

4.16 AIR QUALITY AND NOISE (AQ)

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AQ-1. *Noise Methodology*

The NPS Pacific Great Basin Support Office requests that the Trust reference NPS policies related to noise management and natural soundscapes.

Response AQ-1 – NPS management policies apply only to the NPS. The Trust has carefully reviewed the referenced policies, and has designed its noise control regulations and program based in part on these and other agency procedures (such as those found within the Federal Highway Administration regulations and the San Francisco Noise Ordinance). A fundamental component of the NPS policy for soundscape preservation is the obligation to protect the natural soundscape to a level consistent with park purposes. The Trust acknowledges NPS goals of soundscape preservation and noise management in its inventory and protection of noise-sensitive areas within the

Presidio, in Sections 3.3.5 and 4.3.1 (Mitigation Measure NR-8) of the Final EIS.

AQ-2. *Heavy Equipment Emissions*

The NPS Pacific Great Basin Support Office seeks clarification of how heavy equipment construction emissions are included in the Bay Area Air Quality Management District's regionwide inventory.

Response AQ-2 – The California Air Resources Board OFFROAD model¹ is the basis of emissions estimates for heavy equipment construction activity state-wide. The model considers the quantity and activity of construction equipment, along with the effects of regulatory programs to control emissions, in calculating annual emissions for each county. The quantity of construction equipment is anticipated to grow 17 percent from 1990 to 2010. The BAAQMD uses the OFFROAD model to estimate emissions from construction equipment activity in the County of San Francisco and includes year-by-year growth in construction equipment in the regionwide inventory.²

AQ-3. *Effects of Increased Bus Traffic and Secondary Effects*

Several commentors, including the CCSF Planning Department, request that the Final EIS discuss the effects of increased bus traffic on local air quality, regional emissions, and noise in nearby city neighborhoods. The CCSF Planning Department points out that mitigation proposed for air quality violations states that the Trust “would coordinate land uses to avoid conflicts due to odors and toxic air contaminants and would implement transportation control measures (TCMs) contained in the Clean Air Plan (CAP),” without mentioning specific odors or toxic air contaminants in the Affected Environment Section of the Draft EIS. The CCSF Planning Department

¹ California Air Resources Board, Public Meeting to Consider Approval of California's Emissions Inventory for Off-Road Large Compression-Ignited (CI) Engines (>25 hp), Mail-Out#: MSC 99-32. January 2000.

² Personal Communication, Michael Nguyen, BAAQMD. February 2002.

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observes that reliance on compliance with existing regulations and monitoring does not substitute for impact analysis of potential air quality effects of the Final Plan. The CCSF Planning Department also requests that the Final EIS address the secondary environmental effects on air quality and noise that might occur from implementation of mitigation measures. They mention that one of these secondary effects is the increase in transit traffic, particularly on nearby residential streets. They recommend measures such as design changes, reduction in project size, or a decrease in building square footage through demolition to reduce air quality emissions and construction impacts, or relocation of project elements to disperse the impacts of potential pollution.

Response AQ-3 – The air quality and noise analyses of the Final EIS each account for increased bus traffic. The localized concentrations (Table 36) and emission estimates (Table 37) reflect increased activity of all vehicle types, including autos, trucks, and heavy buses, similar to what would occur throughout the city. Estimates of future noise levels in nearby neighborhoods (Table 38) also reflect increased activity of all vehicle types at the Presidio, including buses. The discussion of transportation and circulation in Section 4.5.5 of the Final EIS reveals that capacity on the Muni system should be adequate to serve much of the increased transit ridership, minimizing new impacts on city neighborhoods.

Odors and toxic air contaminants occur presently at the Presidio, as discussed in Section 3.3.4 of the Draft EIS. The comment is noted, and the discussion in the Affected Environment (under Local Source Inventory) has been revised in the Final EIS.

Programs to manage odors and toxic air contaminants from future development must be implemented concurrently with development. Future coordination of land uses (Mitigation Measure NR-21) is appropriate because the effects of odors or toxic air contaminants can be extremely localized and can depend on small-scale details of the development that have not been finalized at this programmatic stage. Similarly, future monitoring of traffic noise (Mitigation Measure NR-25) is appropriate because traffic noise impacts depend on the pace of new development and trends in regional and pass-through traffic that are not within control of the Trust.

With regard to secondary effects, implementing the Final Plan and the Transportation Demand Management program would reduce single-occupant motor vehicle traffic by both reducing the number of total trips generated and shifting single-occupant traffic to a combination of modes, including transit as well as pedestrian and bicycle modes. This means that some air quality and noise effects from transit activity would be offset by reductions in single-occupant vehicle traffic. As discussed above, transit capacity presently exists to accommodate a substantial portion of the new transit trips, and the air quality and noise analyses of the Final EIS reflect growth in transit traffic along with the traffic of other types of vehicles. Within the Presidio, quiet transit vehicles would be encouraged (Mitigation Measure NR-24).

Design changes or a reduction in project size would not be necessary because other more reasonable mitigation measures to minimize air quality and noise impacts (such as basic control measures for dust emissions and transportation control measures, as identified in the Final EIS) are available. Relocation of project elements for improved dispersion of air pollution is also not necessary because, as shown in Section 4.3.4 of the Final EIS, no localized violations of air quality standards would occur. Nonetheless, alternatives considered in the Final EIS provide the opportunity for readers to compare the relative impacts if overall square footage is reduced, or if square footage is relocated within park boundaries.

AQ-4. Special Events and Programs

The CCSF Planning Department notes that the potential impacts from noise caused by special events or programs has not been addressed in the Draft EIS.

Response AQ-4 – The noise effects of special events would vary widely depending on the intensity of the activities, the location, and the accessibility of the venue. The effects of noise from special events on natural soundscapes are addressed in Section 4.3.1 of the Final EIS (Mitigation Measure NR-8). Section 4.3.5, Environmental Consequences, in the Final EIS has been revised to incorporate new text to address the effects of noise from special events on tenants and visitors. In general, most of these special events are expected to be smaller outdoor seminars, lectures, festivals, exhibits, demonstrations, or hands-on participation that would have limited or no substantial noise effects. Major sound

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amplification systems or other major stationary sources of noise for outdoor special events are not anticipated.

AQ-5. *Effects of Noise on Wildlife Areas and Cultural Landscapes*

The NPS and a neighborhood organization request that the Final EIS discuss the effects of noise on wildlife. The NPS Pacific Great Basin Support Office also requests that applicable noise levels be provided for the Presidio's undeveloped areas, and that the noise level goal for these areas be below 50 dBA to keep these areas as quiet as possible to preserve the natural and cultural landscape of the park.

Response AQ-5 – The effects of noise on wildlife are difficult to define and the effects of changes in the noise environment on wildlife would also be difficult to define. This is because traffic noise currently effects the noise environment in many natural areas of the Presidio. The response of wildlife to noise depends on the duration and characteristics of the noise along with the noise sensitivity of the species, the sensitivity of individuals in the species, the species' activities at the time of the noise (e.g., nesting, foraging), and the potential for habituation. For these reasons, the Trust has not identified nor established noise thresholds or standards for wildlife. Nonetheless, the Trust is committed to protecting relatively large and undeveloped areas with high habitat values (such as Tennessee Hollow, Mountain Lake, and Lobos Creek) and cultural landscapes (such as the Fort Scott parade ground, the San Francisco National Cemetery, and the World War II Memorial) as noise-sensitive areas. Please see Planning Principle 9 in Chapter One of the Final Plan.

AQ-6. *Traffic Noise Monitoring and Attenuation*

The NPS recommends monitoring traffic noise in areas of high wildlife habitat value and in natural areas used for quiet contemplation.

Response AQ-6 – The majority of new activity would be limited to built areas. Noise levels would be monitored in any noise-sensitive areas used for quiet contemplation that could be exposed to substantially increased future traffic noise (Mitigation Measure NR-25). Natural areas and areas of high wildlife habitat value that are separated by distance or shielded from roadways would

not experience substantial changes in noise levels because new activities at these locations would be limited to habitat restoration (a short-term activity). Therefore, noise monitoring would not be warranted in these areas. Section 4.3.1 of the Final EIS addresses monitoring Trust activity on a project-specific basis to protect natural soundscapes (Mitigation Measure NR-8).

AQ-7. *Consistency with the Clean Air Plan*

The EPA recommends that the Final EIS demonstrate that the Trust has coordinated with the BAAQMD in incorporating new housing and employment projects in future regional Clean Air Plan updates. The NPS Pacific Great Basin Support Office comments that there is no guarantee that the BAAQMD will approve emissions related to proposed long-term growth and daily vehicle trips given its deadlines for meeting attainment.

Response AQ-7 – Because the BAAQMD does not have jurisdiction over land use decisions, no special coordination with the BAAQMD is necessary for new development to be incorporated in the Clean Air Plan.³ BAAQMD approval would only be required for stationary sources that may require permits through the BAAQMD's rules and regulations. As discussed in Section 4.3.4 of the Final EIS, each Clean Air Plan update relies on the most recent growth forecasts developed by the Association of Bay Area Governments (ABAG), which are updated every two years. The ABAG projections take into account approved development plans, which include those anticipated under the 1994 GMPA and the Letterman Digital Arts Center project. Future Clean Air Plan updates will use the most recent ABAG projections, which would take into account the population of the Presidio under the Final Plan.

In response to EPA's comment, in order to facilitate coordination with ABAG, the Trust will provide ABAG with a copy of the Final EIS and a separate cover letter instructing the agency to note and use the Final Plan's housing and employment estimates to ensure that emissions attributable to growth at the Presidio will be incorporated within future Clean Air Plan

³ Personal Communication, Henry Hilken, BAAQMD. March 2002.

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updates. Additionally, at the specific recommendation of ABAG,⁴ the Trust will ask to participate in the draft review process that occurs for each biennial update of the projections.

AQ-8. *Applicability of the Federal General Conformity Rule*

The EPA recommends that the Final EIS include estimates of direct and indirect emissions of ROG, NO_x, and CO associated with the alternatives in tons per year for evaluating the applicability of the federal General Conformity Rule (40 CFR 51.853). The agency notes that if the 100 tons per year significance threshold is exceeded, then a conformity determination is required and should be included in the Final EIS.

Response AQ-8 – As discussed in Section 5.2 of the Final EIS, quantification of emissions is not necessary for determining applicability of the General Conformity Rule. This discussion showed that no conformity determination would be necessary for the Final Plan. The only types of direct and indirect emissions that must be included in the comparison with the 100-ton-per-year significance threshold are those that are reasonably foreseeable and that the Trust can practicably control through a continuing program responsibility (40 CFR 51.852).

The EPA points out that the daily emissions from motor vehicles shown in the EIS (Table 37) are reasonably foreseeable as an indirect consequence of the PTMP. Motor vehicle emissions, however, cannot be included against the applicability threshold because they would be affected by factors beyond the control of the Trust. The emission estimates rely on trip length and type characteristics and vehicle fleet characteristics. Regional accessibility, ultimate trip origins or destinations, and other factors govern trip characteristics, and consumer and economic trends influence vehicle fleet characteristics. Because the Trust cannot control the factors that affect these emissions, these factors cannot be used to determine applicability of the General Conformity Rule.

⁴ Personal Communication, Paul Fassinger, ABAG Research Director. March 2002.

Construction activities would cause emissions that would be within the control of the Trust; however, these emissions would vary greatly depending on the specific activity taking place, the timing, the types of equipment being operated, and other factors. The lack of a known construction schedule means that an accurate estimate of foreseeable annual construction emissions cannot be provided. In response to the request for quantification of emissions, rudimentary estimates were generated using the California Air Resources Board URBEMIS7G model with an assumption of high-intensity construction activity. These estimates indicate that emissions exceeding 100 tons per year of NO_x could be generated if more than 400,000 square feet of new construction are built in any given 12-month period (for construction equipment in 2000; equipment in subsequent years would have lower NO_x emission rates because of ongoing regulatory programs to control emissions). Emissions of ROG and CO would be less than NO_x and would not have the potential to exceed the applicability threshold. Because build-out of each of the contemplated alternatives would be phased over the life of the PTMP, such high-intensity construction (more than 400,000 square feet of new construction in any one year) is unlikely at the Presidio. Therefore, annual emissions from construction and demolition activities are not expected to exceed 100 tons for ROG, NO_x, or CO. As a result of the new emission estimates for construction provided in this response, revisions have been made to Section 5.2 of the Final EIS, under “Clean Air Act.”

AQ-9. *Air Quality Conditions and Monitoring and California State Visibility Standard*

The NPS Pacific Great Basin Support Office suggests that the Final EIS include the air quality monitoring site at Point Reyes National Seashore upwind from the Presidio. The office also requests that the EIS include a discussion of the California state visibility standard.

Response AQ-9 – In response to this comment, the Affected Environment text of the EIS has been revised to include historical ozone and particulate matter information from the NPS Air Resources Division and the Interagency Monitoring of Protected Visual Environments (IMPROVE) program. In addition, the Affected Environment text has been revised to mention the state-

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level standard for visibility (which is optical, not health-based) and to identify the lack of optical data for Point Reyes.

AQ-10. Doyle Drive Noise-Sensitive Areas

The NPS Pacific Great Basin Support Office and the SFCTA recommend that additional noise-sensitive areas (including those identified for the Doyle Drive Reconstruction Project) be identified in the EIS.

Response AQ-10 – In response to the comment, Figure 25 in the Final EIS has been updated to identify Crissy Marsh (Area A), Lobos Creek (Area A), the Fort Scott parade ground, and residences along Armistead Road and Storey Avenue as noise sensitive areas. As the PTMP is a programmatic plan, the purpose of the figure is to highlight key areas within the Presidio for which the Trust would manage noise to minimize impacts on park resources, values and visitor experience. The Trust will refer to the list of Doyle Drive Sensitive Areas during future planning efforts within areas under the Trust jurisdiction that may be impacted by the Doyle Drive Reconstruction Project.

AQ-11. Precursor Pollutants

The NPS Pacific Great Basin Support Office requests that the Trust mitigate the precursor pollutants of NO_x and ROG to reduce further impacts on the area.

Response AQ-11 – As described in Section 4.3.4 of the EIS, no special mitigation would be necessary to reduce emissions of NO_x and ROG from construction equipment. The Trust has identified mitigation strategies for NO_x and ROG from motor vehicles in the form of the Transportation Demand Management program (Mitigation Measure NR-21). These measures are consistent with the strategies of the air quality plans in place to reduce regional ozone.

AQ-12. Cumulative Impacts

The CCSF Planning Department, a neighborhood organization, and others comment that the analysis for both air quality and noise left out the details of the Draft Plan's contribution to cumulative impacts. The EPA specifically

recommends that if the Final Plan contributes to a degradation in the level of service for traffic at nearby highways outside of the project area, then the Final EIS should discuss the cumulative impacts on CO concentrations in those locations.

Response AQ-12 – The Final Plan would contribute to cumulative growth in emissions, as described in Section 4.8.2. Cumulative effects of PTMP traffic on air quality and noise are quantified in Sections 4.3.4 and 4.3.5 of the Draft EIS, respectively. As discussed in Section 4.8.4, the analyses of transportation and circulation include the combined effects of the alternatives along with projected growth in traffic in the area. Because the air quality and noise analyses use these traffic data, cumulative analyses of future year 2020 conditions have been provided in the Environmental Consequences sections of the EIS.

The Draft EIS addressed cumulative impacts on CO concentrations at eight locations where Plan development would cause a substantial cumulative degradation in level of service. The intersections studied in the analysis of CO concentrations were selected based on the potential for each of the alternatives to cause a substantial deterioration in traffic conditions (levels of service). The selection process considered locations within and around the Presidio. Nearby highway locations, including the Golden Gate Bridge toll plaza, experience occasionally unacceptable levels of service due to regional traffic. In response to the EPA comment, the air quality analysis in the Final EIS has been updated to analyze CO concentrations at a ninth intersection (Park Presidio Boulevard/Lake Street) that connects with the highway system. The updated CO analysis, shown in Table 36 of the Final EIS, shows that none of the alternatives substantially change total CO concentrations at the locations (e.g., Park Presidio Boulevard/Lake Street) where regional or other city traffic dominates. Therefore, the change in cumulative CO concentrations at highway locations and the Golden Gate Bridge toll plaza caused by PTMP-related development is expected to be minimal.

AQ-13. Miscellaneous Specific Comments and Minor Text Corrections

A number of specific comments are treated individually below.

- Update Figure 25 to show additional noise-sensitive areas.

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Response AQ-13 – Comment noted. Figure 25 has been updated to show additional sensitive locations in Area B. Crissy Marsh and Lobos Creek are sensitive areas within Area A.

- Pile-driving noise and mitigation should be included.

Response – Section 4.3.5 of the Draft EIS, as well as the GMPA EIS, acknowledge that use of pile drivers could occur for certain projects. Noise from pile-driving would be at the upper end of the anticipated range of construction noise levels (approximately 100 dBA at 50 feet), and appropriate mitigation measures are included.

- Use of FHWA NAC or the 3 dBA criteria is unclear.

Response – For an explanation of the Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC), please refer to Section 3.3.5 (under Noise Control Regulations and Programs). As described in this section, the FHWA NAC were developed as tool to protect noise-sensitive land uses from highway noise. The NAC were used in the PTMP impact

analysis to characterize traffic-related noise effects (please refer to Section 4.3.5 for additional discussion). A description of the NAC is also provided in Table 7 (Section 3.3.5) of the EIS. The “3 dBA criteria” is commonly used in environmental analyses to characterize the change in the ambient noise environment which is considered noticeable by most people. As explained in Section 4.3.5 (Methodology) of the EIS, 3 dBA is used in the PTMP noise analysis to define what constitutes a noticeable noise increase.

- There are no quantitative values of traffic noise at the sensitive receptors, including Riley Avenue housing. Predictive values should be included.

Response – As discussed in Section 4.3.5 of the EIS, noise conditions at Riley Avenue housing would approach or exceed the FHWA NAC, which is 67 dba (1 hour L_{eq}) measured on the building exterior, in some EIS alternatives. The noise environment is largely influenced by traffic on Doyle Drive, and interior noise levels would be less. Quantitative results of noise modeling are provided for multiple locations in the Final EIS. See Table 38.