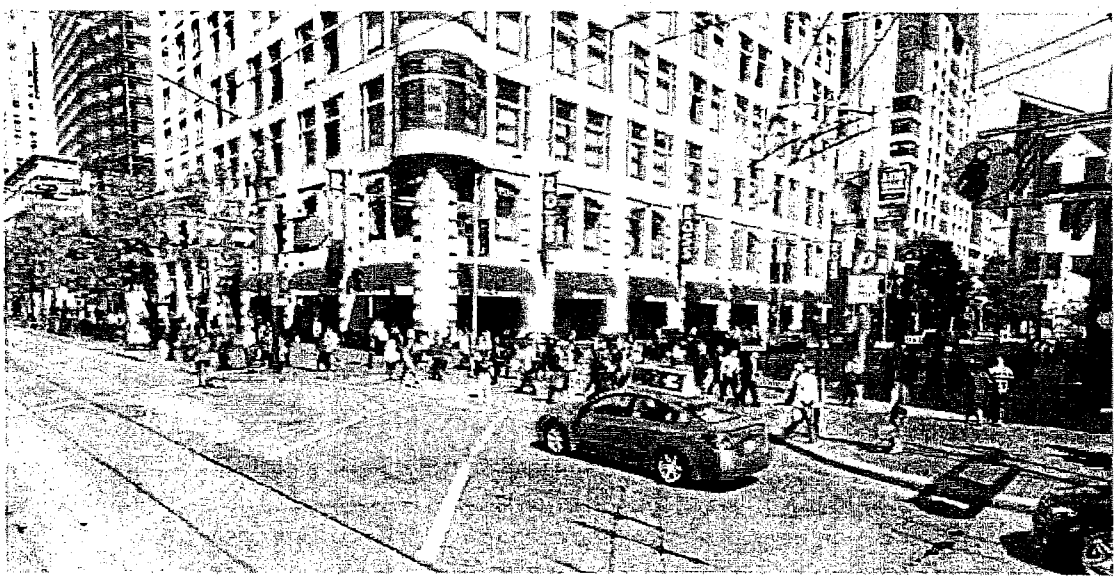
[2] Appendix E, p. 70.

1832

The DEIR identifies the eastbound through movement at Market and Fourth Street as a critical movement, and found that the Project would result in a significant impact to that eastbound through movement based on the DEIR assumption that the Project will generate vehicle trips that will travel eastbound on Market Street.

- However, in the absence of westbound left-turning movements (which are prohibited), eastbound through traffic should not be considered a critical movement as that flow is relatively unimpeded, particularly during the PM Peak Hour when transit boardings are higher in the westbound direction. Since buses and F-line trains stop directly within the center "through" lanes on Market Street, to pick up passengers waiting for to board transit vehicles from island platforms, the critical "through" movement during the PM Peak Hour is the westbound through movement, not the eastbound through movement, given the higher volume of PM peak hour bus westbound bus boardings that results in a higher number of conflicting movements that affect vehicle circulation (transit boardings, in this case, represent a conflicting movement that affects through circulation in the westbound direction).
- In the eastbound direction, the eastbound right-turn movement, not the eastbound through movement, should be considered a critical movement at this intersection given the high volume of conflicting pedestrian movements crossing Fourth Street that requires a significant allocation of "green time" within each signal cycle, and causes vehicle delay and queuing for right-turn traffic. Additions to that movement will exacerbate to that critical right-turn movement (Figure 2 depicts the intersection on a typical day, and shows several vehicles waiting to make the critical right-turn movement).

Figure 2 Market and Fourth Street Intersection



Source: Google Maps

Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact.[3]

Key Issue #2: Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

Summary: The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact.

Discussion: The PM peak hour distribution of vehicle trips estimated in Variants 6 and 7 do not accurately reflect the likely paths of travel taken by motorists. Specifically, the DEIR transportation analysis predicts that traffic exiting via Mission Street with an ultimate destination east of the project will travel via Fifth Street to head eastbound through the Fourth and Market intersection.4 In reality, eastbound motorists would have several potential routes to choose from, including routes north of Market Street that allow for quicker eastbound travel via parallel routes such as Bush or California Street.

Furthermore, the great majority of project trips will be via foot or bike in the area between the project site and the Ferry Building, while vehicle trips traveling further north (e.g. with destinations in the vicinity of North Beach) would be much more likely cross Market at Sixth Street and continue on a quicker north-south street, such as Taylor Street, rather than a more circuitous route via Market Street, especially considering that Market Street does not connect directly with the Embarcadero. Furthermore, driving on Market Street can be time consuming and is rarely chosen by local motorists that are familiar with the left-turn restrictions that make it an inefficient route for private vehicle circulation.

Key Issue #3: Analyzing only PM Conditions Ignores Potentially Significant Impacts on Inbound Streets and Inaccurately Supports the Project Alternative

Summary: AM peak hour traffic is likely more congested on Third Street (and other inbound streets) than during the PM peak hour as commuter travel to downtown. By examining only PM peak hour conditions, the DEIR analysis is not identifying likely significant traffic impacts, including failing LOS at Third Street intersections, for the Proposed Project and Variants 1-5 with access points on Stevenson and Third Street.

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[3] Appendix E, p.110 and 114.

[4] Appendix E, p.109.

Discussion: Although analysis of AM peak hour traffic conditions is not required for most EIRs in San Francisco, accurate and complete analysis of the significant impacts of this project require analyzing both the AM and PM peak hour conditions. Because this project has substantial impact on the one way south of market grid, a PM-only analysis will naturally identify impacts only on those streets that are most congested in the afternoon, while minimizing and potentially missing significant impacts on "inbound" streets that are more congested during the morning peak period. In particular, Third Street is a one-way "inbound" thoroughfare, carrying morning commute traffic into downtown. By examining solely PM peak hour conditions, the DEIR transportation analysis ignores potentially significant impacts which likely include failing LOS at intersections bordering the site, specifically, the intersections at both Third and Market Streets and Third and Stevenson Streets. The impacts of the proposed project on these intersections is likely grossly underestimated by the use of PM only data.

Figure 3 Current AM Peak Hour Conditions, Third and Stevenson Street Intersection



Source: Nelson\Nygaard

Figure 4 shows Existing and Existing plus Proposed Project and Variant Conditions for the PM peak hour, when northbound (i.e. inbound) traffic is less congested than during the AM peak hour, when traffic is queuing from Market Street to Folsom Street. The figure demonstrates that even during a less congested period, vehicle delay at the Third and Market Streets and Third and Stevenson Streets intersections in the Proposed Project and Variants 1 -5 increases from 6 to 18% (while Variants 6 and 7 result in a 8 to 18% *decrease* in delay).

Figure 4 Intersection Levels of Service, Existing plus Project and Variant Conditions (Weekday PM Peak Hour)

Intersection	Existing		Proposed Project & Variants 2, 5		Variants 1, 4		Variant 3		Variants 6, 7	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Third/Market	56.2	E	63.8	E	63.8	E	63.8	E	45.9	D
Third/Stevenson	12.1	B	12.8	B	14.3	B	12.8	B	11.1	B
Third/Mission	20.1	C	20.9	C	20.9	C	21.0	C	21.1	C
Third/Howard	36.1	D	40.4	D	40.4	D	40.4	D	40.4	D
Fourth/Market	>80	F	>80	F	>80	F	>80	F	>80	F
Fourth/Mission	41.8	D	45.7	D	45.7	D	45.7	D	54.2	D
Fourth/Howard	42.5	D	44.5	D	44.5	D	44.5	D	44.5	D

Source: Appendix E, Table 19

An analysis of AM peak hour conditions would likely show both a greater percentage increase in delay at these intersections that would cause a reduction in level of service and possibly an adverse impact on critical movements, such as the eastbound right-turn movement from Third Street to Market Street – both of which would trigger a significant impact.[5] Given the high likelihood that AM peak hour traffic will adversely impact intersections along Third Street, it is essential that this analysis be conducted to ensure a comprehensive picture of potential points of congestion.

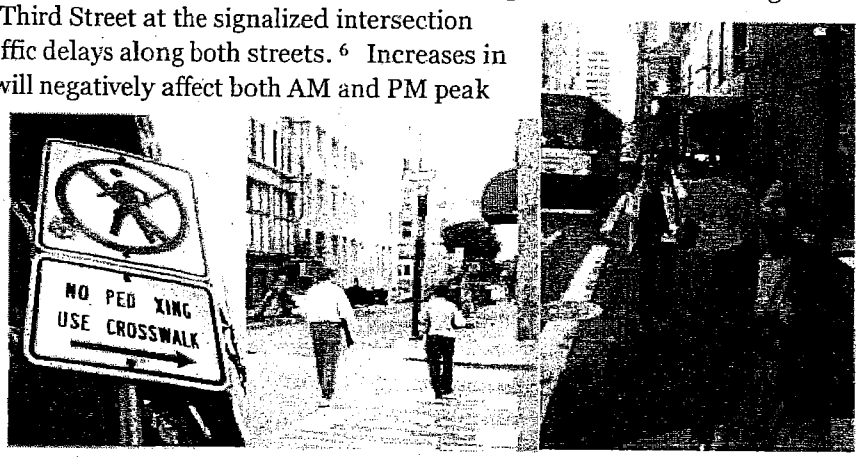
PEDESTRIAN ANALYSIS

Key Issue #4: The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

Summary: The DEIR analysis does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS.

[5] Per Appendix E, p. 67 – "The threshold for a significant adverse impact on traffic has been established as deterioration in the LOS at a signalized intersection from LOS D or better to LOS E or LOS F, or from LOS E to LOS F."

Discussion: Although the DEIR analysis examined pedestrian conditions, it focused solely on LOS standards, which measure only pedestrian flow rates and crosswalk space allowed for pedestrians to cross streets – no consideration was given to the impacts of pedestrians on vehicular traffic. In other settings, pedestrian crossings may not pose an obstacle to vehicle traffic, but given the high number of illegal crossings on Third Street, and particularly across the relatively narrow Stevenson Street, higher pedestrian volumes result in greater vehicle delay. Observations of the intersection at all hours of the day reveal that pedestrians are crossing both Stevenson Street and Third Street at the signalized intersection and are increasing traffic delays along both streets. [6] Increases in pedestrian crossings will negatively affect both AM and PM peak hour congestion. As such, in the Proposed Project and Variants 1-5, increased pedestrian crossings could cause a failing LOS at the Third and Stevenson Street intersection. Conversely, as Variants 6 & 7 do not have access on Third Street or Stevenson Street, and are actually estimated to *reduce* vehicle delay at the Third and Stevenson Street intersection, increased pedestrian volumes will not present a substantial impact in those scenarios.



PARKING ANALYSIS

Key Issue #5: Excessive Onsite Parking Creates Traffic Impacts

Summary: The Proposed Project's residential parking supply of one space per unit exceeds the standard set in the *Planning Code,* resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant.

Discussion: The Proposed Project's residential parking supply contributes to the study area's traffic levels and runs contrary to the City's stated goals. As submitted, the project proposes one residential parking space per unit for both the residential and office flex options. Meanwhile, the *Planning Code* permits only one parking space for every four dwelling units, unless a special permit is granted.[7] Although there is a special permit process, by providing more than the standard allowance of parking, the project will be producing greater levels of vehicle trips and contradicting the spirit of both the Code and City policy.

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[6] Photo sources: Nelson\Nygaard.

[7] In which case, up to one space per unit may be provided for the dwelling units with at least two-bedrooms and at least 1,000 square feet of occupied space, which encompasses all of the proposed project's units.

The City's "transit first" policy is designed to maximize the multi-modal resources of San Francisco, particularly in denser, mixed use areas with excellent transit service. The policy states explicitly that, "Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation" (San Francisco City Charter). By meeting the City's Charter and allowing for fewer parking spaces to be built, projected vehicle trips will be lowered, benefiting the community. This would not preclude residents from leasing parking spaces in nearby facilities, if desired. The DEIR transportation analysis shows that there is sufficient parking available during the peak hour at several garages in the study area.[8]

By limiting the amount of parking onsite, the impact analyses for both the Proposed Project and vehicle access variants would be greatly affected. In particular, fewer vehicle trips will likely alleviate any "significant and unavoidable" impacts generated at the Fourth and Market Street intersection in the Existing Plus Variant Conditions 6 and 7 as well as those generated in the 2030 Cumulative Conditions at both the Fourth and Market and Fourth and Mission intersections.

Furthermore, the reduction in vehicle trips would likely resolve Variants 6 and 7 transit impact. With Mission Street serving as the only entry point for all non-loading vehicles in Variants 6 and 7, the DEIR anticipates 113 vehicles entering via Mission Street in the PM peak hour, which may cause queuing issues onto Mission Street, creating a conflict with Muni bus service and representing a significant impact to transit operations.[9] A reduction in vehicle trips caused by fewer parking spaces would eliminate the "significant and unavoidable" impact caused by Existing Plus Variant Conditions 6 and 7 in terms of excessive queuing into the bus bay on Mission Street. Figure 5 illustrates the "less than significant" and "significant and unavoidable" impact details for the Proposed Project and vehicle access variants.

Figure 5 Summary of Transportation Impacts for Proposed Project and Variants, Existing Plus Conditions

		Variants						
Criteria	Project	1	2	3	4	5	6	7
Traffic	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Transit	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Pedestrians	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Bicycles	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Loading	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Emergency Vehicle Access	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Construction	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS

Source: Appendix E, Table 28. LTS = Less than Significant, SU = Significant and Unavoidable.

[8] Appendix E, p. 50.

[9] Appendix E, p.112 and 114.

Key Issue #6: Inadequate Parking Enforcement on Stevenson Street Creates Traffic Congestion

Summary: Although on-street parking is currently prohibited on Stevenson Street, motorists frequently park their vehicles, creating bottlenecks on the narrow street. If Stevenson Street is to be used as an access point as in the Proposed Project and Variants 1-5, vehicle delay will be intensified.



Source: Nelson\Nygaard

Discussion: The DEIR analyzes parking demand in the Jessie Square Garage as well as other facilities in the immediate area, but does not adequately address on-street parking conditions on Stevenson Street. Currently, no parking is allowed along both sides of the street, but both private and loading vehicles continually park and partially block the street, thereby causing traffic delays. These delays will be exacerbated if Stevenson Street is to be used as a primary entry and exit point as suggested in the Proposed Project and Variants 1-5.

MITIGATION MEASURE ANALYSIS

Key Issue #7: There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

Summary: The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant.

Discussion: The DEIR analysis establishes several improvement measures for various aspects of the project, but does not provide adequate transportation measures to encourage walking, biking, and taking transit. Specifically, although several improvement measures pertain to enhanced transportation conditions (e.g. traffic signal timing modifications, "garage full" sign on Third Street, coordination of moving activities, etc.) for the proposed project and variants, there is no measure directed at *reducing vehicle trips.*[10]

Improvement Measure I-TR-N: Transportation Demand Management proposes the distribution of informational materials to tenants, but this strategy will have a very minimal impact, if any. Instead, there should be a mitigation measure requiring the implementation of resident and employee transportation demand management (TDM) measures that have proven to be effective

[10] Table S.2: Summary of Improvement Measures for Proposed Project and Vehicular Access Variants.

in reducing vehicle trips. By doing so, it will provide a benefit both to residents and the city as a whole through improved transportation choices and lower traffic levels. These strategies may act as mitigation measures for both the Proposed Project and seven vehicle access variants. Two of the more effective strategies include:

Subsidized transit passes. In recent years, growing numbers of developments have provided residents and employees with subsidized transit passes to reduce vehicle trips. The proposed development should provide Muni Fast Passes to its residents and employees, which will allow for unlimited rides on local transit. The bulk purchase of transit passes allows the transit operator (i.e. Muni) to sell its passes at a highly discounted rate. Studies have shown from other areas, such as Santa Clara Valley, that the introduction of subsidized passes can nearly double the transit mode to work, thereby decreasing peak hour vehicle trips.

Alternative mode subsidies. Alternative mode subsidies encourage employees to ride transit, carpool, vanpool, walk or bicycle to work, thus decreasing vehicle trips. The benefit is particularly valuable to low-income employees, who are less likely to drive to work alone. Research performed by Donald Shoup at the University of California, Los Angeles found that single occupancy vehicle trips declined by 17% and other modes increased significantly (carpooling by 64%, transit by 50%, and walking/biking by 33%) after an alternative mode subsidy program was introduced at various worksites with varying levels of transit service.

CONSIDERATION OF CITY PLANS

Key Issue #8: Failure to Consider All Existing City Plans Results in an Inadequate Analysis of Impacts

Summary: Several major City planning efforts were not included in the DEIR. These plans will significantly affect travel patterns on all streets around the project site and will impact the results of the traffic analysis for both the Proposed Project and vehicle access variants.

Discussion: While the DEIR analysis assessed the impacts of the Temporary Transbay Terminal, the Central Subway Project, and Muni's Transit Effectiveness Project, there are other major projects omitted from consideration that affect traffic and multi-modal circulation in the study area. The omitted projects have the potential to cause significant changes to the traffic patterns around the project site, thereby drastically influencing predicted transportation impacts for both the Proposed Project and seven vehicle access variants. These projects should be accounted for in the Existing plus Project Conditions, Existing plus Variant Conditions, and in the 2030 Cumulative Conditions. The plans include:

Central Corridor Project. The project represents an integrated community vision for the southern portion of the Central Subway rail corridor with the study site placed in the heart of the project area bounded by Second to Sixth Streets and Mission to Townsend Streets. The Central Corridor Plan will propose changes to the allowed land uses, building heights, and may include an increase in permitted residential and/or commercial densities in the area. The plan may also include proposals to increase the amount of streets space devoted to pedestrian and bicycle facilities while reducing the number of mixed traffic lanes. These alterations can profoundly affect pedestrian, bicycle,

transit, and private vehicle travel patterns, thereby producing potentially different results regarding the thresholds of significance for traffic, transit, pedestrians, and bicycles.

Better Market Street Plan. The plan to revitalize Market Street includes a study of mobility issues. Currently, the options for Market Street include (a) prohibiting private autos, except for those vehicles crossing Market Street, (b) creating a series of forced or prohibited turns along Market Street to redirect traffic along particular thoroughfares, and (c) closing a one-block stretch of Market Street in an area of high pedestrian use. Each of the options considered may have a strong impact on traffic distribution and volumes on both sides of Market Street. In particular, the options which remove traffic from Market Street all are likely to increase traffic on Mission Street and on the South of Market network. These new traffic patterns and increased traffic levels will affect all of the project's study intersections and should be accounted for in the analysis.

Eastern Neighborhood Transportation Implementation Planning Study (EN TRIPS). EN TRIPS prepared a series of recommendations for circulation changes in San Francisco's Eastern Neighborhoods, which include Eastern SoMa, the Mission, Showplace Square/Potrero Hill and the Central Waterfront together with surrounding high-growth areas of Western SoMa, Transbay District, Rincon Hill and Mission Bay. The majority of the City's new residential and commercial growth over the next 25 years will occur in these areas, including the proposed project. These neighborhoods also contain key local and regional transit service, including Muni bus and light rail, BART, Caltrain and future High-Speed Rail. The area's combined development potential and rich transit access present a tremendous opportunity to create integrated, mixed use, transit-rich neighborhoods.

EN TRIPS made specific proposals for circulation changes, including a number of alternatives for potential reconfiguration of Folsom and Howard Streets. All of these include increasing space for pedestrians, bicycles, and public space, and reducing total travel lanes. The range of alternatives still under consideration by the SFMTA includes a design that maintains one-way circulation, as well as a design that converts both Folsom and Howard Streets to two-way operation. These streets are major thoroughfares for eastbound and westbound traffic, and their reconfigurations may cause increased traffic delay in both intersections on those streets as well as other nearby intersections as motorists attempt to find alternative routes. As such, an analysis of its impacts should be included in the DEIR analysis.

Transit Center District Plan. Although the DEIR transportation analysis accounted for the Temporary Transbay Terminal, it did not take into consideration the comprehensive Transit Center District Plan for the area around the Transbay Terminal. The plan area is bounded by Steuart, Market, Annie, and Folsom Streets.

The plan significantly increases allowable residential and employment densities within its boundaries. In addition to zoning changes, the plan also calls for street and circulation changes on Mission, Howard, Folsom, Fremont, Beale, and Main Street. Generally, these changes would reduce the amount of space dedicated to mixed-flow travel and increase space for walking and cycling with new signalized mid-block pedestrian crossings would be added at 14 intersections. While this area is outside the study area of this project, north-and southbound vehicle capacity reduction could result in some traffic being diverted onto nearby streets causing increases in vehicle delay and affecting both the Proposed Project and seven vehicle access variants.

ATTACHMENT B

Letter B: Appeal Letter from Susan Brandt-Hawley, Brandt-Hawley Law Group, on behalf of Tenants and Owners Development Corporation and Yerba Buena Neighborhood Consortium, Dated March 29, 2013

LETTER B

Brandt-Hawley Law Group
Chauvet House • PO Box 1659
Glen Ellen, California 95442
707.938.3900 • fax 707.938.3200
preservationlawyers.com

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2013 APR -9 PM 1:11

MEMORANDUM

TO: Angela Calvillo
Clerk of the Board of Supervisor
for the City of San Francisco

FROM: Theresa Stoops

DATE: March 29, 2013

RE: *Appeal of EIR Certification*
706 Mission Street –
The Mexican Museum and Residential Tower Project

Enclosed please find an original and 17 copies of the above-mentioned appeal on behalf of Tenants and Owners Development Corporation and Yerba Buena Neighborhood Consortium LLC. I have also provided an additional copy for endorsement of receipt with a self-addressed envelope to be returned to us.

Our understanding is that since the appellants are a pre-established organization, the appeal fee is to be waived.

Thank you.

LETTER B

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preservationlawyers.com

March 29, 2013

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2013 APR -9 PM 1:11

David Chiu, Board President
and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Subject: ***Appeal of EIR Certification***
706 Mission Street --
The Mexican Museum and Residential Tower Project

Dear President Chiu and Supervisors:

On behalf of the Tenants and Owners Development Corporation (TODCO) in Yerba Buena and the Yerba Buena Neighborhood Consortium LLC, I appeal the Planning Commission's certification of the EIR for the Mexican Museum and Residential Tower Project, File No. 2008.1084E. A copy of the certification dated March 21, 2013, is attached.

As a number of the Planning Commissioners acknowledged, the EIR does not address cumulative impacts relating to pedestrian traffic and safety in the Yerba Buena CBD area. The EIR also fails to adequately consider the installation of a mid-block crosswalk across Mission from the Center of the Arts to Jessie Square. An adequate EIR must comprehensively study the area's past, present, and future projects that affect pedestrians, and must also identify a feasible mitigation plan. B.1

The fact that no cumulative impact analysis was done by the San Francisco Redevelopment Agency during the 40-year Yerba Buena Redevelopment Project for its program EIRs, and the fact that the Planning Department is now evaluating projects on an isolated piecemeal basis in the former Redevelopment Area, including the Museum of Modern Art Expansion Project, further exacerbate the import of the EIR's deficient analysis — with very negative real-life consequences for the 2000 elders and other residents living in the Yerba Buena neighborhood.

B.1 cont'd.

The EIR's responses to comments on the issues of pedestrian traffic, capacity, and safety are correspondingly insufficient. Every lead agency is required to provide a "good faith, reasoned analysis" in response to comments: "[c]onclusory statements unsupported by factual information will not suffice." (Guidelines, § 15088, subd.(b); *Laurel Heights Improvement Association. v. Regents of the University of California* (1993) 6 Cal.4th 1112, p. 1124.) *Sutter Sensible Planning, Inc. v. Board of Supervisors* (1981) 122 Cal.App.3d 813, 820, explains that EIR responses "insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug." Last year, *Flanders Foundation v. City of Carmel-by-the Sea* [202 Cal.App.4th 603] affirmed the importance of adequate comment responses.

This EIR's response to the requests for cumulative pedestrian analyses notes in part that the Planning Department does not require such study for individual projects. That is irrelevant, as CEQA's mandates are a matter of state rather than local law. Absent adequate analysis and mitigation of cumulative impacts, the City cannot justify continued approvals of projects in an area demonstrably burdened with significant, solvable pedestrian capacity and safety problems. The City's deferral of analysis to the program Central Corridor Plan EIR a few years away, as endorsed by the majority of the Planning Commissioners, is insufficient as well as untimely to deal with cumulative environmental issues impacting this project.

The EIR's comment responses acknowledge that cumulative impacts are addressed in many other EIR topic areas, including short-term construction impacts, aesthetic impacts, noise impacts, air quality impacts, wind impacts, and impacts of hazardous materials. (Final EIR, III.E.68-69.) This does not excuse its failure to address pedestrian issues and instead proves the point. Cumulative impact analysis and mitigation are mandated by CEQA. The City recognizes this in other areas of environmental concern and must similarly follow through with full cumulative analyses of pedestrian capacity and safety issues.

The EIR must analyze impacts and feasible mitigation of cumulative pedestrian capacity and safety issues. The revised EIR should be circulated for additional agency and public comment, in turn resulting in the timely adoption of feasible mitigation measures.

Thank you for your consideration.

Sincerely,

Susan Brandt-Hawley

cc: Bill Wycko, Acting Environmental Review Officer

SAN FRANCISCO
PLANNING DEPARTMENT

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Planning Commission Motion 18829

HEARING DATE: March 21, 2013

Date:	March 7, 2013
Case No.:	**2008.1084E**
Project Address:	**706 Mission Street – The Mexican Museum and Residential Tower Project**
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Blocks/Lots:	Block 3706, Lots 093, 275 and portions of Lot 277
Project Sponsor:	706 Mission Street Co., LLC c/o Millennium Partners 735 Market Street, 6th Floor San Francisco, CA 94103
Staff Contact:	Debra Dwyer – (415) 575-9031 Debra.Dwyer@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED MIXED-USE PROJECT AT 706 MISSION STREET (ASSESSOR'S BLOCK 3706, Lots 093, 275 and portions of Lot 277).

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on April 13, 2011.

   B. On June 27, 2012, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

C. Notices of availability of the DEIR and of the date and time of the public hearing were posted at the project site by the project sponsor on June 27, 2012.

D. On June 27, 2012, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies, the latter both directly and through the State Clearinghouse.

E. Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on June 27, 2012.

2. The Commission held a duly advertised public hearing on said DEIR on August 2, 2012 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on August 13, 2012.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 47-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a Draft Responses to Comments document, published on March 7, 2013, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.

4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Responses to Comments document all as required by law.

5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400 as part of case file 2008.1084E, and are part of the record before the Commission.

6. On March 21, 2013, the Commission reviewed and considered the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.

7. The Planning Commission hereby does find that the FEIR concerning File No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project, reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate and objective, and that the Responses to Comments document contains no significant revisions to the DEIR, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA and the CEQA Guidelines.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the project described in the EIR:

A. Will have a significant effect on the environment in that it would result in the following significant and unavoidable transportation and circulation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-1: Variant 6 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 6 only*)

Impact Variant TR-2: Variant 6 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 6 only*)

Impact Variant TR-5: Variant 7 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 7 only*)

Impact Variant TR-6: Variant 7 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 7 only*)

B. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following significant and unavoidable cumulative transportation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-3: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-4: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-7: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

Impact Variant TR-8: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

C. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following unavoidable significant cumulative effect with respect to shadow:

Impact C-WS-2: The proposed project, or any of its variants, in combination with past, present, and reasonably foreseeable future projects in the project vicinity would create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas resulting in a significant cumulative shadow impact. The proposed project would make a cumulatively considerable contribution to this significant cumulative shadow impact.

9. The Planning Commission will consider the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of March 21, 2013.

Jonas P. Ionin
Acting Commission Secretary

AYES: Fong, Antonini, Borden, Hillis

NOES: Moore, Sugaya

ABSENT: Wu

ADOPTED: March 21, 2013

TODCO
GROUP

The Yerba Buena Neighborhood Consortium

c/o 230 Fourth St. San Francisco, CA 94103
A Council of the Yerba Buena Neighborhood's Residents and Community Organizations

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2013 APR -9 PM 1:11
BY

Clerk of the Board
San Francisco Board of Supervisors
City Hall
San Francisco, CA 94102

April 8, 2013

RE: Request for Appeal Fee Waiver
Appeal of 706 Mission Street Project Environmental Report
2008.1084E

Tenants and Owners Development Corp. and its affiliate Yerba Buena Neighborhood Consortium have jointly appealed Certification the above referenced EIR (by letter of our legal counsel, Susan Brandt-Hawley, of March 28, 2013). We are now requesting waiver of the appeal fee (check enclosed).

I am the President/CEO of Tenants and Owners Development Corp. and the Chair of the Yerba Buena Neighborhood Consortium, and am authorized to file such appeals, including acting through legal counsel as in this case.

Both organizations are listed as neighborhood organizations with the Planning Department ("Yerba Buena Consortium" is the name on that list for the Yerba Buena Neighborhood Consortium, a recent name modification).

Both organizations have been active in addressing community issues of the Yerba Buena Neighborhood where the 706 Mission project is located since 1980, especially issues of pedestrian safety addressed by the current Appeal. Both have previously filed EIR appeals for other projects in the past as well.

Please let me know if you need any further information (415) 896-1882.

Sincerely,

John Elberling
President, Tenants and Owners Development Corp.
Chair, Yerba Buena Neighborhood Consortium

230 Fourth St. San Francisco, CA 94103

Board of Supervisors Appeal Fee Waiver

CASE NUMBER (For Staff Use Only)

APPLICATION FOR
Board of Supervisors Appeal Fee Waiver

1. Applicant and Project Information

APPLICANT NAME: JOHN ELBERLING, PRESIDENT / CHAIR

APPLICANT ADDRESS: ↓

TELEPHONE: 415 896-1882

EMAIL: jetodco@todco.org

TENANT AND OWNER DEVELOPMENT CORP.

NEIGHBORHOOD ORGANIZATION NAME: YERBA BUENA CONSORTIUM

NEIGHBORHOOD ORGANIZATION ADDRESS: 230 FOURTH ST. SF CA 94103

TELEPHONE: ( )

EMAIL:

PROJECT ADDRESS: 706 MISSION ST. SF CA 94103

PLANNING CASE NO.	BUILDING PERMIT APPLICATION NO.	DATE OF DECISION (IF ANY)
2008.1084E	N/A	3/21/13

2. Required Criteria for Granting Waiver

(All must be satisfied; please attach supporting materials)

☒ The appellant is a member of the stated neighborhood organization and is authorized to file the appeal on behalf of the organization. Authorization may take the form of a letter signed by the President or other officer of the organization.

☒ The appellant is appealing on behalf of an organization that is registered with the Planning Department and that appears on the Department's current list of neighborhood organizations.

☒ The appellant is appealing on behalf of an organization that has been in existence at least 24 months prior to the submittal of the fee waiver request. Existence may be established by evidence including that relating to the organization's activities at that time such as meeting minutes, resolutions, publications and rosters.

☒ The appellant is appealing on behalf of a neighborhood organization that is affected by the project and that is the subject of the appeal.

For Department Use Only
Application received by Planning Department:

By: _____ Date: 4/8/13

Submission Checklist:

- ☒ APPELLANT AUTHORIZATION
- ☒ CURRENT ORGANIZATION REGISTRATION
- ☒ MINIMUM ORGANIZATION AGE
- ☐ PROJECT IMPACT ON ORGANIZATION

☐ WAIVER APPROVED ☐ WAIVER DENIED

SAN FRANCISCO PLANNING DEPARTMENT

FOR MORE INFORMATION:
Call or visit the San Francisco Planning Department

Central Reception
1650 Mission Street, Suite 400
San Francisco CA 94103-2479

TEL: 415.558.6378
FAX: 415.558.6409
WEB: http://www.sfplanning.org

Planning Information Center (PIC)
1660 Mission Street, First Floor
San Francisco CA 94103-2479

TEL: 415.558.6377
Planning staff are available by phone and at the PIC counter. No appointment is necessary.

ATTACHMENT C

Letter C: Supplement to Appeal Letter A from Thomas N. Lippe, Lippe Gaffe Wagner LLP, on behalf of 765 Market Street Residential Owner's Association, Dated April 10, 2013

Lippe Gaffney Wagner LLP www.lgwlawyers.com

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SACRAMENTO • 9333 Sparks Way, Sacramento, CA 95827 • T 916.361.3887 • F 916.361.3897

Thomas N. Lippe
Brian Gaffney
Keith G. Wagner
Kelly A. Franger
Henry A. Steinberg

April 10, 2013

RECEIVED
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2013 APR 10 PM 1:46

Board President David Chiu and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: **Supplement to April 2, 2013 Notice of Appeal** of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035) filed by the **765 Market Street Residential Owners Association**

Dear President Chiu and Supervisors:

This office represents the 765 Market Street Residential Owners Association ("ROA") regarding the proposed project known as 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). The ROA hereby supplements its notice of appeal of the Planning Commission's certification of the Final Environmental Impact Report ("FEIR") for the Project filed in this matter on April 2, 2013 to include the following grounds for appeal.

The EIR is not procedurally or substantively adequate, accurate, or objective. The EIR fails to lawfully identify the significant adverse environmental impacts or mitigation measures to substantially reduce the Project's significant adverse environmental impacts. The EIR also fails to lawfully assess the significance of the adverse environmental impacts of Project variants. In addition, the Responses to Comments does not adequately respond to comments submitted on the Draft EIR regarding these issues. These legal errors are evident in the EIR's assessment of many issues, including, without limitation, the following.

1. Traffic and Circulation Impacts. C.1

As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, and previously submitted as **Exhibit 2**, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the following:

a. Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

"The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the

eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7." (Exhibit 2, p. 2.) Nelson Nygaard demonstrate that "Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact." (Exhibit 2, p. 5.) C.1 cont'd.

b. Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality C.2

"The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact." (Exhibit 2, p. 5.) Again a proper analysis of the trip distribution reveals that Variants 6 & 7 should produce less than significant impacts at the critical Fourth and Market intersection.

c. The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes C.3

"The DEIR does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS" (Exhibit 2, p. 7.)

d. Excessive Onsite Parking Creates Traffic Impacts C.4

"The proposed Project's residential parking supply of one space per unit exceeds the standard set in the Planning Code, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant." (Exhibit 2, p. 8.)

e. There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips C.5

"The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the Project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant." (Exhibit 2, p. 8.)

C.6

2. Pedestrian Traffic and Safety Impacts

The EIR does not lawfully assess the significance of the Project's impacts on pedestrian traffic and safety, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

C.7a

3. Shadow Impacts on Union Square

a. The EIR does not lawfully assess the significance of the Project's shadow impacts on several City Parks, including Union Square, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

C.7b

b. The EIR concludes the Project will generate more net new shadow on Union Square (337,744 square feet) than either the Planning Commission or the Recreation and Park Commission have the authority to currently allow pursuant to Proposition K, Planning Code Section 295 and the long standing Regulations adopted by City Planning and Recreation and Parks to carry out Proposition K and Planning Code Section 295.

c. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant." But the EIR concedes that this impact will use up over 100% of the park's current shadow budget (and over 60% of the park's current shadow budget even if the reduction in shadow caused by the Macy's remodel is factored in). Not only is this incremental impact "cumulatively considerable" as the EIR concedes, it is significant in its own right.

d. The EIR essentially concludes that only new shadows that strike Union Square between 10:00 a.m. and 3:00 p.m can be significant despite the fact that both Proposition K and Planning Code Section 295 are set up to limit any new shadow on a park under the jurisdiction of Recreation and Parks from one hour after sunrise to one hour before sunset. These are the hours that have been deemed significant by the voters in passing Proposition K in 1984, the City in establishing Section 295 and the long standing regulations adopted thereunder.

e. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant" but its cumulative shadow impact on Union Square to be "significant." This latter finding triggers an obligation that the EIR identify feasible mitigation measures that would "substantially reduce" the impact. The EIR does not even attempt to do so. Instead, the EIR finds that all mitigation measures that would substantially reduce this significant impact are infeasible, stating: "There is no feasible mitigation for the proposed project's contribution to cumulative shadow impacts, because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters." These are not

C.7b cont'd.

legally valid grounds for the EIR to dispense with any mitigation analysis at all.

f. The EIR contends that "there are situations under which new shadow that is considered significant under Planning Code Section 295 would not have a significant environmental impact under CEQA." (DEIR p. IV.I-60.) This is incorrect as matter of law. (See Planning Code § 298(b) ["The City Planning Commission shall conduct a hearing and shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant"].)

g. The Planning Commission agenda for its now canceled hearing of April 11, 2013 contained, as Items 1.a and 1.b:

1.a. 706 MISSION STREET . . . and UNION SQUARE . . . Discussion and possible joint action by the Planning Commission and Recreation and Park Commission to raise the cumulative shadow limit for Union Square, pursuant to the jointly-approved Section 295 Implementation Memo adopted in 1989, in order to accommodate new shadow cast by the 706 Mission Street project.

1.b. 706 MISSON STREET . . . UNION SQUARE . . . Request to Consider whether the net new shadow cast by the project at 706 Mission Street on Union Square will be adverse to the use of the park, and to authorize the allocation of the cumulative shadow limit for Union Square to the project, as required by Section 295 (the Sunlight Ordinance).

(1) The Planning Commission's proposed decision is to increase the cumulative shadow limit for the Park by 0.09%. But the 706 Mission Street EIR does not assess a general increase in the cumulative shadow limit, i.e., one that might be allocated to a different building than 706 Mission Street. Any such different building might cast new shadow at different times of the day or year than the shadow that will be cast by the proposed 706 Mission Street building. This EIR cannot be certified for this broader approval.

(2) The EIR also fails to account for the fact that the Planning and Recreation and Park Commission's serial adjustments to the cumulative shadow limit for Union Square (see e.g., the adjustment approved in October 2012) are based on a "moving baseline" that has no end in sight. Under this flawed logic, small changes can be incrementally approved one at a time, each considered less than significant when made. The result: sunlight on Union Square will suffer death by a thousand cuts.

C.8

4. **Shadow Impacts on Jessie Square**

a. The main text of the DEIR fails to quantify new shadow the Project would generate on Jessie Square. One has to go the letters from Turnstone Consulting buried in the Shadow Appendix to learn that the Project will add **8,031,176** square feet of new shadow to Jessie Square – that is more than **eight million** new square feet of shadow. But somehow the DEIR finds this is to be less than significant. Instead the DEIR states on page IV.I.47 that in the spring the Project new shadowing of Jessie Square and CJM's outdoor seating area would end by 11:00 a.m. and in the summer the new shadows on the outdoor seating area of the CJM would end by noon and the Project would no longer shadow Jessie Square by 12:30 PM. These are not insignificant impacts at insignificant times of the day or year. At a minimum mitigation measures including the set back alterative in B above should be employed.

b. The EIR fails to present any Project alternative that would reduce the Project's new shadow impacts on its immediate neighbor, Jessie Square. The Proposed Project's shadow impacts would reach other important open spaces, including Jessie Square, as described on DEIR pp. IV.I.46-47, and Figures IV.I.6 to IV.I.9. The text discusses the range of use of Jessie Square in morning periods when the Proposed Project would cast new shadows on this important space. Neither DEIR Alternative B nor E would reduce this impact, as stated on DEIR pp. VII.33 and 110 respectively. However, both Alternatives B and E, as illustrated in Figures VII 1 & 2 and VII.7 & 8, would rise on the west project site line with no set back above the base, as can be compared to Figure II.25, Conceptual South Elevation for the Proposed Project. Therefore, both Alternatives B and E, as presented in the DEIR, may produce a slightly greater shadow impact on Jessie Square than those from the Proposed Project.

c. A new Alternative F should be prepared to address the adverse project shadow effects on Jessie Square. Jessie Square is a south-facing open space with excellent access from Market Street, Third Street, and Mission Street, and serves as a calm, smaller-scale open space, compared to the larger Yerba Buena Gardens. While the range of existing activity in Jessie Square increases from mid-morning to mid-day periods, morning use is still notable, per footnote 33, DEIR p. IV.I.47.

d. During the period from 2006 - 2007, Millennium Partners prepared and submitted to 765 Market Street Owners a tower design that gave more prominence to the Mexican Museum, with a bold facade on a modestly scaled tower extension about 35-40 feet high, about the same height as the other structures facing on to Jessie Square, such as the Contemporary Jewish Museum and St. Patrick's Church. The Mexican Museum on the west was attached to a residential tower that was set back approximately 40 feet from the entrance to the Museum. That proposed tower would have produced even greater shadow impacts on Union Square than the proposed Project due to its even greater height, but the concept of setting the Residential Tower back from Jessie Square by about 40 feet with an attached and

identifiable Mexican Museum that opened onto the Square, would reduce the Project's shadow impacts on Jessie Square while at the same time producing an appropriately sized museum element facing directly on to the Square. A revised Alternative E in the form of a new Alternative F with the major part of the 351-foot tower mass realigned about 40 feet to the east would not only provide the same elimination of shadow effects on Union Square but it also would significantly reduce the shadow effects on Jessie Square. C.8 cont'd.

5. Impacts on Historic Resources C.9

The EIR does not lawfully assess the significance of the Project's impacts on land use, aesthetic and historic values in this area and in this Conservation District, including the historic Aronson Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The Aronson Building is a Category I Significant Building located within the New Montgomery-Mission-Second Conservation (NMMS) District.

b. There are several features of the Project that bring the tower portion within the Historic Preservation Commission's permitting jurisdiction and, under Planning Code § 1111, require that the developer obtain the HPC's approval of the tower by way of a permit to alter the Aronson Building or a permit for new construction of the tower in the NMMS District.

c. The western portion of the Aronson Building will be demolished and the tower will be built in its place, directly adjacent to the west side of the reduced Aronson Building. Also, the tower will be physically attached to and programmatically integrated with the Aronson building. Therefore, the tower is an alteration of the Aronson building requiring an HPC permit. Alternatively, the tower is "new construction" partially on the Aronson Building parcel and, therefore, within the Conservation District.

d. Article 11 of the Planning Code includes several zoning rules with which the tower does not comply. Section 1111.6 provides that for Significant Buildings - Category I such as the Aronson Building, any additions to height of the building "shall be limited to one story above the height of the existing roof" and "shall be compatible with the scale and character of the building." Also, all alterations and new construction must be compatible with the character and scale of the Conservation District. Several violations of these zoning rules are apparent. As an alteration of the Aronson building, the tower violates the rule limiting alterations to no more than one additional story over the original building. Second, as an alteration, the tower is not compatible with the scale, particularly the height, of the Aronson building. Third, as new construction in the district, the tower is not compatible with the scale, particularly the predominant height of the district and the predominant height of the buildings that define the conservation characteristics of the district.

e. The above described rule violations also describe significant adverse environmental effects that the EIR fails to disclose. A substantial adverse change in the significance of an historical resource is treated as a significant effect on the environment. (CEQA Guidelines, § 15064.5, subd. (b).) A "substantial adverse change" includes demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired. (CEQA Guidelines, § 15064.5, subd. (b)(1) .) Here, the tower will cause these significant adverse effects. C.9 cont'd.

6. **Noise Impacts.** The EIR does not lawfully assess the significance of the Project's noise impacts in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. C.10

a. Mitigation Measure M-NO-1a, for Impact NO-1, Construction Noise, includes a provision requiring 14 days advance notice for activities that will generate noise over 90 db. As the EIR recognizes, generating noise at this level is a significant noise impact. Therefore, the acknowledgment in the mitigation measures that noise will , in fact, be generated above this level, subject only to a notice requirement, demonstrates that this impact remains significant after mitigation.

b. Mitigation Measure M-NO-3, for Impact NO-3 (Stationary Operational Noise Sources) is mitigated by measures that require compliance with San Francisco's noise ordinance, which provides a daytime and nighttime interior receptor standards of 55 dBA and 45 dBA, respectively. State standards, as recognized in the DEIR, establish an interior receptor standard of 45 dBA. Therefore, mitigating to a standard of 55 dBA is not sufficient to find this impact less than significant.

7. **Recreation Impacts.** The EIR does not lawfully assess the significance of the Project's impacts on recreation in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. C.11

a. The Recreation analysis only looks at impacts in terms of physical deterioration and degradation of nearby parks and park facilities. It does not include any information of rates of utilization of these parks and whether the additional population brought to the area will degrade recreation by causing more overcrowding of these parks.

8. **Air Quality.** The EIR does not lawfully assess the significance of the Project's impacts on air quality, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. C.12

C.12 cont'd.

a. The EIR sets forth six criteria (p. IV.G.19) by which it will analyze the significance of air quality impacts.
G.1 Conflict with or obstruct implementation of the applicable air quality plan;
G.2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
G.3 Result in a cumulatively considerable net increase of any criteria air pollutant[1] for which the project region is in nonattainment[2] under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
G.4 Expose sensitive receptors to substantial pollutant concentrations; or
G.5 Create objectionable odors affecting a substantial number of people.

b. Construction of the proposed project would result in earth-moving activities and pollutants emitted by construction vehicles. The proposed project would include the "siting of new sensitive receptors as well as the introduction of new stationary sources of emissions subject to permitting requirements: a diesel fueled back-up emergency generator engine; and natural gas–fired mechanical systems or boilers. ...Development of the proposed project would introduce additional vehicular traffic in the project vicinity." (EIR pp. IV.G.19-20) Further, "land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities." (EIR p. IV.G.22)

c. The EIR fails to assess construction phase exposure of sensitive receptors to increased ozone pollution due to Project-caused increases emissions of ozone precursors (i.e., NOx and ROG.)

---

[1] As required by the 1970 federal Clean Air Act, the United States Environmental Protection Agency initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. EPA calls these pollutants **criteria air pollutants** because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. **Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead are the six criteria air pollutants** originally identified by EPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less **(PM10)** and particulate matter of 2.5 microns in diameter or less **(PM2.5)**. (EIR p. IV.G.2)

[2] SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM10 and PM2.5). (EIR p.IV.G.21) Nox and ROG are precursors to ozone. (Air Quality Technical Report, EIR p. 3)

C.12 cont'd.

d. Regarding ozone, PM10, and PM2.5, the EIR states, that "Because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22) To the extent that, in taking this approach, the EIR categorically excludes "temporary" impacts from being significant, this violates CEQA. Under CEQA, an EIR must analyze both short term and long term adverse impacts for their significance. The EIR appears to average emissions and thus hide impacts at periods of high stationary pollutant sources and hide variances in impacts based on proximity (distance) to the project site.

e. **Impact AQ-1**. Impact AQ-1 claims to analyze project construction for Threshold of Significance G2 and G3. Threshold of Significance G2 is "violate any air quality standard or contribute substantially to an existing or projected air quality violation." The assessment is based on numerical standards established by the Bay Area Air Quality Management District (BAAQMD) for ROG (54 lbs/day); NOx (54 lbs/day) ; Exhaust PM10 (82 lbs/day); Exhaust PM2.5 (54 lbs/day). But the EIR cannot merely reference a project's compliance with another agency's regulations. .Lead agencies must conduct their own fact-based analysis of project impacts, regardless of whether the project complies with other regulatory standards.

f. Beyond the assertion of BAAQMD's standards of significance, the EIR does not present any quantitative analysis of the extent to which the Project will increase ozone precursor emissions and thereby contribute to this regional air basin's "nonattainment" with federal and state ambient air quality standards for ozone. Without explanation, the EIR concludes that "project construction-phase criteria air pollutant emissions that are at levels below the applicable thresholds would not ...contribute substantially to an existing or projected air quality violation." (EIR p. IV.G.29). Table IV.G.5 shows that for NOx, while the total *average* daily emissions does not exceed the threshold of 54 lb/day, it does get substantially close at 49.76 lbs/day. (*Ibid.*) The EIR does not explain why it reaches the conclusion that the Project as proposed would not "contribute" to an existing or projected air quality violation; or "result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment."

g. The EIR claims to quantify construction emissions for each construction phase, but fails to disclose the emissions for each phase. (EIR p. IV.G.28) According to the EIR (EIR p. IV.E.52) there would be six partially overlapping construction phases:

- Phase 1 – Demolition (6 months)
- Phase 2 – Excavation and shoring (5 months)
- Phase 3 – Foundation and below-grade construction (5 months)
- Phase 4 – Building superstructure (14 months)
- Phase 5 – Exterior finishing (12 months)
- Phase 6 – Interior finishing (18 months)

C.12 cont'd.

Instead, the EIR combined the emissions to determine "average daily emission." (EIR p. IV.G.28). The EIR does not disclose if there are significant impacts at particular periods that were hidden through such averaging. Elsewhere the EIR asserts that "because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22). Yet, the EIR does not explain why only the averages, rather than peaks or extended periods of higher than average pollution emissions are applicable.

C.13

h. **Impact AQ-2.** The EIR fails to disclose whether construction of the Project would cause a potentially significant adverse impact from exposing sensitive receptors to substantial pollutant concentrations of fugitive dust. The EIR fails to perform this CEQA requirement despite conceding that "demolition, excavation, and other construction activities can cause wind-blown dust and a local increase in the concentration of particulate matter" and that, "depending on exposure, adverse health effects can occur due to particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil." (EIR pp. IV.29-30)

i. Rather than analyze the potentially significant adverse impacts, the EIR summarily concludes that regulations and procedures of the San Francisco Health Code and Building Code, including preparation and implementation of a Dust Control Plan, "would ensure that project generated fugitive dust air quality impacts would be less than significant" and thus "no mitigation measures would be necessary." There are a number of problems with this approach. First, the conclusion is not supported by reasoned analysis from facts to conclusion. Two, the Dust Control Plan is a mitigation not a part of the Project. Three, the Dust Control Plan will be submitted to the Director of Public Health after EIR certification, and is thus deferral of both impact analysis and mitigation formulation. The Dust Control Plan is deferral of impact analysis because this plan would for the first time include a map showing all sensitive receptors within 1000 feet of the site and analysis of wind direction. This is analysis that should properly be within the EIR, not created afterwards.

C.14

j. The EIR's assessment of construction phase exposure of sensitive receptors to increased emissions of PM2.5 and toxic air contaminants, including diesel particulate matter is based on numerical standards established by the BAAQMD (and EPA for PM2.5, i.e., 0.3 micrograms per cubic meter)). These thresholds are "excess cancer risk of 10 per million, chronic or acute HI of 1.0, or annual average PM2.5 concentrations in excess of 0.3 micrograms per cubic meter." (DEIR IV.G.31.) But the EIR provides no factual evidence to show that these general standards are appropriate for measuring the significance of this Project's impacts in this particular environmental setting, or that the EPA's standard for PM2.5, which is an annual average standard, is approprite for measuring the risk posed by construction activities that exceed the average for extended periods of time.

C.15

k. **Impact AQ-3.** The EIR does not clearly state if Project construction would cause a significant impact of exposing sensitive receptors to substantial concentrations PM2.5 and

C.15 cont'd.

toxic air contaminants, including diesel particulate matter. The heading for Impact AQ-3 states only "Less than Significant with Mitigation" and Table IV.G.7 has a "yes" for significant excess cancer risk per million, but there is no discussion of the significance in the narrative discussion of the impact.

l. Further, the EIR does not disclose or describe how severe this impact would likely be, contrary to CEQA's requirement of full disclosure. From Table IV.G.7 the inference is that 27.3 people will die from cancer per population of one million. However, the EIR fails to describe the risk or severity of impact to each of the populations listed at Table IV.G.6. Table IV.G.6 shows that residents of the Paramount Residences live within 100 feet of the Project, the St. Regis Residences within 150 feet, the Four Seasons Hotel and Residences 300 feet away, the Ritz-Carlton Club & Residences within 650 feet, the Yerba Buena Gardens Child Development Center 920 feet away, and the residents of the Woolf House Apartments at 1000 feet. The EIR breaks out the excess cancer risk for the Yerba Buena Gardens Child Development Center, but lumps all other sensitive receptors together.

m. The averaging of risk and omission of analysis of risk based on proximity to the Project is particularly troublesome given that the EIR elsewhere discloses that air pollution monitoring has confirmed that health effects "vary with modeled exposure" to particulate matter and NO2. For example, in traffic-related studies, the additional non-cancer health risk attributable to roadway proximity "was seen within 1,000 feet of the roadway" and "was strongest within 300 feet."[3] (EIR p. IV.G.8) "As a result, the ARB [Air Resource Board] recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day." Because of the scientific data on dispersion of Toxic Air Contaminants (TACs) from a source, the BAAQMD recommends assessing impacts of sources of TACs on nearby receptors within a 1,000-foot radius. However, the requirement to analyze within 1000 feet does not obviate the need to conduct analysis for risk and potentially significant adverse impacts based on proximity. Here, in fact, the EIR concedes that "the compact Project site and lack of buffer space between the site boundary and sensitive receptors limit the ability for construction-phase emissions to disperse." (EIR p. IV.G32.) The EIR admits that "the highest pollutant concentrations would occur at the existing residential receptors across Third Street about 100 feet to the northeast" (EIR p. IV.G.32) but doesn't state what those excess cancer levels would be or if they are significant.

n. Likewise, the EIR uses average emissions rates without disclosing the "higher short-term rates" which would occur as emissions vary during the construction period." (EIR p.IV.G.32) Given that emissions will "diminish substantially during the final phase of interior and finishing activities" and that averaging is used, potentially significant adverse impacts may occur, but the EIR has have failed to investigate this impact.

[3] Similarly, "ARB regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area." (EIR p. IV.G.16)

o. **Mitigation Measure M-AQ-3.** The EIR vaguely claims that Mitigation Measure M-AQ-3 implementation would reduce the estimated cancer risk impacts experienced by *off-site receptors* to below the project-level threshold of significance, but fails to disclose if this reduction will be experience by all off-site receptors listed in Table IV.G.6 or only a portion. C.16

p. The EIR relies upon a "Construction Emissions Minimization Plan" which it claims will reduce construction period diesel by 65%, but fails to disclose how it reached this conclusion or more specifically this percentage reduction.

q. The EIR fails to describe the changes in the proposed construction fleet, emissions factors for equipment with and without controls, and the effectiveness of these controls for the project-specific construction fleet. (EIR p. IV.G.36). In regards to these changes, the EIR cites to an attachment to the Air Quality Technical Report which is not available to the public for review as the attachment is not included in the EIR or its Appendices.

9. Greenhouse Gas impacts. The EIR does not lawfully assess the significance of the Project's impacts on greenhouse gases, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. C.17

a. The analysis does not quantify the Project's GHG emissions. Therefore, it cannot and does not apply the first of its two stated "thresholds of significance" (i.e., threshold H.1.)[4] Instead, it folds the first threshold into its second one to produce one threshold, i.e., the Project's compliance with the City's "Strategies to Address Greenhouse Gas Emissions." But the "Strategies" does not have a provision addressing GHG emissions associated with the manufacture or transportation to the project site of construction materials to be used in the building. A significant fraction of the global warming impact of construction comes from the greenhouse gasses embedded in the construction materials themselves. These materials take energy, and therefore greenhouse gasses, to make.

10. Recirculation. The Board should require that the Planning Department revise the EIR to include the information discussed above and recirculate a revised draft for public comment. C.18

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[4]"Implementation of the proposed project would have a significant effect on greenhouse gas emissions if the project would: H.1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or H.2. Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs." (DEIR 4.H-16.)

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

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ATTACHMENT D

Letter D: Appeal Letter from Thomas N. Lippe, Lippe Gaffe Wagner LLP, on behalf of Friends of Yerba Buena, Paul Sedway, Ron Wormick, Matthew Schoenberg, Joe Fang, and Margaret Collins, Dated April 10, 2013

LETTER D

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April 10, 2013

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Board President David Chiu and Members of the Board of Supervisors
c/o Ms. Angela Calvillo
Clerk of the Board of Supervisors
City of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: **Notice of Appeal** of Planning Commission Certification of Final EIR for the 706 Mission Street - Residential Tower and Mexican Museum Project (Case No. 2008.1084E; SCH # 2011042035) filed by the **Friends of Yerba Buena, Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins**

Dear President Chiu and Supervisors:

This office represents the Friends of Yerba Buena ("FYB"), Paul Sedway, Ron Wornick, Matthew Schoenberg, Joe Fang, and Margaret Collins (collectively "Appellants") regarding the proposed project known as 706 Mission Street - Residential Tower and Mexican Museum Project ("the Project"). Appellants hereby appeal the Planning Commission's certification of the Final Environmental Impact Report ("FEIR") for the Project and confirm their continuing objections to the City's approval of the Project in violation of the California Environmental Quality Act (CEQA).

A copy of the Planning Commission's March 21, 2013, Motion 18829, certifying the FEIR is attached hereto as **Exhibit 1**. Further documentation in support of this appeal will follow prior to the Board hearing.

The subject EIR is not procedurally or substantively adequate, accurate, or objective. The EIR fails to lawfully identify the significant adverse environmental impacts or mitigation measures to substantially reduce the Project's significant adverse environmental impacts. The EIR also fails to lawfully assess the significance of the adverse environmental impacts of Project variants. In addition, the Responses to Comments does not adequately respond to comments submitted on the Draft EIR regarding these issues. These legal errors are evident in the EIR's assessment of many issues, including, without limitation, the following:

1. Traffic and Circulation Impacts. D.1

As described in more detail in the July 24, 2012 Memorandum from Nelson Nygaard to 765 Market Street Residential Owners Association that was submitted as a comment on the Draft EIR, a copy of which is attached hereto as **Exhibit 2**, the EIR's assessment of traffic and circulation impacts is informationally deficient in number of respects, including, without limitation, the

following:

a. Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives D.1 cont'd.

"The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7." (Exhibit 2, p. 2.) Nelson Nygaard demonstrate that "Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact." (Exhibit 2, p. 5.)

b. Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality D.2

"The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact." (Exhibit 2, p. 5.) Again a proper analysis of the trip distribution reveals that Variants 6 & 7 should produce less than significant impacts at the critical Fourth and Market intersection.

c. The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes D.3

"The DEIR does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS" (Exhibit 2, p. 7.)

d. Excessive Onsite Parking Creates Traffic Impacts D.4

"The proposed Project's residential parking supply of one space per unit exceeds the standard set in the Planning Code, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant." (Exhibit 2, p. 8.)

e. **There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips** D.5

"The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the Project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant." (Exhibit 2, p. 8.)

2. Pedestrian Traffic and Safety Impacts D.6

The EIR does not lawfully assess the significance of the Project's impacts on pedestrian traffic and safety, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

3. Shadow Impacts on Union Square D.7a

a. The EIR does not lawfully assess the significance of the Project's shadow impacts on several City Parks, including Union Square, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues.

b. The EIR concludes the Project will generate more net new shadow on Union Square (337,744 square feet) than either the Planning Commission or the Recreation and Park Commission have the authority to currently allow pursuant to Proposition K, Planning Code Section 295 and the long standing Regulations adopted by City Planning and Recreation and Parks to carry out Proposition K and Planning Code Section 295. D.7b

c. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant." But the EIR concedes that this impact will use up over 100% of the park's current shadow budget (and over 60% of the park's current shadow budget even if the reduction in shadow caused by the Macy's remodel is factored in). Not only is this incremental impact "cumulatively considerable" as the EIR concedes, it is significant in its own right.

d. The EIR essentially concludes that only new shadows that strike Union Square between 10:00 a.m. and 3:00 p.m can be significant despite the fact that both Proposition K and Planning Code Section 295 are set up to limit any new shadow on a park under the jurisdiction of Recreation and Parks from one hour after sunrise to one hour before sunset. These are the hours that have been deemed significant by the voters in passing Proposition K in 1984, the City in establishing Section 295 and the long standing regulations adopted thereunder.

D.7b cont'd.

e. The EIR finds the Project's incremental shadow impact on Union Square is "less than significant" but its cumulative shadow impact on Union Square to be "significant." This latter finding triggers an obligation that the EIR identify feasible mitigation measures that would "substantially reduce" the impact. The EIR does not even attempt to do so. Instead, the EIR finds that all mitigation measures that would substantially reduce this significant impact are infeasible, stating: "There is no feasible mitigation for the proposed project's contribution to cumulative shadow impacts, because any theoretical mitigation would fundamentally alter the project's basic design and programming parameters." These are not legally valid grounds for the EIR to dispense with any mitigation analysis at all.

f. The EIR contends that "there are situations under which new shadow that is considered significant under Planning Code Section 295 would not have a significant environmental impact under CEQA." (DEIR p. IV.I-60.) This is incorrect as matter of law. (See Planning Code § 298(b) ["The City Planning Commission shall conduct a hearing and shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant"].)

g. The Planning Commission agenda for its now canceled hearing of April 11, 2013 contained, as Items 1.a and 1.b:

1.a. 706 MISSION STREET . . . and UNION SQUARE . . . Discussion and possible joint action by the Planning Commission and Recreation and Park Commission to raise the cumulative shadow limit for Union Square, pursuant to the jointly-approved Section 295 Implementation Memo adopted in 1989, in order to accommodate new shadow cast by the 706 Mission Street project.

1.b. 706 MISSON STREET . . . UNION SQUARE . . . Request to Consider whether the net new shadow cast by the project at 706 Mission Street on Union Square will be adverse to the use of the park, and to authorize the allocation of the cumulative shadow limit for Union Square to the project, as required by Section 295 (the Sunlight Ordinance).

i. The Planning Commission's proposed decision is to increase the cumulative shadow limit for the Park by 0.09%. But the 706 Mission Street EIR does not assess a general increase in the cumulative shadow limit, i.e., one that might be allocated to a different building than 706 Mission Street. Any such different building might cast new shadow at

D.7b cont'd.

different times of the day or year than the shadow that will be cast by the proposed 706 Mission Street building. This EIR cannot be certified for this broader approval.

ii. The EIR also fails to account for the fact that the Planning and Recreation and Park Commission's serial adjustments to the cumulative shadow limit for Union Square (see e.g., the adjustment approved in October 2012) are based on a "moving baseline" that has no end in sight. Under this flawed logic, small changes can be incrementally approved one at a time, each considered less than significant when made. The result: sunlight on Union Square will suffer death by a thousand cuts.

D.8

4. Shadow Impacts on Jessie Square

a. The main text of the DEIR fails to quantify new shadow the Project would generate on Jessie Square. One has to go the letters from Turnstone Consulting buried in the Shadow Appendix to learn that the Project will add **8,031,176** square feet of new shadow to Jessie Square – that is more than **eight million** new square feet of shadow. But somehow the DEIR finds this is to be less than significant. Instead the DEIR states on page IV.I.47 that in the spring the Project new shadowing of Jessie Square and CJM's outdoor seating area would end by 11:00 a.m. and in the summer the new shadows on the outdoor seating area of the CJM would end by noon and the Project would no longer shadow Jessie Square by 12:30 PM. These are not insignificant impacts at insignificant times of the day or year. At a minimum mitigation measures including the set back alterative in B above should be employed.

b. The EIR fails to present any Project alternative that would reduce the Project's new shadow impacts on its immediate neighbor, Jessie Square. The Proposed Project's shadow impacts would reach other important open spaces, including Jessie Square, as described on DEIR pp. IV.I.46-47, and Figures IV.I.6 to IV.I.9. The text discusses the range of use of Jessie Square in morning periods when the Proposed Project would cast new shadows on this important space. Neither DEIR Alternative B nor E would reduce this impact, as stated on DEIR pp. VII.33 and 110 respectively. However, both Alternatives B and E, as illustrated in Figures VII 1 & 2 and VII.7 & 8, would rise on the west project site line with no set back above the base, as can be compared to Figure II.25, Conceptual South Elevation for the Proposed Project. Therefore, both Alternatives B and E, as presented in the DEIR, may produce a slightly greater shadow impact on Jessie Square than those from the Proposed Project.

c. A new Alternative F should be prepared to address the adverse project shadow effects on Jessie Square. Jessie Square is a south-facing open space with excellent access from Market Street, Third Street, and Mission Street, and serves as a calm, smaller-scale

D.8 cont'd.

open space, compared to the larger Yerba Buena Gardens. While the range of existing activity in Jessie Square increases from mid-morning to mid-day periods, morning use is still notable, per footnote 33, DEIR p. IV.I.47.

d. During the period from 2006 - 2007, Millennium Partners prepared and submitted to 765 Market Street Owners a tower design that gave more prominence to the Mexican Museum, with a bold facade on a modestly scaled tower extension about 35-40 feet high, about the same height as the other structures facing on to Jessie Square, such as the Contemporary Jewish Museum and St. Patrick's Church. The Mexican Museum on the west was attached to a residential tower that was set back approximately 40 feet from the entrance to the Museum. That proposed tower would have produced even greater shadow impacts on Union Square than the proposed Project due to its even greater height, but the concept of setting the Residential Tower back from Jessie Square by about 40 feet with an attached and identifiable Mexican Museum that opened onto the Square, would reduce the Project's shadow impacts on Jessie Square while at the same time producing an appropriately sized museum element facing directly on to the Square. A revised Alternative E in the form of a new Alternative F with the major part of the 351-foot tower mass realigned about 40 feet to the east would not only provide the same elimination of shadow effects on Union Square but it also would significantly reduce the shadow effects on Jessie Square.

5. Impacts on Historic Resources D.9

The EIR does not lawfully assess the significance of the Project's impacts on land use, aesthetic and historic values in this area and in this Conservation District, including the historic Aronson Building, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following.

a. The Aronson Building is a Category I Significant Building located within the New Montgomery-Mission-Second Conservation (NMMS) District.

b. There are several features of the Project that bring the tower portion within the Historic Preservation Commission's permitting jurisdiction and, under Planning Code § 1111, require that the developer obtain the HPC's approval of the tower by way of a permit to alter the Aronson Building or a permit for new construction of the tower in the NMMS District.

c. The western portion of the Aronson Building will be demolished and the tower will be built in its place, directly adjacent to the west side of the reduced Aronson Building. Also, the tower will be physically attached to and programmatically integrated with the Aronson building. Therefore, the tower is an alteration of the Aronson building

requiring an HPC permit. Alternatively, the tower is "new construction" partially on the Aronson Building parcel and, therefore, within the Conservation District. **D.9 cont'd.**

d. Article 11 of the Planning Code includes several zoning rules with which the tower does not comply. Section 1111.6 provides that for Significant Buildings - Category I such as the Aronson Building, any additions to height of the building "shall be limited to one story above the height of the existing roof" and "shall be compatible with the scale and character of the building." Also, all alterations and new construction must be compatible with the character and scale of the Conservation District. Several violations of these zoning rules are apparent. As an alteration of the Aronson building, the tower violates the rule limiting alterations to no more than one additional story over the original building. Second, as an alteration, the tower is not compatible with the scale, particularly the height, of the Aronson building. Third, as new construction in the district, the tower is not compatible with the scale, particularly the predominant height of the district and the predominant height of the buildings that define the conservation characteristics of the district.

e. The above described rule violations also describe significant adverse environmental effects that the EIR fails to disclose. A substantial adverse change in the significance of an historical resource is treated as a significant effect on the environment. (CEQA Guidelines, § 15064.5, subd. (b).) A "substantial adverse change" includes demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired. (CEQA Guidelines, § 15064.5, subd. (b)(1) .) Here, the tower will cause these significant adverse effects.

6. Noise Impacts. The EIR does not lawfully assess the significance of the Project's noise impacts in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. **D.10**

a. Mitigation Measure M-NO-1a, for Impact NO-1, Construction Noise, includes a provision requiring 14 days advance notice for activities that will generate noise over 90 db. As the EIR recognizes, generating noise at this level is a significant noise impact. Therefore, the acknowledgment in the mitigation measures that noise will , in fact, be generated above this level, subject only to a notice requirement, demonstrates that this impact remains significant after mitigation.

b. Mitigation Measure M-NO-3, for Impact NO-3 (Stationary Operational Noise Sources) is mitigated by measures that require compliance with San Francisco's noise ordinance, which provides a daytime and nighttime interior receptor standards of 55 dBA and 45 dBA, respectively. State standards, as recognized in the DEIR, establish an

interior receptor standard of 45 dBA. Therefore, mitigating to a standard of 55 dBA is not sufficient to find this impact less than significant. D.10 cont'd.

7. **Recreation Impacts.** The EIR does not lawfully assess the significance of the Project's impacts on recreation in this area, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. D.11

a. The Recreation analysis only looks at impacts in terms of physical deterioration and degradation of nearby parks and park facilities. It does not include any information of rates of utilization of these parks and whether the additional population brought to the area will degrade recreation by causing more overcrowding of these parks.

8. **Air Quality.** The EIR does not lawfully assess the significance of the Project's impacts on air quality, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. D.12

a. The EIR sets forth six criteria (p. IV.G.19) by which it will analyze the significance of air quality impacts.
G.1 Conflict with or obstruct implementation of the applicable air quality plan;
G.2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
G.3 Result in a cumulatively considerable net increase of any criteria air pollutant[1] for which the project region is in nonattainment[2] under an applicable federal or state

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[1] As required by the 1970 federal Clean Air Act, the United States Environmental Protection Agency initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. EPA calls these pollutants **criteria air pollutants** because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. **Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead are the six criteria air pollutants** originally identified by EPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less (**PM10**) and particulate matter of 2.5 microns in diameter or less (**PM2.5**). (EIR p. IV.G.2)

[2] SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM10 and PM2.5). (EIR p.IV.G.21) Nox and ROG are precursors to ozone. (Air Quality Technical Report, EIR p. 3)

ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors); D.12 cont'd.
G.4 Expose sensitive receptors to substantial pollutant concentrations; or
G.5 Create objectionable odors affecting a substantial number of people.

b. Construction of the proposed project would result in earth-moving activities and pollutants emitted by construction vehicles. The proposed project would include the "siting of new sensitive receptors as well as the introduction of new stationary sources of emissions subject to permitting requirements: a diesel fueled back-up emergency generator engine; and natural gas–fired mechanical systems or boilers. ...Development of the proposed project would introduce additional vehicular traffic in the project vicinity." (EIR pp. IV.G.19-20) Further, "land use development projects typically result in particulate matter emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities." (EIR p. IV.G.22)

c. The EIR fails to assess construction phase exposure of sensitive receptors to increased ozone pollution due to Project-caused increases emissions of ozone precursors (i.e., NOx and ROG.)

d. Regarding ozone, PM10, and PM2.5, the EIR states, that "Because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22) To the extent that, in taking this approach, the EIR categorically excludes "temporary" impacts from being significant, this violates CEQA. Under CEQA, an EIR must analyze both short term and long term adverse impacts for their significance. The EIR appears to average emissions and thus hide impacts at periods of high stationary pollutant sources and hide variances in impacts based on proximity (distance) to the project site.

e. **Impact AQ-1.** Impact AQ-1 claims to analyze project construction for Threshold of Significance G2 and G3. Threshold of Significance G2 is "violate any air quality standard or contribute substantially to an existing or projected air quality violation." The assessment is based on numerical standards established by the Bay Area Air Quality Management District (BAAQMD) for ROG (54 lbs/day); NOx (54 lbs/day) ; Exhaust PM10 (82 lbs/day); Exhaust PM2.5 (54 lbs/day). But the EIR cannot merely reference a project's compliance with another agency's regulations. Lead agencies must conduct their own fact-based analysis of project impacts, regardless of whether the project complies with other regulatory standards.

f. Beyond the assertion of BAAQMD's standards of significance, the EIR does not present any quantitative analysis of the extent to which the Project will increase ozone precursor emissions and thereby contribute to this regional air basin's "nonattainment"

with federal and state ambient air quality standards for ozone. Without explanation, the EIR concludes that "project construction-phase criteria air pollutant emissions that are at levels below the applicable thresholds would not ...contribute substantially to an existing or projected air quality violation." (EIR p. IV.G.29). Table IV.G.5 shows that for NOx, while the total *average* daily emissions does not exceed the threshold of 54 lb/day, it does get substantially close at 49.76 lbs/day. (*Ibid.*) The EIR does not explain why it reaches the conclusion that the Project as proposed would not "contribute" to an existing or projected air quality violation; or "result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment." **D.12 cont'd.**

g. The EIR claims to quantify construction emissions for each construction phase, but fails to disclose the emissions for each phase. (EIR p. IV.G.28) According to the EIR (EIR p. IV.E.52) there would be six partially overlapping construction phases:

- Phase 1 – Demolition (6 months)
- Phase 2 – Excavation and shoring (5 months)
- Phase 3 – Foundation and below-grade construction (5 months)
- Phase 4 – Building superstructure (14 months)
- Phase 5 – Exterior finishing (12 months)
- Phase 6 – Interior finishing (18 months)

Instead, the EIR combined the emissions to determine "average daily emission." (EIR p. IV.G.28). The EIR does not disclose if there are significant impacts at particular periods that were hidden through such averaging. Elsewhere the EIR asserts that "because construction activities are temporary in nature, only the average daily thresholds are applicable to construction phase emissions." (EIR pp. IV.G.21, 22). Yet, the EIR does not explain why only the averages, rather than peaks or extended periods of higher than average pollution emissions are applicable.

h. **Impact AQ-2.** The EIR fails to disclose whether construction of the Project would cause a potentially significant adverse impact from exposing sensitive receptors to substantial pollutant concentrations of fugitive dust. The EIR fails to perform this CEQA requirement despite conceding that "demolition, excavation, and other construction activities can cause wind-blown dust and a local increase in the concentration of particulate matter" and that, "depending on exposure, adverse health effects can occur due to particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil." (EIR pp. IV.29-30) **D.13**

i. Rather than analyze the potentially significant adverse impacts, the EIR summarily concludes that regulations and procedures of the San Francisco Health Code and Building Code, including preparation and implementation of a Dust Control Plan, "would ensure that project generated fugitive dust air quality impacts would be less than

significant" and thus "no mitigation measures would be necessary." There are a number of problems with this approach. First, the conclusion is not supported by reasoned analysis from facts to conclusion. Two, the Dust Control Plan is a mitigation not a part of the Project. Three, the Dust Control Plan will be submitted to the Director of Public Health after EIR certification, and is thus deferral of both impact analysis and mitigation formulation. The Dust Control Plan is deferral of impact analysis because this plan would for the first time include a map showing all sensitive receptors within 1000 feet of the site and analysis of wind direction. This is analysis that should properly be within the EIR, not created afterwards. **D.13 cont'd.**

j. The EIR's assessment of construction phase exposure of sensitive receptors to increased emissions of PM2.5 and toxic air contaminants, including diesel particulate matter is based on numerical standards established by the BAAQMD (and EPA for PM2.5, i.e., 0.3 micrograms per cubic meter)). These thresholds are "excess cancer risk of 10 per million, chronic or acute HI of 1.0, or annual average PM2.5 concentrations in excess of 0.3 micrograms per cubic meter." (DEIR IV.G.31.) But the EIR provides no factual evidence to show that these general standards are appropriate for measuring the significance of this Project's impacts in this particular environmental setting, or that the EPA's standard for PM2.5, which is an annual average standard, is approprite for measuring the risk posed by construction activities that exceed the average for extended periods of time. **D.14**

k. **Impact AQ-3.** The EIR does not clearly state if Project construction would cause a significant impact of exposing sensitive receptors to substantial concentrations PM2.5 and toxic air contaminants, including diesel particulate matter. The heading for Impact AQ-3 states only "Less than Significant with Mitigation" and Table IV.G.7 has a "yes" for significant excess cancer risk per million, but there is no discussion of the significance in the narrative discussion of the impact. **D.15**

l. Further, the EIR does not disclose or describe how severe this impact would likely be, contrary to CEQA's requirement of full disclosure. From Table IV.G.7 the inference is that 27.3 people will die from cancer per population of one million. However, the EIR fails to describe the risk or severity of impact to each of the populations listed at Table IV.G.6. Table IV.G.6 shows that residents of the Paramount Residences live within 100 feet of the Project, the St. Regis Residences within 150 feet, the Four Seasons Hotel and Residences 300 feet away, the Ritz-Carlton Club & Residences within 650 feet, the Yerba Buena Gardens Child Development Center 920 feet away, and the residents of the Woolf House Apartments at 1000 feet. The EIR breaks out the excess cancer risk for the Yerba Buena Gardens Child Development Center, but lumps all other sensitive receptors together.

m. The averaging of risk and omission of analysis of risk based on proximity to the

Project is particularly troublesome given that the EIR elsewhere discloses that air pollution monitoring has confirmed that health effects "vary with modeled exposure" to particulate matter and NO2. For example, in traffic-related studies, the additional non-cancer health risk attributable to roadway proximity "was seen within 1,000 feet of the roadway" and "was strongest within 300 feet."[3] (EIR p. IV.G.8) "As a result, the ARB [Air Resource Board] recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day." Because of the scientific data on dispersion of Toxic Air Contaminants (TACs) from a source, the BAAQMD recommends assessing impacts of sources of TACs on nearby receptors within a 1,000-foot radius. However, the requirement to analyze within 1000 feet does not obviate the need to conduct analysis for risk and potentially significant adverse impacts based on proximity. Here, in fact, the EIR concedes that "the compact Project site and lack of buffer space between the site boundary and sensitive receptors limit the ability for construction-phase emissions to disperse." (EIR p. IV.G32.) The EIR admits that "the highest pollutant concentrations would occur at the existing residential receptors across Third Street about 100 feet to the northeast" (EIR p. IV.G.32) but doesn't state what those excess cancer levels would be or if they are significant. **D.15 cont'd.**

n. Likewise, the EIR uses average emissions rates without disclosing the "higher short-term rates" which would occur as emissions vary during the construction period." (EIR p.IV.G.32) Given that emissions will "diminish substantially during the final phase of interior and finishing activities" and that averaging is used, potentially significant adverse impacts may occur, but the EIR has have failed to investigate this impact.

o. **Mitigation Measure M-AQ-3.** The EIR vaguely claims that Mitigation Measure M-AQ-3 implementation would reduce the estimated cancer risk impacts experienced by *off-site receptors* to below the project-level threshold of significance, but fails to disclose if this reduction will be experience by all off-site receptors listed in Table IV.G.6 or only a portion. **D.16**

p. The EIR relies upon a "Construction Emissions Minimization Plan" which it claims will reduce construction period diesel by 65%, but fails to disclose how it reached this conclusion or more specifically this percentage reduction.

q. The EIR fails to describe the changes in the proposed construction fleet, emissions factors for equipment with and without controls, and the effectiveness of these controls for the project-specific construction fleet. (EIR p. IV.G.36). In regards to these changes, the EIR cites to an attachment to the Air Quality Technical Report which is not

[3] Similarly, "ARB regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area." (EIR p. IV.G.16)

available to the public for review as the attachment is not included in the EIR or its Appendices. D.16 cont'd.

9. Greenhouse Gas impacts. The EIR does not lawfully assess the significance of the Project's impacts on greenhouse gases, lawfully identify and discuss mitigation measures or Project alternatives to substantially reduce these significant impacts, or adequately respond to public comments submitted on these issues, including, without limitation, the following. D.17

a. The analysis does not quantify the Project's GHG emissions. Therefore, it cannot and does not apply the first of its two stated "thresholds of significance" (i.e., threshold H.1.)[4] Instead, it folds the first threshold into its second one to produce one threshold, i.e., the Project's compliance with the City's "Strategies to Address Greenhouse Gas Emissions." But the "Strategies" does not have a provision addressing GHG emissions associated with the manufacture or transportation to the project site of construction materials to be used in the building. A significant fraction of the global warming impact of construction comes from the greenhouse gasses embedded in the construction materials themselves. These materials take energy, and therefore greenhouse gasses, to make.

10. Recirculation. The Board should require that the Planning Department revise the EIR to include the information discussed above and recirculate a revised draft for public comment. D.18

Thank you for your attention to this matter.

Very Truly Yours,

Tom Lippe

Thomas N. Lippe

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[4]"Implementation of the proposed project would have a significant effect on greenhouse gas emissions if the project would: H.1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or H.2. Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs." (DEIR 4.H-16.)

Exhibit 1

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

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415.558.6409

Planning
Information:
415.558.6377

Planning Commission Motion 18829

HEARING DATE: March 21, 2013

Date:	March 7, 2013
Case No.:	2008.1084E
Project Address:	706 Mission Street – The Mexican Museum and Residential Tower Project
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Blocks/Lots:	Block 3706, Lots 093, 275 and portions of Lot 277
Project Sponsor:	706 Mission Street Co., LLC c/o Millennium Partners 735 Market Street, 6th Floor San Francisco, CA 94103
Staff Contact:	Debra Dwyer – (415) 575-9031 Debra.Dwyer@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED MIXED-USE PROJECT AT 706 MISSION STREET (ASSESSOR'S BLOCK 3706, Lots 093, 275 and portions of Lot 277).

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on April 13, 2011.

   B. On June 27, 2012, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

C. Notices of availability of the DEIR and of the date and time of the public hearing were posted at the project site by the project sponsor on June 27, 2012.

D. On June 27, 2012, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies, the latter both directly and through the State Clearinghouse.

E. Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on June 27, 2012.

2. The Commission held a duly advertised public hearing on said DEIR on August 2, 2012 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on August 13, 2012.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 47-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a Draft Responses to Comments document, published on March 7, 2013, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.

4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Responses to Comments document all as required by law.

5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400 as part of case file 2008.1084E, and are part of the record before the Commission.

6. On March 21, 2013, the Commission reviewed and considered the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.

7. The Planning Commission hereby does find that the FEIR concerning File No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project, reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate and objective, and that the Responses to Comments document contains no significant revisions to the DEIR, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA and the CEQA Guidelines.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the project described in the EIR:

A. Will have a significant effect on the environment in that it would result in the following significant and unavoidable transportation and circulation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-1: Variant 6 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 6 only*)

Impact Variant TR-2: Variant 6 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 6 only*)

Impact Variant TR-5: Variant 7 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 7 only*)

Impact Variant TR-6: Variant 7 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 7 only*)

B. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following significant and unavoidable cumulative transportation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-3: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-4: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-7: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

Impact Variant TR-8: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

C. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following unavoidable significant cumulative effect with respect to shadow:

Impact C-WS-2: The proposed project, or any of its variants, in combination with past, present, and reasonably foreseeable future projects in the project vicinity would create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas resulting in a significant cumulative shadow impact. The proposed project would make a cumulatively considerable contribution to this significant cumulative shadow impact.

9. The Planning Commission will consider the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of March 21, 2013.

Jonas P. Ionin
Acting Commission Secretary

AYES: Fong, Antonini, Borden, Hillis

NOES: Moore, Sugaya

ABSENT: Wu

ADOPTED: March 21, 2013

Exhibit 2

NELSON
NYGAARD

MEMORANDUM

To: 765 Market Street Residential Owners Association

From: Bonnie Nelson and Brian Canepa

Date: July 24, 2012

Subject: Comment Letter Findings

Nelson\Nygaard was retained by 765 Market Street Residential Owners to assess the traffic and transportation analysis completed in the 706 Mission Mexican Museum and Residential Tower project Draft Environmental Impact Report (DEIR) and to identify any potential issues impacting their property. Our assessment includes the following findings:

- The DEIR analysis contains several flaws in (1) identifying which movements are "critical" at specific intersections and (2) forecasting the likely trip assignment (i.e., the anticipated path of travel) for vehicle trips that would be generated by the Project, which result in an inaccurate assessment of both the Proposed Project and vehicle access variants.
- Due to the assumptions used in the analysis of vehicular traffic, transit, parking, and pedestrians, significant impacts may be underrepresented in certain scenarios and overrepresented in others. In particular, the impacts of the Project are underrepresented and the impacts of Alternatives 6 and 7 are overrepresented in the analysis.
- Given the lack of vehicle trip reducing strategies in the DEIR, more robust improvement measures should be designated for the project to reflect San Francisco sustainable, multi-modal environment to effectively encourage walking, biking, and transit use.
- Several major City planning efforts have not been represented in the transportation analysis, which will have profound circulation impacts around the study site.

TRAFFIC ANALYSIS

Key Issue #1: Incorrect Critical Movement Assumptions Result in a Flawed Analysis of Alternatives

Summary: The DEIR misidentifies the eastbound through movement at Market and Fourth Street as a critical movement, resulting in significant traffic impacts for Variants 6 and 7. Instead, the eastbound right-turn movement should be considered a critical movement given the high pedestrian volumes crossing Fourth Street. This correction in critical movements will result in significant impacts for the Proposed Project and less than significant impacts for Variants 6 and 7.

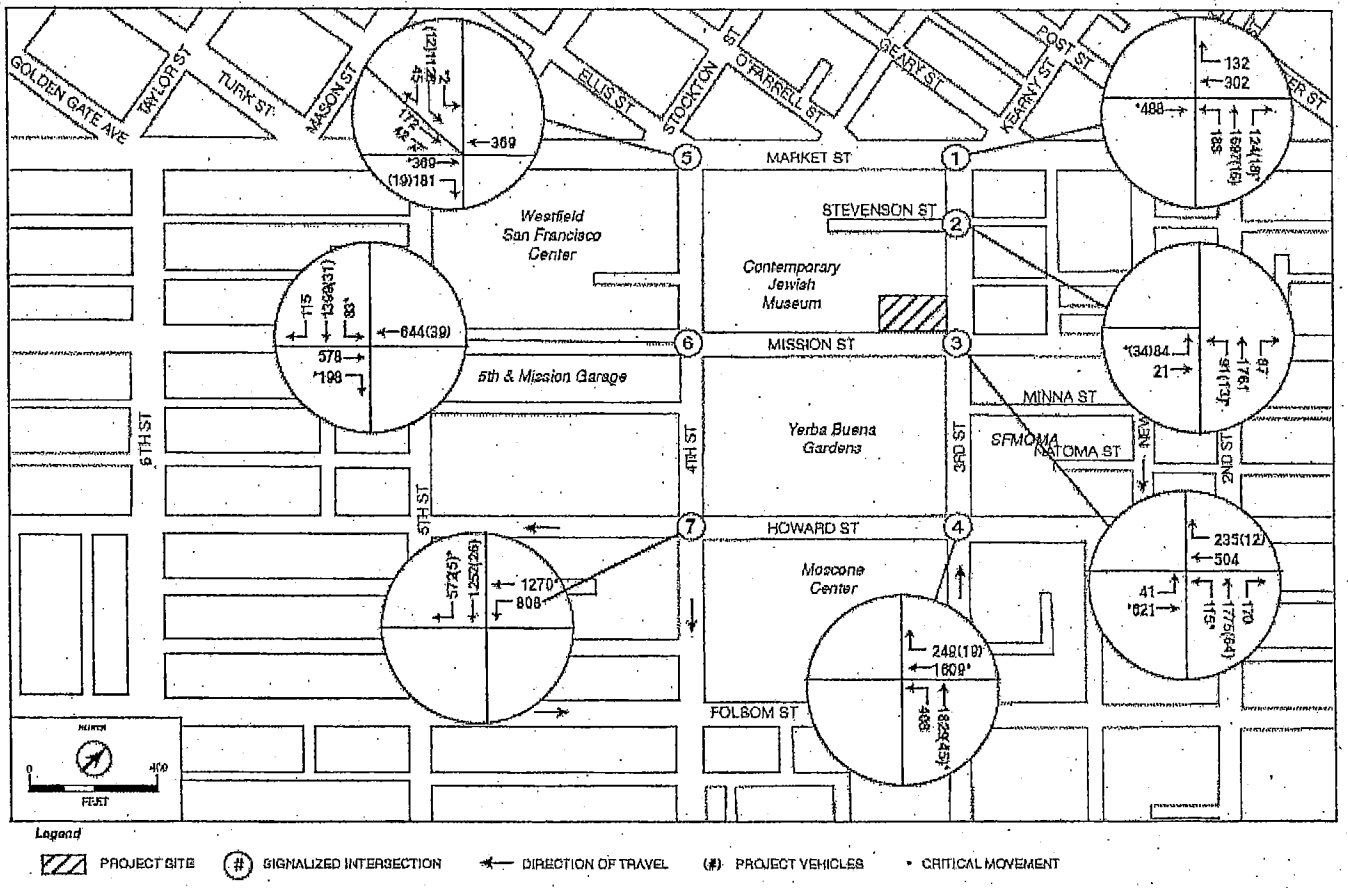
Discussion: The analysis of PM peak hour traffic is flawed in its determination of which movements are "critical movements" at some intersections. According to the analysis, "for an intersection that operates at LOS E or LOS F under existing conditions, there may be a significant adverse impact depending on the magnitude of the project's contribution to the worsening of delay."[1] Specifically, San Francisco traffic studies determine the level of significance in such cases based on the Project contribution to "critical movements". Figure 1 shows the PM peak hour Existing Plus Project traffic volumes and "critical movements" as described in the DEIR.

Critical movements are those intersection movements that require specific allocations of "green time", thus affecting the capacity of other movements within a fixed cycle length. The Highway Capacity Manual (HCM) provides the following description of the basic parameters for conducting a Critical Movements analysis:

- *Critical movement analysis is based on the following fundamental basic principle: The amount of time in an hour is fixed, as is the fact that two vehicles (or a vehicle and a pedestrian) cannot safely occupy the same space at the same time. Critical movement analysis identifies the set of movements that cannot time concurrently and require the most time to serve demand. Critical movement analysis is an effective tool to quickly estimate green times for various movements at an intersection and to estimate its overall performance in terms of volume-to-capacity ratios.*

[1] Appendix E: 706 Mission Street Transportation Study (Without Appendices), p.67.

Figure 1 Existing Plus Project Traffic Volumes, PM Peak Hour[2]



LCW CONSULTING 706 MISSION STREET TRANSPORTATION STUDY

FIGURE 18: EXISTING PLUS PROJECT TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

[2] Appendix E, p. 70.

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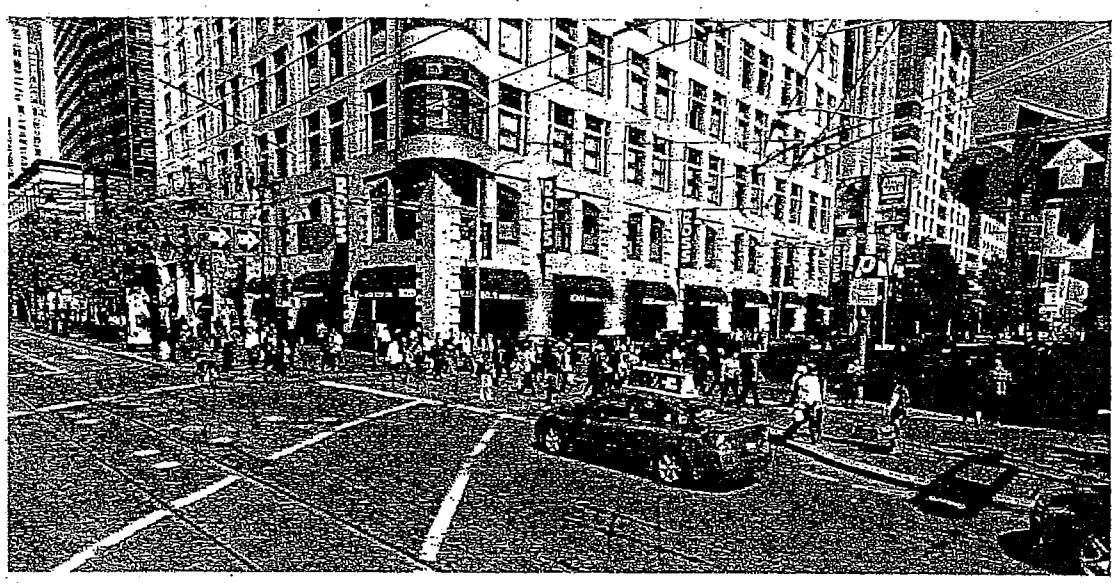
LETTER D

The DEIR identifies the eastbound through movement at Market and Fourth Street as a critical movement, and found that the Project would result in a significant impact to that eastbound through movement based on the DEIR assumption that the Project will generate vehicle trips that will travel eastbound on Market Street.

- However, in the absence of westbound left-turning movements (which are prohibited), eastbound through traffic should not be considered a critical movement as that flow is relatively unimpeded, particularly during the PM Peak Hour when transit boardings are higher in the westbound direction. Since buses and F-line trains stop directly within the center "through" lanes on Market Street, to pick up passengers waiting for to board transit vehicles from island platforms, the critical "through" movement during the PM Peak Hour is the westbound through movement, not the eastbound through movement, given the higher volume of PM peak hour bus westbound bus boardings that results in a higher number of conflicting movements that affect vehicle circulation (transit boardings, in this case, represent a conflicting movement that affects through circulation in the westbound direction).
- In the eastbound direction, the eastbound right-turn movement, not the eastbound through movement, should be considered a critical movement at this intersection given the high volume of conflicting pedestrian movements crossing Fourth Street that requires a significant allocation of "green time" within each signal cycle, and causes vehicle delay and queuing for right-turn traffic. Additions to that movement will exacerbate to that critical right-turn movement (Figure 2 depicts the intersection on a typical day, and shows several vehicles waiting to make the critical right-turn movement).

Figure 2 Market and Fourth Street Intersection



Source: Google Maps

Correcting for the flawed assumption of critical turning movements, the analysis will demonstrate that the Proposed Project (and potentially Variants 1-5) will produce a significant traffic impact at that intersection due to its number of eastbound right-turn movements. Conversely, Variants 6 and 7, which generate eastbound through movements, will generate a less than significant impact.[3]

Key Issue #2: Trip Distribution Assumptions are Inaccurate in Variants 6 & 7 Suggesting Greater Impacts than Reality

Summary: The DEIR vehicle trip distribution in Variants 6 and 7 is not realistic considering motorist behavior and travel patterns, resulting in more eastbound vehicle trips traveling through the Fourth and Market Street intersection, contributing to a significant traffic impact. If the vehicle trips in Variant 6 and 7 are distributed more realistically, there will be less traffic at the Fourth and Market Street intersection, resulting in a less then significant traffic impact.

Discussion: The PM peak hour distribution of vehicle trips estimated in Variants 6 and 7 do not accurately reflect the likely paths of travel taken by motorists. Specifically, the DEIR transportation analysis predicts that traffic exiting via Mission Street with an ultimate destination east of the project will travel via Fifth Street to head eastbound through the Fourth and Market intersection.[4] In reality, eastbound motorists would have several potential routes to choose from, including routes north of Market Street that allow for quicker eastbound travel via parallel routes such as Bush or California Street.

Furthermore, the great majority of project trips will be via foot or bike in the area between the project site and the Ferry Building, while vehicle trips traveling further north (e.g. with destinations in the vicinity of North Beach) would be much more likely cross Market at Sixth Street and continue on a quicker north-south street, such as Taylor Street, rather than a more circuitous route via Market Street, especially considering that Market Street does not connect directly with the Embarcadero. Furthermore, driving on Market Street can be time consuming and is rarely chosen by local motorists that are familiar with the left-turn restrictions that make it an inefficient route for private vehicle circulation.

Key Issue #3: Analyzing only PM Conditions Ignores Potentially Significant Impacts on Inbound Streets and Inaccurately Supports the Project Alternative

Summary: AM peak hour traffic is likely more congested on Third Street (and other inbound streets) than during the PM peak hour as commuter travel to downtown. By examining only PM peak hour conditions, the DEIR analysis is not identifying likely significant traffic impacts, including failing LOS at Third Street intersections, for the Proposed Project and Variants 1-5 with access points on Stevenson and Third Street.

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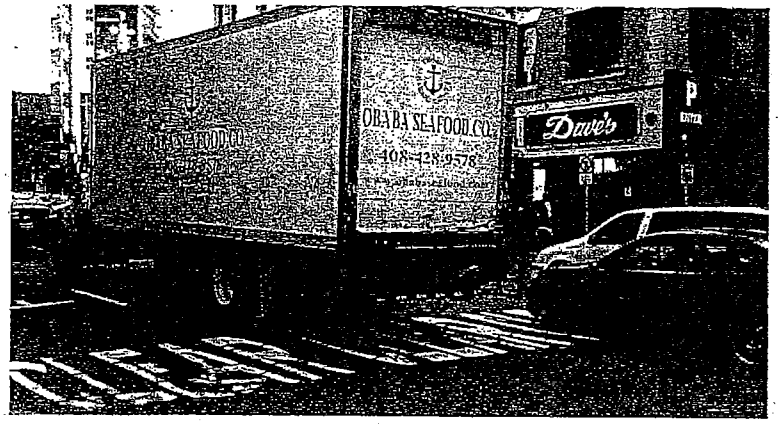
[3] Appendix E, p.110 and 114.

[4] Appendix E, p.109.

Discussion: Although analysis of AM peak hour traffic conditions is not required for most EIRs in San Francisco, accurate and complete analysis of the significant impacts of this project require analyzing both the AM and PM peak hour conditions. Because this project has substantial impact on the one way south of market grid, a PM-only analysis will naturally identify impacts only on those streets that are most congested in the afternoon, while minimizing and potentially missing significant impacts on "inbound" streets that are more congested during the morning peak period. In particular, Third Street is a one-way "inbound" thoroughfare, carrying morning commute traffic into downtown. By examining solely PM peak hour conditions, the DEIR transportation analysis ignores potentially significant impacts which likely include failing LOS at intersections bordering the site, specifically, the intersections at both Third and Market Streets and Third and Stevenson Streets. The impacts of the proposed project on these intersections is likely grossly underestimated by the use of PM only data.

Figure 3 Current AM Peak Hour Conditions, Third and Stevenson Street Intersection



Source: Nelson\Nygaard

Figure 4 shows Existing and Existing plus Proposed Project and Variant Conditions for the PM peak hour, when northbound (i.e. inbound) traffic is less congested than during the AM peak hour, when traffic is queuing from Market Street to Folsom Street. The figure demonstrates that even during a less congested period, vehicle delay at the Third and Market Streets and Third and Stevenson Streets intersections in the Proposed Project and Variants 1 -5 increases from 6 to 18% (while Variants 6 and 7 result in a 8 to 18% *decrease* in delay).

Figure 4 Intersection Levels of Service, Existing plus Project and Variant Conditions (Weekday PM Peak Hour)

Intersection	Existing		Proposed Project & Variants 2, 5		Variants 1, 4		Variant 3		Variants 6, 7	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Third/Market	56.2	E	63.8	E	63.8	E	63.8	E	45.9	D
Third/Stevenson	12.1	B	12.8	B	14.3	B	12.8	B	11.1	B
Third/Mission	20.1	C	20.9	C	20.9	C	21.0	C	21.1	C
Third/Howard	36.1	D	40.4	D	40.4	D	40.4	D	40.4	D
Fourth/Market	>80	F	>80	F	>80	F	>80	F	>80	F
Fourth/Mission	41.8	D	45.7	D	45.7	D	45.7	D	54.2	D
Fourth/Howard	42.5	D	44.5	D	44.5	D	44.5	D	44.5	D

Source: Appendix E, Table 19

An analysis of AM peak hour conditions would likely show both a greater percentage increase in delay at these intersections that would cause a reduction in level of service and possibly an adverse impact on critical movements, such as the eastbound right-turn movement from Third Street to Market Street – both of which would trigger a significant impact.[5] Given the high likelihood that AM peak hour traffic will adversely impact intersections along Third Street, it is essential that this analysis be conducted to ensure a comprehensive picture of potential points of congestion.

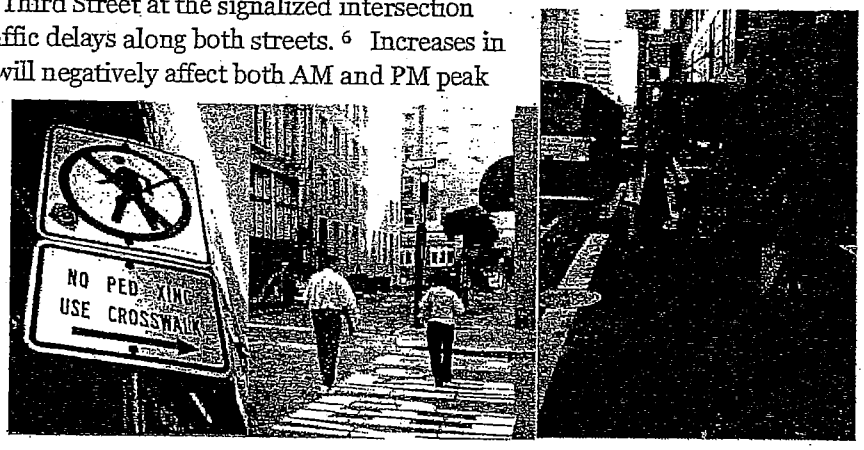
PEDESTRIAN ANALYSIS

Key Issue #4: The Analysis Does Not Account for Vehicle Delays Caused by Increases in Pedestrian Volumes

Summary: The DEIR analysis does not adequately address the vehicle delay impacts of increased pedestrian volumes at the intersection of Third and Stevenson Street. Due to the large number of pedestrians illegally crossing both streets at the intersection, there will likely be a substantial increase in vehicle delay in the Proposed Project, and vehicle access variants with access on Stevenson Street (Variants 1-5) could result in a degradation of vehicle LOS.

[5] Per Appendix E, p. 67 – "The threshold for a significant adverse impact on traffic has been established as deterioration in the LOS at a signalized intersection from LOS D or better to LOS E or LOS F, or from LOS E to LOS F."

Discussion: Although the DEIR analysis examined pedestrian conditions, it focused solely on LOS standards, which measure only pedestrian flow rates and crosswalk space allowed for pedestrians to cross streets – no consideration was given to the impacts of pedestrians on vehicular traffic. In other settings, pedestrian crossings may not pose an obstacle to vehicle traffic, but given the high number of illegal crossings on Third Street, and particularly across the relatively narrow Stevenson Street, higher pedestrian volumes result in greater vehicle delay. Observations of the intersection at all hours of the day reveal that pedestrians are crossing both Stevenson Street and Third Street at the signalized intersection and are increasing traffic delays along both streets. [6] Increases in pedestrian crossings will negatively affect both AM and PM peak hour congestion. As such, in the Proposed Project and Variants 1-5, increased pedestrian crossings could cause a failing LOS at the Third and Stevenson Street intersection. Conversely, as Variants 6 & 7 do not have access on Third Street or Stevenson Street, and are actually estimated to *reduce* vehicle delay at the Third and Stevenson Street intersection, increased pedestrian volumes will not present a substantial impact in those scenarios.



PARKING ANALYSIS

Key Issue #5: Excessive Onsite Parking Creates Traffic Impacts

Summary: The Proposed Project's residential parking supply of one space per unit exceeds the standard set in the *Planning Code*, resulting in undesirably high traffic volumes. By reducing the allowable parking supply, vehicle trips will be reduced and both traffic and transit impacts in Variants 6 & 7 will likely be less than significant.

Discussion: The Proposed Project's residential parking supply contributes to the study area's traffic levels and runs contrary to the City's stated goals. As submitted, the project proposes one residential parking space per unit for both the residential and office flex options. Meanwhile, the *Planning Code* permits only one parking space for every four dwelling units, unless a special permit is granted.[7] Although there is a special permit process, by providing more than the standard allowance of parking, the project will be producing greater levels of vehicle trips and contradicting the spirit of both the Code and City policy.

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[6] Photo sources: Nelson\Nygaard.

[7] In which case, up to one space per unit may be provided for the dwelling units with at least two-bedrooms and at least 1,000 square feet of occupied space, which encompasses all of the proposed project's units.

The City's "transit first" policy is designed to maximize the multi-modal resources of San Francisco, particularly in denser, mixed use areas with excellent transit service. The policy states explicitly that, "Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation" (San Francisco City Charter). By meeting the City's Charter and allowing for fewer parking spaces to be built, projected vehicle trips will be lowered, benefiting the community. This would not preclude residents from leasing parking spaces in nearby facilities, if desired. The DEIR transportation analysis shows that there is sufficient parking available during the peak hour at several garages in the study area.[8]

By limiting the amount of parking onsite, the impact analyses for both the Proposed Project and vehicle access variants would be greatly affected. In particular, fewer vehicle trips will likely alleviate any "significant and unavoidable" impacts generated at the Fourth and Market Street intersection in the Existing Plus Variant Conditions 6 and 7 as well as those generated in the 2030 Cumulative Conditions at both the Fourth and Market and Fourth and Mission intersections.

Furthermore, the reduction in vehicle trips would likely resolve Variants 6 and 7 transit impact. With Mission Street serving as the only entry point for all non-loading vehicles in Variants 6 and 7, the DEIR anticipates 113 vehicles entering via Mission Street in the PM peak hour, which may cause queuing issues onto Mission Street, creating a conflict with Muni bus service and representing a significant impact to transit operations.[9] A reduction in vehicle trips caused by fewer parking spaces would eliminate the "significant and unavoidable" impact caused by Existing Plus Variant Conditions 6 and 7 in terms of excessive queuing into the bus bay on Mission Street. Figure 5 illustrates the "less than significant" and "significant and unavoidable" impact details for the Proposed Project and vehicle access variants.

Figure 5 Summary of Transportation Impacts for Proposed Project and Variants, Existing Plus Conditions

		Variants						
Criteria	Project	1	2	3	4	5	6	7
Traffic	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Transit	LTS	LTS	LTS	LTS	LTS	LTS	SU	SU
Pedestrians	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Bicycles	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Loading	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Emergency Vehicle Access	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Construction	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS

Source: Appendix E, Table 28. LTS = Less than Significant, SU = Significant and Unavoidable.

[8] Appendix E, p. 50.

[9] Appendix E, p.112 and 114.

Key Issue #6: Inadequate Parking Enforcement on Stevenson Street Creates Traffic Congestion

Summary: Although on-street parking is currently prohibited on Stevenson Street, motorists frequently park their vehicles, creating bottlenecks on the narrow street. If Stevenson Street is to be used as an access point as in the Proposed Project and Variants 1-5, vehicle delay will be intensified.



Source: Nelson\Nygaard

Discussion: The DEIR analyzes parking demand in the Jessie Square Garage as well as other facilities in the immediate area, but does not adequately address on-street parking conditions on Stevenson Street. Currently, no parking is allowed along both sides of the street, but both private and loading vehicles continually park and partially block the street, thereby causing traffic delays. These delays will be exacerbated if Stevenson Street is to be used as a primary entry and exit point as suggested in the Proposed Project and Variants 1-5.

MITIGATION MEASURE ANALYSIS

Key Issue #7: There is an Absence of Improvement Measures Aimed at Reducing Vehicle Trips

Summary: The DEIR does not include any improvement measures designed to reduce vehicle traffic generated by the project and promote alternative mode use. A reduction in the number of vehicle trips may cause the traffic and transit impacts in Variants 6 and 7 to be less than significant.

Discussion: The DEIR analysis establishes several improvement measures for various aspects of the project, but does not provide adequate transportation measures to encourage walking, biking, and taking transit. Specifically, although several improvement measures pertain to enhanced transportation conditions (e.g. traffic signal timing modifications, "garage full" sign on Third Street, coordination of moving activities, etc.) for the proposed project and variants, there is no measure directed at *reducing vehicle trips*.[10]

Improvement Measure I-TR-N: Transportation Demand Management proposes the distribution of informational materials to tenants, but this strategy will have a very minimal impact, if any. Instead, there should be a mitigation measure requiring the implementation of resident and employee transportation demand management (TDM) measures that have proven to be effective

[10] Table S.2: Summary of Improvement Measures for Proposed Project and Vehicular Access Variants.

in reducing vehicle trips. By doing so, it will provide a benefit both to residents and the city as a whole through improved transportation choices and lower traffic levels. These strategies may act as mitigation measures for both the Proposed Project and seven vehicle access variants. Two of the more effective strategies include:

Subsidized transit passes. In recent years, growing numbers of developments have provided residents and employees with subsidized transit passes to reduce vehicle trips. The proposed development should provide Muni Fast Passes to its residents and employees, which will allow for unlimited rides on local transit. The bulk purchase of transit passes allows the transit operator (i.e. Muni) to sell its passes at a highly discounted rate. Studies have shown from other areas, such as Santa Clara Valley, that the introduction of subsidized passes can nearly double the transit mode to work, thereby decreasing peak hour vehicle trips.

Alternative mode subsidies. Alternative mode subsidies encourage employees to ride transit, carpool, vanpool, walk or bicycle to work, thus decreasing vehicle trips. The benefit is particularly valuable to low-income employees, who are less likely to drive to work alone. Research performed by Donald Shoup at the University of California, Los Angeles found that single occupancy vehicle trips declined by 17% and other modes increased significantly (carpooling by 64%, transit by 50%, and walking/biking by 33%) after an alternative mode subsidy program was introduced at various worksites with varying levels of transit service.

CONSIDERATION OF CITY PLANS

Key Issue #8: Failure to Consider All Existing City Plans Results in an Inadequate Analysis of Impacts

Summary: Several major City planning efforts were not included in the DEIR. These plans will significantly affect travel patterns on all streets around the project site and will impact the results of the traffic analysis for both the Proposed Project and vehicle access variants.

Discussion: While the DEIR analysis assessed the impacts of the Temporary Transbay Terminal, the Central Subway Project, and Muni's Transit Effectiveness Project, there are other major projects omitted from consideration that affect traffic and multi-modal circulation in the study area. The omitted projects have the potential to cause significant changes to the traffic patterns around the project site, thereby drastically influencing predicted transportation impacts for both the Proposed Project and seven vehicle access variants. These projects should be accounted for in the Existing plus Project Conditions, Existing plus Variant Conditions, and in the 2030 Cumulative Conditions. The plans include:

Central Corridor Project. The project represents an integrated community vision for the southern portion of the Central Subway rail corridor with the study site placed in the heart of the project area bounded by Second to Sixth Streets and Mission to Townsend Streets. The Central Corridor Plan will propose changes to the allowed land uses, building heights, and may include an increase in permitted residential and/or commercial densities in the area. The plan may also include proposals to increase the amount of streets space devoted to pedestrian and bicycle facilities while reducing the number of mixed traffic lanes. These alterations can profoundly affect pedestrian, bicycle,

transit, and private vehicle travel patterns, thereby producing potentially different results regarding the thresholds of significance for traffic, transit, pedestrians, and bicycles.

Better Market Street Plan. The plan to revitalize Market Street includes a study of mobility issues. Currently, the options for Market Street include (a) prohibiting private autos, except for those vehicles crossing Market Street, (b) creating a series of forced or prohibited turns along Market Street to redirect traffic along particular thoroughfares, and (c) closing a one-block stretch of Market Street in an area of high pedestrian use. Each of the options considered may have a strong impact on traffic distribution and volumes on both sides of Market Street. In particular, the options which remove traffic from Market Street all are likely to increase traffic on Mission Street and on the South of Market network. These new traffic patterns and increased traffic levels will affect all of the project's study intersections and should be accounted for in the analysis.

Eastern Neighborhood Transportation Implementation Planning Study (EN TRIPS). EN TRIPS prepared a series of recommendations for circulation changes in San Francisco's Eastern Neighborhoods, which include Eastern SoMa, the Mission, Showplace Square/Potrero Hill and the Central Waterfront together with surrounding high-growth areas of Western SoMa, Transbay District, Rincon Hill and Mission Bay. The majority of the City's new residential and commercial growth over the next 25 years will occur in these areas, including the proposed project. These neighborhoods also contain key local and regional transit service, including Muni bus and light rail, BART, Caltrain and future High-Speed Rail. The area's combined development potential and rich transit access present a tremendous opportunity to create integrated, mixed use, transit-rich neighborhoods.

EN TRIPS made specific proposals for circulation changes, including a number of alternatives for potential reconfiguration of Folsom and Howard Streets. All of these include increasing space for pedestrians, bicycles, and public space, and reducing total travel lanes. The range of alternatives still under consideration by the SFMTA includes a design that maintains one-way circulation, as well as a design that converts both Folsom and Howard Streets to two-way operation. These streets are major thoroughfares for eastbound and westbound traffic, and their reconfigurations may cause increased traffic delay in both intersections on those streets as well as other nearby intersections as motorists attempt to find alternative routes. As such, an analysis of its impacts should be included in the DEIR analysis.

Transit Center District Plan.. Although the DEIR transportation analysis accounted for the Temporary Transbay Terminal, it did not take into consideration the comprehensive Transit Center District Plan for the area around the Transbay Terminal. The plan area is bounded by Steuart, Market, Annie, and Folsom Streets.

The plan significantly increases allowable residential and employment densities within its boundaries. In addition to zoning changes, the plan also calls for street and circulation changes on Mission, Howard, Folsom, Fremont, Beale, and Main Street. Generally, these changes would reduce the amount of space dedicated to mixed-flow travel and increase space for walking and cycling with new signalized mid-block pedestrian crossings would be added at 14 intersections. While this area is outside the study area of this project, north-and southbound vehicle capacity reduction could result in some traffic being diverted onto nearby streets causing increases in vehicle delay and affecting both the Proposed Project and seven vehicle access variants.

ATTACHMENT E

Planning Commission Certification Motion No. 18829

SAN FRANCISCO
PLANNING DEPARTMENT

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Planning Commission Motion 18829

HEARING DATE: March 21, 2013

Date:	March 7, 2013
Case No.:	**2008.1084E**
Project Address:	**706 Mission Street – The Mexican Museum and Residential Tower Project**
Zoning:	C-3-R (Downtown Retail) 400-I Height and Bulk District
Blocks/Lots:	Block 3706, Lots 093, 275 and portions of Lot 277
Project Sponsor:	706 Mission Street Co., LLC c/o Millennium Partners 735 Market Street, 6th Floor San Francisco, CA 94103
Staff Contact:	Debra Dwyer – (415) 575-9031 Debra.Dwyer@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED MIXED-USE PROJECT AT 706 MISSION STREET (ASSESSOR'S BLOCK 3706, Lots 093, 275 and portions of Lot 277).

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on April 13, 2011.

   B. On June 27, 2012, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

C. Notices of availability of the DEIR and of the date and time of the public hearing were posted at the project site by the project sponsor on June 27, 2012.

D. On June 27, 2012, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies, the latter both directly and through the State Clearinghouse.

E. Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on June 27, 2012.

2. The Commission held a duly advertised public hearing on said DEIR on August 2, 2012 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on August 13, 2012.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 47-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a Draft Responses to Comments document, published on March 7, 2013, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.

4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Responses to Comments document all as required by law.

5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400 as part of case file 2008.1084E, and are part of the record before the Commission.

6. On March 21, 2013, the Commission reviewed and considered the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.

7. The Planning Commission hereby does find that the FEIR concerning File No. 2008.1084E, 706 Mission Street – The Mexican Museum and Residential Tower Project, reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate and objective, and that the Responses to Comments document contains no significant revisions to the DEIR, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA and the CEQA Guidelines.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the project described in the EIR:

A. Will have a significant effect on the environment in that it would result in the following significant and unavoidable transportation and circulation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-1: Variant 6 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 6 only*)

Impact Variant TR-2: Variant 6 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 6 only*)

Impact Variant TR-5: Variant 7 would cause a substantial increase in traffic that would cause the level of service to decline from LOS D or better to LOS E or F, or from LOS E to F at the intersection of Fourth Street and Market Street. (*Applicable to Variant 7 only*)

Impact Variant TR-6: Variant 7 would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity; or would cause a substantial increase in delays or costs such that significant adverse impacts in transit service levels could occur. (*Applicable to Variant 7 only*)

B. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following significant and unavoidable cumulative transportation impacts under Variant 6 or Variant 7 as indicated below. It is noted that these two variants were analyzed in response to comments on the Notice of Preparation of an Environmental Impact Report for this project and are not proposed by the project sponsor.

Impact Variant TR-3: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-4: Variant 6 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 6 only*)

Impact Variant TR-7: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Market Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

Impact Variant TR-8: Variant 7 would contribute considerably to critical movements at the intersection of Fourth Street and Mission Street that would operate at LOS F under 2030 Cumulative conditions, and cumulative contribution to cumulative traffic impacts would be considered significant. (*Applicable to Variant 7 only*)

C. Will have a significant cumulative effect on the environment in that it would result in a cumulatively considerable contribution to the following unavoidable significant cumulative effect with respect to shadow:

Impact C-WS-2: The proposed project, or any of its variants, in combination with past, present, and reasonably foreseeable future projects in the project vicinity would create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas resulting in a significant cumulative shadow impact. The proposed project would make a cumulatively considerable contribution to this significant cumulative shadow impact.

9. The Planning Commission will consider the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of March 21, 2013.

Jonas P. Ionin
Acting Commission Secretary

AYES: Fong, Antonini, Borden, Hillis

NOES: Moore, Sugaya

ABSENT: Wu

ADOPTED: March 21, 2013

ATTACHMENT F - to the Planning Department Appeals Response, April 29, 2013

Draft EIR: **Draft Environmental Impact Report, 706 Mission Street – The Mexican Museum and Residential Tower Project, Dated June 27, 2012**

RTC: **Responses to Comments, 706 Mission Street – The Mexican Museum and Residential Tower Project, Dated March 7, 2013**

To access these documents, click the links below:

Notice of Availability
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_1.pdf

Draft EIR
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_2.pdf

Draft EIR continued – Section IV.B–IV.H
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_3.pdf

Draft EIR continued – Section IV.I–VIII
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_3.pdf

Draft EIR – Appendices A–C
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_5.pdf

Draft EIR – Appendix D
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_6.pdf

Draft EIR – Appendix D continued
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_7.pdf

Draft EIR – Appendix D continued
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_8.pdf

Draft EIR – Appendices E–I
http://sfmea.sfplanning.org/2008.1084E_DEIR_Part_9.pdf

Responses to Comments
http://sfmea.sfplanning.org/2008.1084E_RTC1.pdf

Responses to Comments Appendices
http://sfmea.sfplanning.org/2008.1084E_RTC2.pdf

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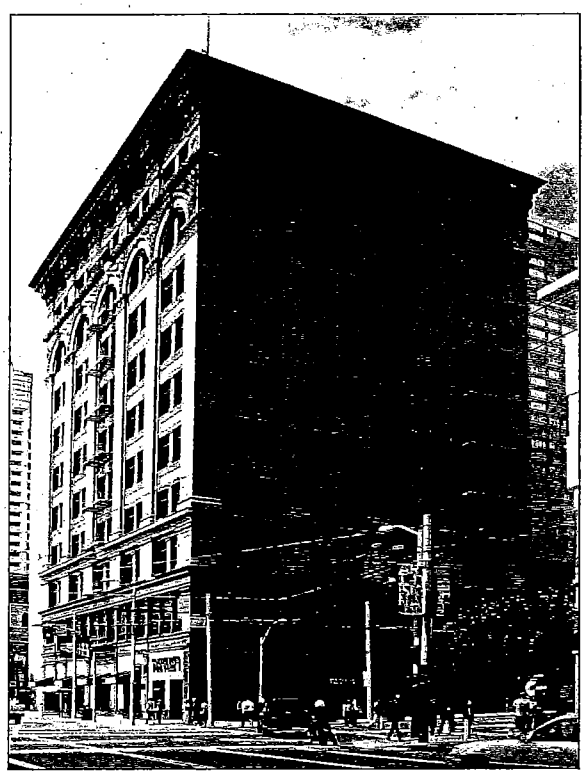
DRAFT ENVIRONMENTAL IMPACT REPORT

706 MISSION STREET · THE MEXICAN MUSEUM AND RESIDENTIAL TOWER PROJECT

VOLUME 1 - CHAPTERS I-VIII



CITY AND COUNTY OF SAN FRANCISCO
PLANNING DEPARTMENT: CASE NO. 2008.1084E

STATE CLEARINGHOUSE NO. 2011042035

DRAFT EIR PUBLICATION DATE: JUNE 27, 2012

DRAFT EIR PUBLIC HEARING DATE: AUGUST 2, 2012

DRAFT EIR PUBLIC COMMENT PERIOD: JUNE 28, 2012 - AUGUST 13, 2012

Written comments should be sent to:

Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

1912

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