San Francisco Bay Area Rapid Transit District
300 Lakeside Drive, P.O. Box 12688
Oakland, CA 94604-2688

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Project: OKS Radio Site Project

Sponsor and Lead Agency: San Francisco Bay Area Rapid Transit District (BART)

Location: Southernmost tip of the BART Oakland Shops facility at 601 East 8th Street, Oakland, California

Contact Person: Paul Medved, Project Manager

Phone Number: (510) 464-6650

Project Description: BART's existing, primary radio system is located in the Lake Merritt Administration (LMA) building. As part of a separate project, the LMA building will be dismantled to the first floor level. When the LMA building is dismantled, the LMA radio site will be eliminated. BART proposes to construct a new radio site facility at its BART Oakland Shop (OKS) facility, to serve BART train operations, police, and other radio users. The proposed project would include a pre-constructed concrete shelter, an approximately 250-foot-high tall steel radio tower, and a fixed-placement 15-kilowatt engine generator set, including diesel fuel storage in a 250-gallon above-ground storage tank. The shelter and generator would be placed on a new concrete slab foundation. The radio tower would be located less than 10 feet from the concrete shelter. Two options under consideration for the style of the radio tower, both of which are evaluated in the Initial Study, are the lattice-style with three footings, or a single monopole with one footing. The final selection of the option to be implemented would be determined by BART on the basis of soil conditions, final design, and the outcome of the competitive construction bidding process. Within the project site, three PVC conduits would be installed approximately 18 inches below ground level between the concrete shelter and the existing OKS building, spanning a distance of approximately 370 feet. A conduit would be added to the western exterior of the OKS building itself, north of the project site and parallel to the existing conduit. The conduits would carry 480 volts ac (vac) power and fiber optic signal cables. No other equipment would be required for operation of the tower.

Project Area: The OKS Radio Site (project site) is in the San Francisco Bay Area in the city of Oakland. The project site is within the approximate 201,000 square-foot (4.5-acre) BART OKS facility at 601 East 8th Street. The project site is situated at the southernmost tip of the OKS facility. Upon completion, the proposed project would encompass approximately 670 square feet (0.14 acres) of the area within the OKS facility and would be entirely within the existing fenced perimeter of the BART property, beginning along the fence northwesterly, approximately 40 feet from an existing pedestrian gate.

General Plan and Zoning: The project site is in the city of Oakland. The project site is designated as Business Mix in Oakland's *General Plan* and zoned M-10 (Special Industrial Zone). The area bordering the eastern edge

the project site is zoned C-40 (Community Thoroughfare Commercial Zone) and is designated as Housing and Business Mix in Oakland's *General Plan*.

Copies of the Initial Study/Mitigated Negative Declaration: Copies of the document can be obtained by calling the BART OKS Radio Site project information line at the following number and leaving information on how you may be contacted: (510) 464-6650. A copy of the document will be mailed to you. Copies of the Initial Study/Mitigated Negative Declaration can also be reviewed on the BART website at www.bart.gov/earthquakesafety. Copies are available for review at the Oakland Public Library at 125 14th Street, the MTC/ABAG Library at the Joseph P. Bort MetroCenter at 101 8th Street, and at the BART offices at 300 Lakeside Drive, 21st Floor, Oakland, California.

Public Meeting: A public hearing to receive comments was held at the Joseph P. Bort MetroCenter, 101 8th Street, Oakland, California on February 23, 2006 from 5:30 p.m. to 7:00 p.m. No comments were received.

Comments on the Draft Initial Study/Mitigated Negative Declaration: The Draft Initial Study/Mitigated Negative Declaration was circulated for a 30-day public and agency review pursuant to Section 15073 of the State CEQA Guidelines. The comment period extended from February 14, 2006 through March 20, 2006.

During the review period, one comment letter was received from the Department of Toxic Substances Control (DTSC).

The agency comment will be considered by the BART Board of Directors prior to adoption of the Mitigated Negative Declaration.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or is "Potentially Significant Unless Mitigated," as indicated by the checklist on the following pages.

■ Aesthetics	☐ Agriculture Resources	■ Air Quality
☐ Biological Resources	■ Cultural Resources	☐ Geology and Soils
■ Hazards and Hazardous Materials	☐ Hydrology and Water Quality	☐ Land Use and Planning
☐ Mineral Resources	■ Noise	☐ Population and Housing
☐ Public Services	☐ Recreation	☐ Transportation and Traffic
☐ Utilities and Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by, or agreed to by, the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ■

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed project MAY have a "potentially significant impact" or a "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Signature	Date: 2/10/06
Printed Name: PAUL A. MEDVED	Title: PROJECT MANAGER

Project Description

Purpose of this Document

This initial study (IS) is a public document that assesses the environmental effects of the proposed Oakland Shops (OKS) Radio Site Project (proposed project), as required by the California Environmental Quality Act (CEQA) and in compliance with State CEQA Guidelines (CCR, Title 14, Chapter 3, §15000 – 15387).

The San Francisco Bay Area Rapid Transit District (BART), the lead agency under CEQA, must evaluate the potential environmental impacts of the proposed project when considering approval. Based on the analysis in this IS, BART expects to adopt a Mitigated Negative Declaration (MND) because all impacts resulting from the proposed project that are considered potentially significant would be reduced to a less-than-significant level through implementation of mitigation measures.

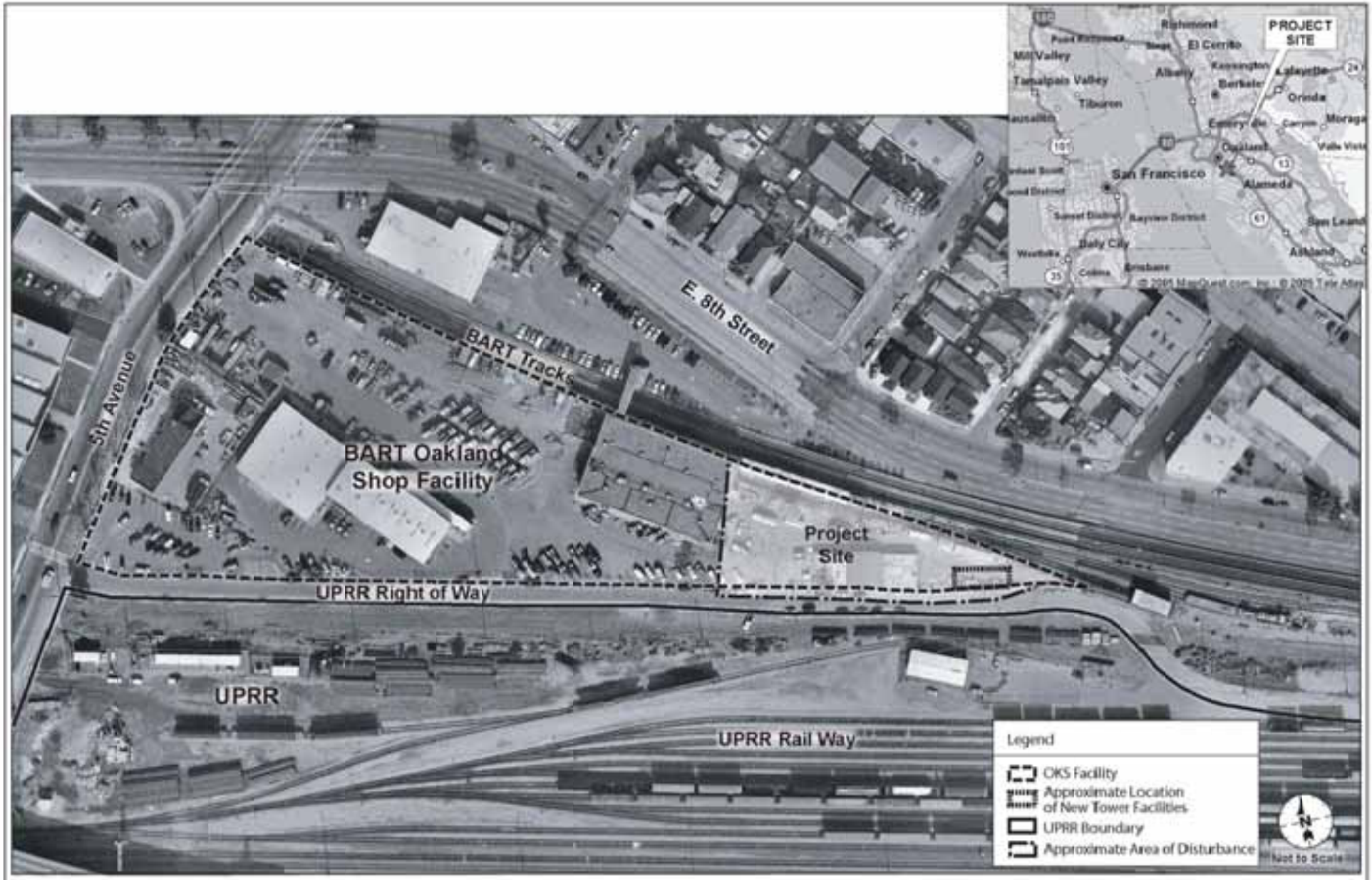
Project Background

BART's existing, primary radio system is located in the Lake Merritt Administration (LMA) building. The existing radio system is used for radio communications between BART trains and the BART Control Center and for communications by BART police and maintenance workers. As part of a separate project, the LMA building will be dismantled to the first floor level. When the LMA building is dismantled, the LMA radio site will be eliminated. BART proposes to construct a new radio site facility at its BART Oakland Shop (OKS) facility, referred to as the OKS Radio Site Project, to serve BART train operations, police, and other radio users.

Project Location

The OKS Radio Site (project site) is in the San Francisco Bay Area in the city of Oakland (Oakland). Oakland is bordered by the San Francisco Bay to the west, Emeryville and Berkeley to the north, Piedmont to the east, and Alameda to the south. Primary transportation routes to Oakland include Interstate 80, Interstate 880 (I-880), and Highway 24 (see Figure 1).

As shown in Figure 1, the project site is within the approximate 201,000 square-foot (4.5-acre) BART OKS facility at 601 East 8th Street. The project site is situated at the southernmost tip of the OKS facility. Upon completion, the proposed project would encompass approximately 670 square feet (0.14 acres) of the area within the OKS facility and would be entirely within the existing fenced perimeter of the BART property, beginning along the fence northwesterly, approximately 40 feet from an existing pedestrian gate. The project site is currently paved with asphalt and is used for loose material storage. The containers and materials currently stored on the project site would be relocated to the northeast side of the fence (see Figure 2).



Source: BART 2005

FIGURE 1
Regional and Project Site Location

***Source*:** Natural Resources Management 2005.

FIGURE 2
Existing Uses at the Project Site

Existing Conditions

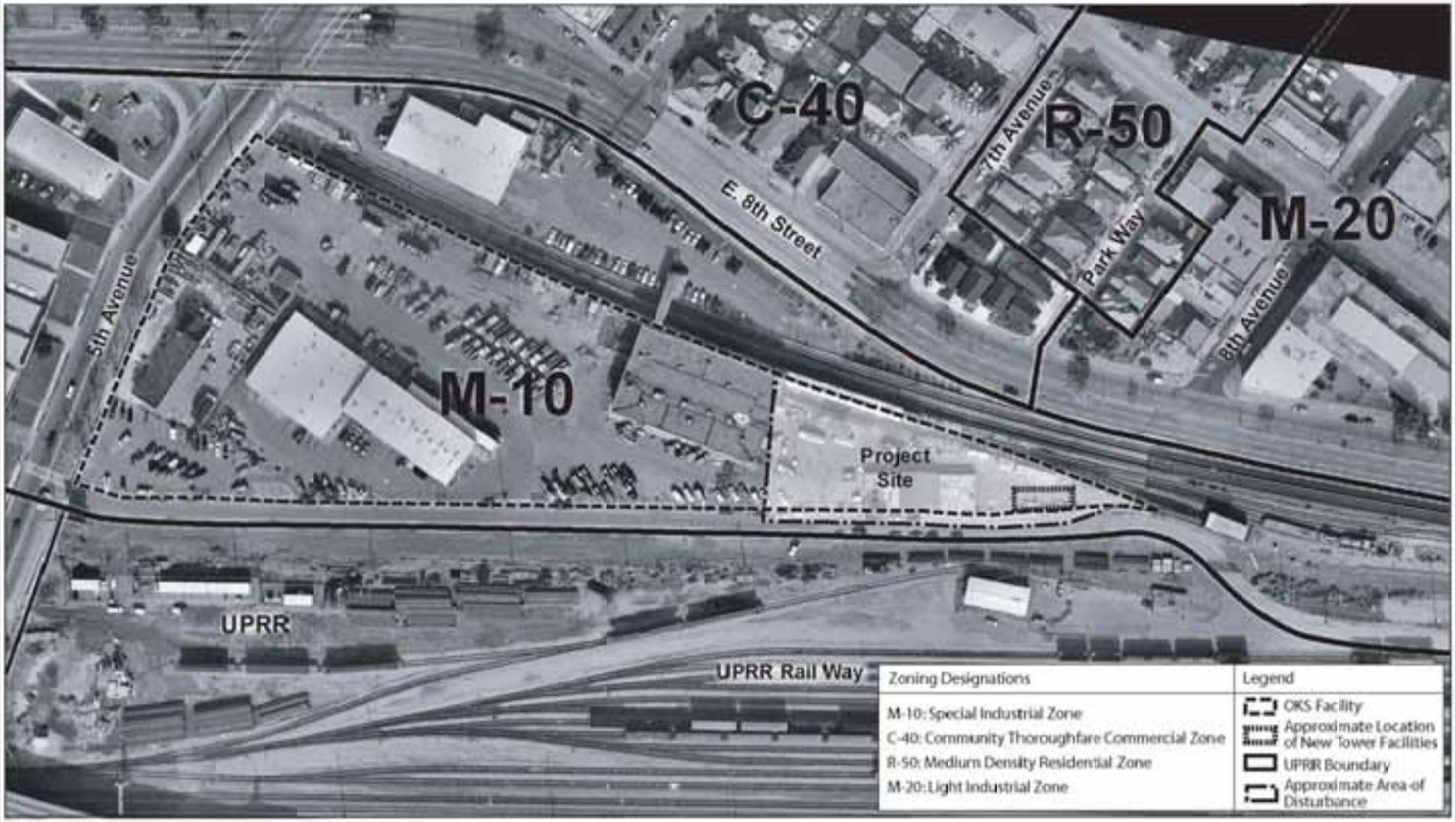
BART's current activities at the OKS facility include maintenance, parking for BART's vehicular maintenance fleet, welding and steel fabrications, wood shop, maintenance training and headquarters, vehicular fueling, and miscellaneous parts storage. The project site is industrial and is generally bordered by commercial and residential uses to the east and industrial uses to the west. The Union Pacific railyard and rail line (UPRR) and I-880 are adjacent and to the west of the project site.

The project site is zoned M-10 (Special Industrial Zone) and is designated as Business Mix in Oakland's *General Plan*. The area bordering the eastern edge the project site is zoned C-40 (Community Thoroughfare Commercial Zone) and is designated as Housing and Business Mix in Oakland's *General Plan* (see Figure 3).

Project Description

The proposed project would include a pre-constructed concrete shelter, an approximately 250-foot-high tall steel radio tower, and a fixed-placement 15-kilowatt engine generator set, including diesel fuel storage in a 250-gallon above-ground storage tank. The shelter and generator would be placed on a new concrete slab foundation. The 6- to 10-inch concrete slab foundation would be approximately 25 feet by 14 feet. The concrete shelter would be approximately 20 feet by 12 feet by 10 feet. The radio tower would be located less than 10 feet from the concrete shelter. Due to the height of the tower, flashing red beacons or white strobe lights would be required by the Federal Communications Commission (FCC) or Federal Aviation Administration (FAA); both agencies may also require additional tower markings. BART intends to utilize continuous or pulsating red lights if approved by the FCC and FAA. FAA authorization is required to construct the tower; and FCC authorization is required for operation of the tower as an element of BART's primary radio system.

Two options are under consideration for the style of the radio tower, both of which are evaluated in this document. The radio tower would either be lattice-style with three footings, or a single monopole with one footing. With the three-footing option, the footings would be four feet in diameter and 15 feet deep. With the lattice-style tower, the four antennas would be mounted directly to the tower structure supports at the top of the tower. Alternatively, under the monopole option, the single footing would be 7 feet in diameter and 30 feet deep. A triangular platform, six feet per side, would be mounted atop the monopole tower to hold four 16-foot antennas. The final selection of the option to be implemented would be determined by BART on the basis of soil conditions, final design, and the outcome of the competitive construction bidding process. Within the project site, three PVC conduits would be installed approximately 18 inches below ground level between the concrete shelter and the existing OKS building, spanning a distance of approximately 370 feet. A conduit would be added to the western exterior of the OKS building itself, north of the project site and parallel to the existing conduit. The conduits would carry 480 volts ac (vac) power and fiber optic signal cables. No other equipment would be required for operation of the tower. All project structures would comply with BART's Facilities Standards and seismic design criteria, including but not limited to Section 1.08, Erosion and Sediment Control.



Source: BART, City of Oakland Municipal Code 2005

Not to Scale

FIGURE 3
Zoning Designations

The overall project schedule includes completion of environmental documentation in April 2006, completion of final design in June 2006, and notice to proceed with construction in October 2006.

Construction Scenario

Construction of the proposed project would require earth moving and removal, concrete work, aerial tower structure assembly, and trenching. Normal BART activities would continue at the OKS site during construction. Construction activities would take approximately 35 days to complete. Site construction would generally occur during daytime, Monday through Friday while BART trains are operating. Radio tower erection activities would occur primarily during early morning daylight, most likely on a weekend day (Sunday). For safety reasons, temporary delay of BART trains during specific construction activities would probably occur. Specifically, the Fremont line (A-line), Livermore line (L-line), Richmond line (R-line), and Daly City line (M-line) would be affected. Traffic in the area would be temporarily stopped every hour for about ten minutes while the construction crane boom moves each 20- to 40-foot tower structural element into position before bolting the tower into place. Tower erection activities would likely require safety monitoring by both BART and UPRR, provisions for which would be included in the construction contract documents. Service delay announcements would be made before the scheduled delays occur. Existing lighting on the site would be sufficient for the proposed construction activities. The exception is that tower erection would begin during early morning daylight hours when additional lighting could be required.

Construction activities would require a concrete pumping truck with concrete mixing trucks feeding the pumping truck for one day; a truck mounted drilling rig for two days; a small bobcat for shifting around dirt for 14 days; and a 270-foot vehicular mounted construction crane for three days. A trencher and small asphalt paver would each be used for one day for construction of the conduit trench. At the peak of construction approximately 12 to 15 vehicles trips may be anticipated per day. All non-vehicular construction equipment would be stored at the existing site within BART property. All vehicular equipment would be stored and operated immediately to the west of the BART property line on the UP service road.

Most site access would be via the UP service road, immediately west of the BART property. An area of about 40 feet by 100 feet within the UP service road area would provide heavy equipment access to the project site during construction. Coordination with UPRR may be required to permit heavy equipment to access the project site. No other local street usage would be expected to occur.

The following regulatory approvals would be required in order to implement the proposed project:

- Authorization for construction of proposed communications tower – Federal Aviation Administration;
- Authorization for operation of communications tower – Federal Communications Commission;
- Operating permit for standby emergency generator – Bay Area Air Quality Management District;
- Adoption of IS/MND and approval of OKS Radio Site Project – BART Board of Directors.

ENVIRONMENTAL EVALUATION CHECKLIST AND DISCUSSION

A. ENVIRONMENTAL EFFECTS

This IS evaluates the potential environmental effects of the proposed project as required by the CEQA. For any checklist item found potentially significant, mitigation measures have been recommended. The conclusions regarding potential significant adverse environmental effects are based upon the project technical memoranda cited below, other field observations, staff experience and expertise on similar projects, and/or standard reference material.

1. AESTHETICS					
	Potentially Significant Impact	**Less-than-Significant Impact With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Have a substantial adverse affect on a scenic vista?	☐	☐	☐	■	26
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■	26
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	■	☐	26
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	■	☐	☐	26

Setting

A visual quality technical memorandum was prepared for the proposed project by Environmental Vision (see Appendix A). The memorandum presents information to support this analysis based on field observations and review of project maps and technical data; aerial and ground level photographs of the project site; and computer-generated visual simulations. Site reconnaissance was conducted during December 2005 in order to observe the project site, to take representative photographs of existing visual conditions, and to identify key public views appropriate for simulation.

The project site occupies relatively flat, urbanized land between the UP switchyard and tracks on the west, the BART tracks and ROW surrounded by chain link fence on the east, and the remainder of the OKS facility on the north. The six-lane, elevated I-880, is immediately west of the rail corridor. To the east, a variety of predominantly one- and two-story structures house a mixture of industrial, residential, and commercial uses. The surrounding area has an industrial/mixed use urban character. Near the rail corridor, open yard storage areas are interspersed with buildings and other structures. The project site contains wooden palettes, portable storage containers, miscellaneous industrial equipment, and a perimeter six-foot high chain link fence. Prominent visual elements that can be seen from the vicinity of the project site include the elevated freeway

structure of I-880; the UP tracks and switchyard; the industrial appearance of the OKS facility; and the BART tracks. Limited vegetation, including residential landscaping and sporadic street trees, is found in the vicinity. The Laney College sports fields on East 8th Street are approximately 600 feet northeast of the project site. In addition Clinton Square and Channel Park, roughly one quarter mile to the east and north respectively, are both landscaped with ornamental trees and lawn.

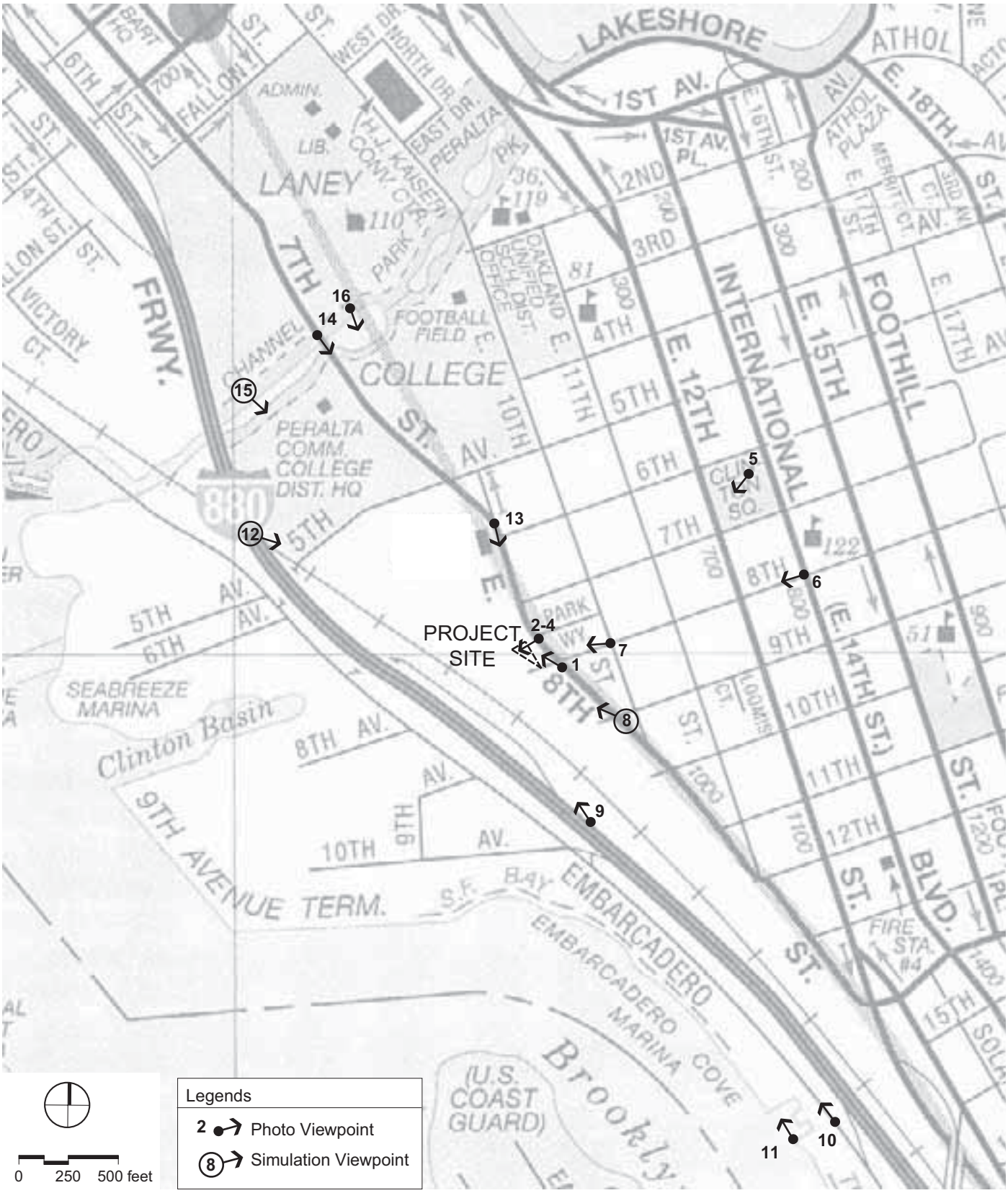
Figure 4 shows photo viewpoint locations. Visual simulations, presented as Figures 5 through 7, show the proposed project's scale, massing, and appearance as seen from three selected public viewing locations. For each vantage point, the existing view plus sets of two visual simulations are presented. The simulation figures ending with" A" portray the monopole design option whereas the "B" figures depict the lattice tower design option. The simulations show the project from the following three representative public viewing locations:

1. East 8th Avenue at 9th Avenue (Figures 5A and 5B),
2. Channel Park west of 7th Street (Figures 6A and 6B), and
3. Southbound I-880 (Figures 7A and 7B).

Impacts

a-b) **No Impact.** The project site occupies a portion of the existing OKS facility that is actively used for maintenance functions, maintenance vehicle parking, welding, and steel fabrications. As described above, the project site is within an urbanized area that includes a variety of mixed industrial, commercial, and residential uses and the views currently experienced by the public in the surrounding area typically reflect its urbanized character. There are no scenic vistas or scenic resources in the project vicinity. No streets adjacent to the project site and/or in the project vicinity are designated scenic routes or State scenic highways. Accordingly the project would have no impact on any such visual resources.

c) **Less-than-significant Impact.** Temporary construction activities associated with the proposed project would involve the installation of a 250-foot tall communications tower and the use of heavy equipment. Project construction would be seen within the context of on-going maintenance and industrial activity that currently takes place at the OKS facility. Construction activities would be visible from public roadways including the developed I-880 corridor and East 8th Street. Motorists' views of project construction would be fleeting and within a backdrop of existing industrial elements. Project construction would also be visible from a limited number of residences on East 8th Street. Project construction is expected to take place for approximately 35 days. Due to the short term, temporary nature of construction activities and the low visual quality of existing conditions, potential visual effects associated with project construction are considered to be less than significant.



***Source*:** Environmental Vision 2006.

FIGURE 4
Photo Viewpoint Loactions

Existing view from East 8th Street at 9th Avenue (VP 8)

Visual simulation of proposed monopole alternative

***Source*:** Environmental Vision 2006.

FIGURE 5A
Visual Simulation - East 8th Street at 9th Avenue

Existing view from East 8th Street at 9th Avenue (VP 8)

Visual simulation of proposed lattice tower alternative

***Source*:** Environmental Vision 2006.

FIGURE 5B

Visual Simulation - East 8th Street at 9th Avenue

Existing view from Channel Park west of 7th Street (VP 15)

Visual simulation of proposed monopole alternative

***Source*:** Environmental Vision 2006.

FIGURE 6A
Visual Simulation - Channel Park

Existing view from Channel Park west of 7th Street (VP 15)

Visual simulation of proposed lattice tower alternative

***Source*:** Environmental Vision 2006.

FIGURE 6B
Visual Simulation - Channel Park

Existing view from Southbound Interstate 880 (VP 12)

Visual simulation of proposed monopole alternative

***Source*:** Environmental Vision 2006.

FIGURE 7A
Visual Simulation - Southbound I-880

Existing view from Southbound Interstate 880 (VP 12)

Visual simulation of proposed lattice tower alternative

***Source*:** Environmental Vision 2006.

FIGURE 7B
Visual Simulation - Southbound I-880

The appearance of the proposed project as seen from representative public vantage points is illustrated in the project visual simulations. Figures 5A and 5B portray a "before" and an "after" view of the project from East 8th Street and 9th Avenue, which is less than 900 feet from the proposed tower.[1]

As shown in Figures 5A and 5B, the public would experience a relatively unobstructed close range view of the tower. As shown in the simulations, the proposed project would introduce a new vertical element seen within the context of an existing industrial site enclosed by chain link fencing. The tower would be seen beyond foreground vertical elements including street lights and street trees. In terms of its form and general appearance, the monopole design would appear similar to the existing street light standards (Figure 5A). Within close range the monopole tower base would not be dissimilar to that of the existing light pole bases seen in the area. The lattice tower design would be more visually prominent than the monopole design due to its contrast in form (Figure 5B), however the lattice tower would not substantially obstruct sky views or be seen as a major visual obstacle in contrast to other vertical elements. Given its vertical scale, the new tower would be noticeably taller than existing street lights and other built elements, yet not visually out of character with the existing urban setting. The new tower would appear as a taller industrial component of an already industrial area, compatible with existing urban forms such as the elevated I-880, the OKS facility, and the BART tracks. The new tower would be visually noticeable, but because it would blend into the already industrial character of the landscape, the project's impact on the existing visual quality of the project site and its surroundings from this viewpoint is less than significant.

Channel Park, a landscaped public open space and sculpture garden, lies less than one half mile northwest of the project site. The proposed tower would be visible from some places within Channel Park, although existing intervening vegetation and structures would screen views of the proposed project from many locations within the park. Figures 6A and 6B depict "before" and "after" views of the proposed project from the Channel Park pathway, about 2,000 feet from the project site. As seen from this location, the new tower would be visible above the existing low rise building seen toward the right side of the view. The new tower would be a noticeable new vertical element along the skyline. However, given the presence and scale of existing foreground landscape features, and the distance from which it would be visible, the tower would not appear prominent in relationship to its surroundings, but would appear as a distant feature on the horizon. As a result, the proposed project would not substantially alter the overall visual character of the Channel Park's landscape setting. Potential impacts on visual quality from this viewpoint are considered less than significant.

Figures 7A and 7B portray a "before" and "after" motorist's view of the proposed project from southbound I-880. This location is about 1,200 feet from the project site. The new tower would be

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[1] Figure 5 generally represents the visual impact that would be experienced from the residential area in proximity to the proposed project, in cases where views are relatively unobstructed. However, it should be noted that because the simulation photos were shot in winter (when deciduous trees do not have their leaves). Figure 5 simulations portray a worst-case scenario. It can be assumed that when their canopies are "leafed out", the existing street trees would provide additional screening of the project site. Thus with respect to Figure 5 simulations, some additional screening can be assumed during spring and summer months.

briefly visible to motorists as they drive by the site. From this location, the tower would be noticeable in the foreground, extending above the landscape backdrop into the skyline. The tower would appear within the urban context of the developed I-880 freeway corridor and the existing development pattern, including buildings and other vertical landscape elements such as light standards, freeway signs, and utility poles. A comparison of the "before" and "after" in Figure 7 indicates that the new tower represents an incremental visual change which would not substantially alter the visual character experienced by I-880 motorists. The proposed project would not obstruct the views of the Oakland Hills in the backdrop. It is anticipated that views of the project site would be fleeting. In light of the freeway's existing urban visual character and the brief duration of project visibility, the project's effect on views from I-880 are considered less than significant.

Permanent changes in the appearance of the project site would result from a new 250-foot-tall tower and concrete shelter on a portion of the OKS facility. As described above, the tower would be visible from nearby public view corridors including I-880 and East 8th Street, and in the distance from Channel Park. The tower would be similar in form and general appearance to existing vertical elements such as street lights and utility poles currently found in the existing urban setting. The new communications tower would be considerably taller than these existing vertical elements, but would not substantially obstruct existing views of the Oakland Hills or other surrounding areas. Because the new tower would fit within the already industrial character of the landscape, the project's impact on the existing visual quality of the project site and surroundings is less than significant.

d) **Less-than-significant Impact with Mitigation Incorporated.** Due to the height of the tower, flashing red beacons or white strobe lights are required by the FCC or the FAA for aircraft safety purposes; both agencies may also require additional tower markings. The FAA has not yet made its determination as to the specific lighting requirements for the proposed project. The FCC- or FAA-required tower lights are meant as a safety device for aircraft and would be approximately 250 feet in the air. At this height, the tower lights would not be seen at eye level by nearby receptors, including pedestrians, residents, or motorists. Additionally, no high-rise buildings are adjacent to the project site that would enable eye-level views of the tower lights.

Furthermore, the project area is industrial in nature and experiences light and glare cast by existing roadway light fixtures, headlights of vehicles traveling on I-880 and East 8th Street, and other outdoor luminescence from industrial facilities in the vicinity. Therefore, existing nighttime views in the project vicinity are of low-quality and introduction of new lighting from the proposed project, approximately 250 feet above ground level, would not significantly change the existing nighttime lighting conditions in the project area. Consequently, while the proposed project would create a new source of light, it would not significantly affect the day or nighttime views in the project area.

The proposed project involves the installation of a steel tower structure. As seen from the surrounding area under particular lighting conditions (e.g., headlights hitting the base of the tower, or during occasional nighttime maintenance operations at the tower at which time portable lighting could be used), the tower's exterior finish could have the potential to cause some degree of glare on existing surrounding land uses (e.g., nearby residences and/or drivers on adjacent roadways). This impact is

considered potentially significant. However, implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure 1. Apply Nonreflective Finish to Tower Structure. In order to reduce potential glare effects, a nonreflective finish shall be applied to the new tower structure.

2. AGRICULTURE RESOURCES					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■	4
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■	3, 5
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	■	2, 4

Impacts

a-c) **No Impact.** Based on a review of the California Farmland Mapping and Monitoring Program, no prime farmland, unique farmland, or farmland of Statewide Importance is located on or in the vicinity of the project site. The project site is zoned Special Industrial Zone (M-10) in the Oakland *General Plan*, which does not have provision for agricultural-related activities. The project site is not located on land that is currently under a Williamson Act contract. As described above, the project site does not contain any agricultural uses, nor is it agriculturally active land or farmland. Therefore, implementation of the proposed project would have no impact on agricultural resources.

3. AIR QUALITY/CLIMATE					
	Potentially Significant Impact	Less-than-Significant With Mitigation Incorporated	Less-than-Significant Impact	No Impact	Information Source(s)
Would the project:					
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	■	6
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	■	☐	☐	1, 7
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	☐	■	☐	☐	1, 7
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐	1, 7
e. Create objectionable odors affecting a substantial number of people?	☐	☐	■	☐	1, 7

Setting

Air quality standards are adopted by the U.S. EPA and the California Air Resources Board ("CARB") for so-called "criteria air pollutants". Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead. Reactive organic gases (ROG) and nitrogen oxides (NO_x) are also regulated as criteria air pollutants, because they are precursors to ozone formation. With regard to particulate matter, air quality standards have been adopted for suspended particulate matter less than ten microns in diameter (PM_{10}) as well as for smaller respirable particles that are 2.5 microns in diameter or less ($PM_{2.5}$). Another category of air pollutants is "toxic air contaminants" ("TACs"). Toxic air contaminants is a general term for a diverse group of air pollutants that can have acute or chronic adverse effects on human health but for which ambient air quality standards have not been established. They are not fundamentally different from the pollutants discussed above. Many types of cancer are associated with chronic TAC exposures.

The project site is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), a nine-county regional agency charged with achieving State and federal air quality standards in the San Francisco Bay Area air basin. The San Francisco Bay Area air basin has a history of recorded violations of federal and State ambient air quality standards for ozone, CO, and particulate matter. The BAAQMD has adopted a number of air quality plans and rules and regulations as needed to achieve the federal and State air quality standards and meet other air quality obligations. With the assistance of BAAQMD, CARB compiles inventories and projections of emissions of major pollutants, which are used in regional air quality planning process. As a result of the regional planning and regulatory efforts, since the early 1970s substantial progress has been made toward reducing emissions and ambient concentrations of these pollutants in the San Francisco Bay Area air basin. Although the region has made considerable progress to meet the standards, violations of

the State particulate matter and State and federal ozone ambient air quality standards still occur. In its most recent air quality planning actions, on November 16, 2005 BAAQMD adopted its Particulate Matter Implementation Schedule, pursuant to California Senate Bill 656, to implement further feasible measures to control emissions of particulate matter. On January 4, 2006, BAAQMD adopted the 2005 Ozone Strategy to identify further steps needed to continue reducing the public's exposure to unhealthy levels of ozone.

Impacts

a) **No Impact.** As mentioned above, the 2005 Particulate Matter Implementation Schedule and the 2005 Ozone Strategy were developed in order to bring the area into attainment of federal and state ambient air quality standards for ozone an particulate matter violations. No element of the project's construction or operation is inconsistent with these or previously adopted air quality plans and strategies.

b) **Less-than-Significant Impact with Mitigation Incorporated.** Operation of the proposed radio tower would not directly generate emissions of air pollutants because the radio antennas would be electrically powered. Some air emissions would occur on occasions when the standby emergency generator is operated. The standby emergency generator would be diesel powered and would be operated only in the event of emergencies and for periodic testing and maintenance (approximately 30 minutes per month), neither of which would constitute an on-going source of air pollutant emissions. A BAAQMD operating permit would be required for the standby emergency generator. The permit provisions would limit the number of hours of operation for testing and maintenance of the standby emergency generator to 20 hours per year. Diesel fuel for the standby emergency generator would be stored in a 250-gallon above-ground storage tank that would have relatively low air emissions due to the low boiling point of diesel; furthermore, the diesel storage tank is exempt from permitting status by the BAAQMD (BAAQMD Regulation 1, Rule 2). Therefore, operation of the proposed project would not constitute a significant source of air emissions.

The proposed project would result in short-term air emissions associated with construction activities. Construction of the proposed project could result in air quality impacts that would contribute to existing particulate matter and ozone violations in the region. Construction would require earth moving and removal, concrete work, aerial tower structure assembly, and trenching. Construction activities would last approximately 35 days. The use of construction equipment during this time would emit NO_x, CO, SO_2, hydrocarbons, and PM_{10}. Construction-related emissions of criteria pollutants CO, ROG and NO_x would add to the regional atmospheric loading of ozone precursors. However, construction-related emissions of CO, ROG, and NO_x from exhaust and other construction activities are included by the BAAQMD in their emission inventory, which is the basis for BAAQMD's regional air quality planning. The BAAQMD does not consider these emissions to impede attainment or maintenance of ambient air quality standards. Therefore, construction-related emissions of ozone precursors are not expected to impede attainment or maintenance of ozone standards in the San Francisco Bay Area air basin. This impact is considered less than significant.

During project construction, emissions of PM_{10} would be generated from earth disturbing activities which would result in a potentially significant impact. As specified in BAAQMD's CEQA Guidelines,

implementation of the following mitigation measure would minimize this impact to a less-than-significant level.

Mitigation Measure 2. Implement Dust Control Measures During Earth Disturbing Construction Activities. BART shall require the contractor(s) to implement recommended dust control measures to reduce particulate matter emissions during project construction. The project contractor(s) shall comply with the basic dust control strategies developed by the BAAQMD. BART shall include in construction contracts the following requirements or measures shown to be equally effective.

- Water all active construction areas at least twice daily or as often as needed to control dust emissions.
- Cover all trucks hauling soil, sand, and other loose materials and/or ensure that all trucks hauling such materials maintain at least 2 feet of freeboard.
- Pave, apply water twice daily, or as often as necessary, to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction areas.
- Sweep daily, or as often as needed, with water sweepers all paved access roads, parking areas, and staging areas at construction sites to control dust.
- Sweep public streets daily, or as often as needed, to keep streets free of visible soil material.

c) **Less-than-Significant Impact with Mitigation Incorporated.** For the purposes of this analysis, the cumulative context for evaluation of air quality impacts is the San Francisco Bay Area and Oakland. Construction of the proposed project would temporarily increase air emissions in the San Francisco Bay Area, which is designated as a non-attainment area for ozone at the federal and state level and PM_{10} at the state level, as described above. Combined with other construction activities in the project area, the proposed project could have cumulatively significant impacts.

Operation of construction equipment would generate CO, ROG, and NO_x emissions through release of diesel exhaust. Since the Bay Area is designated as non-attainment for ozone, this project in combination with other projects could contribute to an existing air quality problem. However, as noted above, construction-related CO, ROG, and NO_x emissions are included in existing BAAQMD construction emission inventories; therefore, construction of the proposed project would not result in a cumulatively significant impact related to emissions of CO, ROG, and NO_x.

Individually, the proposed project, as noted above, would temporarily increase PM_{10} emissions during construction activities resulting in a potentially significant impact. BAAQMD CEQA Guidelines recommend that if the proposed project would individually have a significant air quality impact there would also be a significant cumulative air quality impact. However, implementation of Mitigation Measure 2, as described above, would minimize the proposed project's contribution to cumulative air quality impacts during construction, so that cumulatively considerable impacts are not expected.

d) **Less-than-Significant Impact with Mitigation Incorporated.** The project site is within the BART OKS facility. Adjoining areas include BART maintenance areas, railroad tracks, and switchyards. Northeast of the project site, across East 8th Street are single-family residential neighborhoods. Further north along East 8th Street are the athletic fields of Laney College. During project construction, a potentially significant localized increase in PM_{10} emissions could expose residents and recreational users along East 8th Street resulting in a potentially significant impact. However, implementation of Mitigation Measure 2, as described above, would reduce this impact on sensitive receptors to a less-than-significant level.

Operation of the proposed project would result in occasional diesel exhaust emissions from the standby emergency generator. The combustion of diesel fuel would result in the release of diesel particulate matter, which is a known TAC. However, this would not constitute an on-going source of emissions because operation of the standby emergency generator would only be necessary in the event of an emergency or during periodic testing, and such intermittent operation would not constitute a significant source of air pollutant emissions. This impact is considered less than significant.

e) **Less-than-Significant Impact.** During project construction, residents and businesses in close proximity to the construction areas may experience occasional odors from emissions of construction equipment exhaust. This effect would be intermittent, would be contingent on prevailing wind conditions, and would occur only during construction activities. Operation of the proposed project would not generate any odors with the exception of infrequent exhaust from the standby emergency generator. As noted above, the standby emergency generator would be operated only for periodic testing and in emergencies when electrical power is unavailable. Because the generation of exhaust odors would be periodic, and because these emissions would not affect a substantial amount of people, this impact is considered less than significant.

4. BIOLOGY					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	■	8
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	■	8
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■	8
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	■	8

Setting

A site visit was conducted by a Natural Resources Management biologist in November 2005. The approximately 0.14-acre project site was observed to be entirely fenced, paved in asphalt, and covered in impermeable surfaces. The only plants observed at the project site were extremely limited quantities of ruderal roadside vegetation. A single non-native, Blue Gum is located on the western edge of the project site, adjacent to the existing chain link fence. No additional vegetation, native substrate, wetlands, or water features of any kind were observed at the project site. Adjacent parcels are also developed and vegetation in the vicinity of the project site is sparse and limited to landscaped plantings at residences across from the project site to the east. Native vegetation or wildlife habitats were not observed anywhere on the project site or in its vicinity. There are no applicable local or regional plans, policies, or regulations for habitat conservation or species protection.

Applicable regulations include the Migratory Bird Treaty Act of 1918, which makes it unlawful to “take” any of the 800 protected species of migratory bird, and the California Fish and Game Code (Sections 3503, 3503.5, and 3800), which prohibits the “take, possession, or destruction of birds, their nests or eggs.”

Impacts

a-d) **No Impact.** The project site and vicinity do not contain any plant or wildlife species identified as candidate, sensitive, or special status or their associated habitat. The project site and vicinity also do not contain any riparian habitat or other sensitive natural community including wetlands or other water features. The existing Blue Gum tree near the project site occurs adjacent to the gated entrance to the site. The tree would not be removed or disturbed as a result of the tower construction or operation. The construction would occur beyond existing storage sheds and portable storage units that block the direct line of sight to the tree. Any nesting birds that may occur in the tree would be buffered by existing uses and would not experience a substantial increase in disturbance. As such, the proposed project would have no impact on any identified special status species or their habitat, riparian habitat, federally protected wetlands, migratory corridors or nursery sites, or other biological resources including potential nesting birds.

5. CULTURAL					
	Potentially Significant Impact	Less-than-Significant With Mitigation Incorporated	Less-than-Significant Impact	No Impact	Information Source(s)
Would the project:					
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	■	☐	☐	9
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	■	☐	☐	9
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	■	9
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	■	☐	☐	9

Setting

The information provided in this section is summarized from a technical memo prepared by William Self Associates for the proposed project. Based on a record search and an archaeological reconnaissance field survey of the project site and vicinity, no cultural resources were found to exist at the project site. In addition, no previous cultural resources studies have included the project site and thus, no cultural resources have been recorded on the project site. A potentially historic building at 500 5th Avenue is located approximately 0.25 mile from the location of the proposed radio tower. Therefore, implementation of the proposed project would not affect this building.

William Self Associates contacted the Native American Heritage Commission (NAHC) to request a listing of local, interested Native American representatives and information on traditional or sacred lands on the project site and in its vicinity. To date, the NAHC has not responded to this inquiry, which is generally accepted as indication that Native American representatives do not have concerns regarding sacred lands or cultural resources on the project site or in its vicinity.

Impacts

a-b) **Less-than-Significant Impact with Mitigation Incorporated.** As noted above, no historic or archaeological cultural resources are known to exist on the project site or in its vicinity. Although there is no evidence to suggest that cultural resources exist, there remains a reasonable (though low) possibility that previously unidentified buried cultural resources could be inadvertently encountered during ground-disturbing activities associated with project construction. Damage or disturbance to previously unidentified cultural resources that may be encountered during construction would be considered a potentially significant impact. Implementation of the following mitigation measure would minimize this impact to a less-than-significant level.

Mitigation Measure 3. Cease Work Upon the Discovery of Previously Unidentified, Buried Cultural Resources. In the event that previously unidentified, buried prehistoric or

historic cultural resources are encountered, project activities in the immediate vicinity of the find and within 100 feet of the find shall be temporarily halted until a qualified archaeologist can assess the significance of the find and provide proper management recommendations. BART shall implement the management recommendations of the archaeologist concerning proper removal and handling of the discovered cultural resources, subject to State Historic Preservation Office (SHPO) approval. Construction personnel shall be instructed as to both the potential for discovery of unknown cultural resources, the need for proper and timely reporting of such finds, and the consequences of failure to do so prior to commencement of any construction activities.

c) **No Impact.** The project site is not within an area known to be sensitive for paleontological resources, and no unique geological features are located on the project site. The project site is composed of fill underlain by approximately ten feet of San Francisco Bay mud. Preservation of paleontological resources is unlikely because of the nature of these underlying sediments. Bay mud is corrosive and generally would not contain paleontological resources. Therefore, implementation of the proposed project would not be expected to destroy a unique paleontological resource or unique geologic feature.

d) **Less-than-Significant Impact with Mitigation Incorporated.** The project site is not located on a site known to contain human remains. Although there is no evidence to suggest that human remains are present, there remains a reasonable (though low) possibility that ground-disturbing activities associated with project construction may uncover unmarked human remains. Disturbance to human remains is considered a potentially significant impact. Implementation of the following mitigation measure would minimize this impact to a less-than-significant level.

Mitigation Measure 4. Cease Work Upon the Discovery of Human Remains. In the event of discovery or recognition of any human remains at the project site, the BART contractor shall contact the Alameda County Coroner, pursuant to Section 7050.5(b) of the California Health and Safety Code. The contractor would be required to cease excavation or disturbance of the site until the County Coroner determines that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The County Coroner, upon recognizing the remains as being of Native American origin, will contact the Native American Heritage Commission within 24 hours. No further disturbance of the site may be made except as authorized by the County Coroner. The Native American Heritage Commission has various powers and duties to provide for the ultimate disposition of any Native American remains, including the designation of a Native American Most Likely Descendant. Construction personnel shall be instructed as to both the potential for discovery of human remains, the need for proper and timely reporting of such finds, and the consequences of failure to do so prior to commencement of any construction activities.

6. GEOLOGY AND SOILS	Potentially Significant Impact	Less-than-Significant With Mitigation Incorporated	Less-than-Significant Impact	No Impact	Information Source(s)
Would the project:					
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	■	10,11
ii) Strong seismic groundshaking?	☐	☐	■	☐	10,12
iii) Seismic-related ground failure, including liquefaction?	☐	☐	■	☐	13
iv) Landslides?	☐	☐	☐	■	1,2
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐	1,14
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐	1,13,15
d. Be located on expansive soil, as defined in Table 18-1-A of the California Building Code (2001), creating substantial risks to life or property?	☐	☐	■	☐	15,16
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	■	1

Setting

Faults. Oakland, including the project site, lies within the San Andreas Fault System, which is approximately 44 miles wide in the Bay Area. The known active fault traces closest to the project site are those associated with the Hayward Fault, about 3 miles east of the project site. This is the only fault zone in Oakland that is designated by the state under the Alquist-Priolo Earthquake Fault Zoning Act of 1972. However, the project site is not within the designated Alquist-Priolo Earthquake Fault Zone for the Hayward fault.

Seismicity. Oakland and the rest of the Bay Area are in a seismically active region. Recent studies by the United States Geological Survey (USGS) indicate that there is a 63 percent chance of a Moment magnitude 6.7 or higher earthquake occurring in the Bay Area by the year 2030. There are several active and potentially active fault zones that could affect the project site even though it is not within a designated Alquist-Priolo Earthquake Fault Zone, as noted above. The San Andreas, Hayward-Rodgers Creek, and Calaveras Fault

Zones are all at least partially historically active. The project site could experience a range of groundshaking effects during an earthquake that occurs on these faults, particularly the Hayward fault. A characteristic earthquake on the Hayward fault could result in violent (Modified Mercalli Intensity IX) to very violent (Modified Mercalli Intensity X) groundshaking intensities.[2] Groundshaking of MMI IX would result in heavily damaged or destroyed masonry, damage to foundations, and shifting of frame structures off their foundations if not bolted down. Groundshaking of MMI X would destroy most masonry and frame structures along with their foundations, as well as some well-built wooden structures. Seismic shaking of this intensity can trigger ground failures such as landslides or liquefaction, potentially resulting in foundation damage, disruption of utility service, and roadway damage.

Liquefaction. Liquefaction in soil and sediments occurs when granular material is transformed from a solid state to a liquid state because of increases in pressure generated by an earthquake. Earthquake-induced liquefaction occurs most often in low-lying areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but can also occur in dry granular soils, or saturated soils with some clay content. According to the California Geologic Survey, the project site is in a Seismic Hazard Zone for liquefaction.

Landslides. No landslide deposits have been mapped within the project vicinity. According to the Oakland Emergency Operations Plan the project site is in an area of the city that is least susceptible to landslide potential, as the project site is flat land.

Soils. The soils of western Alameda County, including the project site, were mapped most recently in 1981 by the Natural Resources Conservation Service. The soil beneath the project site is described by the United States Department of Agriculture as mainly heterogeneous fill covered by buildings, roads, parking lots, and other urban structures. Soil characteristics (such as texture, density, or mineral content) depend on the type of material used as fill at any particular location. The shrink-swell potential of the soils underlying the paved project site is low, though small pockets of expansive soils may be present. The potential for erosion hazards at the project site is considered to be slight.

The project site is underlain by approximately 10 feet of San Francisco Bay mud (Bay mud). Bay mud soils can be expansive and corrosive to untreated steel and concrete. Specific treatments to eliminate the effects of soil expansion include, but are not limited to, grouting, recompaction, and replacement with non-expansive material.

BART Facilities Standards. Earthquake safety design for construction is required by BART through the use of BART's Facilities Standards and seismic design criteria. Incorporation of the design criteria into the project will substantially reduce the likelihood that any new structures would be considered hazardous during an earthquake. Section 1.08, Erosion and Sediment Control, requires BART contractors to develop an Erosion and Sediment Control Plan to prevent erosion and sedimentation impacts during construction activities. Section

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[2] Shaking intensity is a measure of groundshaking effects at a particular location, and can vary depending on the magnitude of the earthquake, distance to the fault, focus of earthquake energy, and type of underlying geologic material at the project site. The Modified Mercalli (MM) intensity scale is used commonly to measure earthquake effects caused by groundshaking. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total).

1.08 also requires the contractors to comply with all applicable Federal, State, and local laws, orders, and regulations concerning the prevention, control, and abatement of water pollution.

Impacts

a) **i)** **No Impact.** The project site is not in a designated Alquist-Priolo Earthquake Fault Zone. Thus, the proposed project is not expected to expose people to potential substantial adverse effects caused by the rupture of a known fault.

ii) **Less-than-Significant Impact.** As discussed above, Oakland is likely to be subjected to at least one major earthquake during the useful economic life of structures on the project site. A characteristic earthquake on the Hayward fault could result in damage to masonry, foundations, and structures in the project vicinity. All features of the project, including the concrete shelter, radio tower, and generator set will be designed and constructed according to BART seismic design criteria, thereby minimizing the potential adverse effects of geologic hazards to people or structures on site. Therefore, this impact is considered less than significant.

iii) **Less-than-Significant Impact.** Construction of the proposed project on known fill and in a liquefaction hazard zone could expose structures to seismic hazards associated with ground failure. The proposed project will be required to comply with BART seismic design criteria which will ensure that potential impacts from seismic-related ground failure, including liquefaction, would be minimized. Therefore, this impact is considered less than significant.

iv) **No Impact.** As discussed above, the project site is flat and has a low susceptibility to landslides. Construction of the proposed project would not increase landslide likelihood or affect soil slopes on the site. Therefore, the proposed project would not expose people or structures to landslide risks.

b) **Less-than-Significant Impact.** During project construction, increases in erosion due to disruption of soil by the movement and work of construction machinery would occur. Water from rainfall or dust leaving the work area can carry disrupted soil from the site, or further erode soil down-gradient, if the runoff flows are not controlled properly. The area of ground disturbance predicted for the proposed project would be approximately 0.14 acres and substantial soil erosion would not be expected. All ground disturbing construction activities would be contained within the asphalt-paved areas of the project site. The proposed project would not be required to obtain coverage under the General Permit for Stormwater Discharges associated with Construction Activities under National Pollution Discharge Elimination System (NPDES) regulations, as the area of disturbance is less than one acre. However, under the BART Facilities Standards, the proposed project would be required to use Best Management Practices (BMPs) to control runoff from the project site. Compliance with BART Facilities Standards would reduce any potential construction-related erosion and sediment transport impacts to a less-than-significant level.

c) **Less-than-Significant Impact.** The proposed project would not involve groundwater withdrawal; therefore, land subsidence is not expected to occur as a result of the proposed project. As noted above, the project site is underlain by Bay mud and artificial fill soils and would be subject to unequal

settlement and expansive soils. The proposed project is also in a liquefaction hazard zone. Compliance with BART Facilities Standards would ensure these potential effects would not be increased as a result of the proposed project. Therefore, this impact is considered less than significant.

d) **Less-than-Significant Impact.** The shrink-swell potential of the soils underlying the paved project site is low, though small pockets of expansive soil may be present beneath the project site. Compliance with BART Facilities Standards related to expansive soils would ensure that appropriate measures are taken to reduce the potential for risk of life and property associated with expansive soils. Therefore, this impact is considered less than significant.

e) **No Impact.** The proposed project does not include the use of septic tanks or wastewater disposal system; therefore, there would be no impact on soils used to support such systems.

7. HAZARDS AND HAZARDOUS MATERIALS					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐	17
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	■	☐	☐	17
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	■	17
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	■	☐	17
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■	17
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■	17
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■	17
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	■	17

Setting

A Phase I environmental site assessment (ESA) was prepared by BASELINE Environmental Consulting (see Appendix B) to evaluate existing hazards and hazardous materials at the project site. The ESA included a review of historical land use information, including aerial photographs, fire insurance maps, and topographic maps; a site reconnaissance conducted in December 2005; and a review of federal, State, and local regulatory agency files and databases.

The ESA found no evidence that hazardous material releases are currently present at the project site and its immediately adjacent areas. The project site was vacant from 1903 to 1915. From 1939 until 1967 the project site and surrounding areas were occupied by a warehouse building. This building was used for an electrical supply warehouse, an appliance repair shop, a paper warehouse, a printer roller service shop, a flour blending warehouse, and office space. A fire destroyed the western portion of the warehouse building around 1960. Given the history of light industrial land uses at the project site, it is possible that unreported releases of hazardous materials may have occurred at the project site. In addition, if debris from the fire were present at the project site, the debris could contain elevated metals from lead based paint or other hazardous materials associated with building debris or the warehoused materials.

During 1989 tank removal activities, a release of gasoline was reported from the fueling area of the OKS facility. Approximately 950 cubic yards of petroleum-affected soils were removed and disposed of at that time. Since remediation of the site was completed, and the release case was closed by Alameda County in 1996, contamination from this event would not be expected to affect the project site. The ESA found no other evidence of past hazardous material releases at the project site and its immediately adjacent areas.

Nineteen sites within 0.25 mile of the project site, including two adjoining properties, appear on federal, State, and local agency databases of sites associated with hazardous materials storage, disposal, or release. Based on available details and the location of the nineteen sites, reported releases from those sites are considered unlikely to affect the project site.

Impacts

a) **Less-than-Significant Impact.** As discussed in the Project Description, the project site would be developed with a radio tower and concrete structure. Aside from small quantities of janitorial and maintenance supplies, the only hazardous materials used at the project site would be diesel fuel for a backup electrical generator. Compliance with existing hazardous materials regulations and building codes, including the use of secondary containment for the generator diesel fuel tank, would reduce potential impacts to a less-than-significant level.

In addition, operation of the radio tower would generate radio frequency radiation (RFR). Potential health and safety hazard impacts resulting from RFR emissions are considered less than significant because the proposed project would comply with all FCC regulations, including standards that are designed to protect occupational workers and the general population from the health and safety impacts of excessive RFR exposure. Please refer to Appendix C for a detailed discussion of RFR issues.

b) **Less-than-Significant Impact with Mitigation Incorporated.** As discussed above, historical land use records reviewed for the ESA indicated that the project site was used for light industrial land uses from at least 1939 until 1967, and that fire debris was present adjacent to the project site in 1960. Based on these findings, there may be a potential to encounter contaminated soils at the project site during excavation. If found, contamination could potentially pose a health risk to construction workers at the project site, and may require special soil management and disposal procedures to ensure that contaminated soil and/or groundwater are managed in accordance with applicable laws and regulations.

This impact is considered potentially significant. However, implementation of the following mitigation measure would minimize this impact to a less-than-significant level.

> **Mitigation Measure 5. Conduct Soil and Groundwater Sampling.** To evaluate potential impacts to construction worker's health and safety, and to plan for management of excavated soil and groundwater, soil and groundwater sampling shall be conducted prior to commencement of construction activities. The soil and groundwater investigation shall be undertaken by a licensed professional approved by BART. If the results of the investigation indicate presence of contamination that could be a risk to construction workers, appropriate construction-phase health and safety measures shall be implemented in accordance with Title 8, California Code of Regulations, Section 5192. If contamination is identified at levels that could affect groundwater resources, applicable regulatory agency(ies) shall be notified and further action shall be taken based on those regulatory agency(ies) guidance.

c) **No Impact.** No existing or proposed elementary or secondary schools are located within 0.25 mile of the project site.

d) **Less-than-Significant Impact.** The project site is listed as a leaking underground tank site on State records, specifically, one of the lists compiled pursuant to Government Code Section 65962.5. As noted above, approximately 950 cubic yards of contaminated soil were removed from the fueling area of the OKS facility after a release of gasoline was identified during tank removal activities in 1989. Groundwater monitoring was performed in this area from 1991 to 1994 to evaluate the effects of this release. After determining the release no longer posed a risk, the oversight case was closed by Alameda County in 1996, certifying that contamination from this area had been properly remediated. Therefore, contamination from this event would not be expected to affect the project site. This impact is considered less than significant.

e-f) **No Impact.** The project site is not located within an airport land use plan, or within 2 miles of a public or private airport.

g) **No impact.** The proposed project would not restrict vehicular, pedestrian, or bicycle access within or in the vicinity of the project site, and would therefore not interfere with emergency response or evacuation.

h) **No Impact**. The project site is located within a completely urbanized area of Oakland that is not subject to wildland fire risks.

8. HYDROLOGY AND WATER QUALITY					
	Potentially Significant Impact	Less-than-Significant With Mitigation Incorporated	Less-than-Significant Impact	No Impact	Information Source(s)
Would the project:					
a. Violate any water quality standards or waste discharge requirements?	☐	☐	■	☐	1,14
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?	☐	☐	☐	■	1
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	■	☐	1
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	■	1,20,25
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	■	☐	1,22,25
f. Otherwise substantially degrade water quality?	☐	☐	☐	■	1,3,20
g. Place housing within a 100-year flood hazard area?	☐	☐	☐	■	1,19,22
h. Place within a 100-year flood hazard area with structures which would impede or redirect flows?	☐	☐	☐	■	1,19,22
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levy or dam?	☐	☐	☐	■	1,22
j. Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■	22,23

Setting

Regional Setting. The project site lies within a Mediterranean subtropical climate zone and is typical of the San Francisco Bay region with cool, wet winters and hot, dry summers. Average annual precipitation in Oakland is around 18 inches, and the majority of rainfall occurs from November through April.

Drainage. The project site is entirely paved asphalt, is generally flat, and gently slopes toward the San Francisco Bay to the west. The project site is within the San Francisco Bay Watershed; it is not within a formal sub-watershed, as defined by the Alameda County Public Works department. As such, the site drains directly to the San Francisco Bay via Oakland's storm drain system. There is an existing drop inlet on the project site. Surface runoff and stormwater from the project site drain into existing roadway catch basins on 5th Avenue and East 8th Street.

Flooding. The Federal Emergency Management Agency (FEMA) determines flood elevations and floodplain boundaries through their floodplain mapping system. These maps identify the locations of special flood hazard areas, including the 100-year floodplain. According to the FEMA Flood Hazards map, the project site is not in a FEMA-designated 100-year or 500-year floodplain. However, the site is in proximity to the Lake Merritt tidal channel which, according to the Oakland Flood Hazards map, would be inundated in a 100-year flood event. Oakland is currently preparing a Storm Drain Master Plan to set forth storm drain requirements.

Groundwater. The Santa Clara Valley Groundwater Basin, East Bay Plain Sub-basin is located on the western edge of Alameda County, and underlies the project site. According to the Phase I ESA, shallow groundwater at the project site would be expected to be encountered approximately 12 to 25 feet below ground surface.

Water Quality. The San Francisco Bay is the major water body whose quality could be affected by activities at the project site. The existing land use at the project site is industrial and therefore has potential for pollutants to be present because industrial areas have a greater potential for historical hazardous waste contamination. Runoff from an industrial site may also have higher concentrations of urban pollutants such as petroleum based products and other hazardous substances. Refer to "Hazards and Hazardous Materials," above, for a discussion on hazardous materials.

The San Francisco Regional Water Quality Control Board (RWQCB) is the state agency with primary responsibility for designating the beneficial uses of the San Francisco Bay and for setting the water quality objectives required to ensure that those uses are protected. The RWQCB also regulates the discharge of stormwater through administering the National Pollutant Discharge Elimination System (NPDES) permit program. The State Water Resources Control Board has adopted a NPDES General Permit for stormwater discharge associated with construction activity. Stormwater runoff from construction sites disturbing one or more acres, must be covered under this General Permit. For covered construction activities, stormwater must managed by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) during construction. Operations at the OKS facility are covered by the State's General Permit for Stormwater Discharges Associated with Industrial Activities and BART has developed a SWPPP and a monitoring plan for the site.

In addition, BART Facilities Standards , requires BART contractors to develop an Erosion and Sediment Control Plan to prevent erosion and sedimentation impacts during construction activities. BART Facilities Standards also requires that BART contractors comply with all applicable federal, State, and local laws, orders, and regulations concerning the prevention, control, and abatement of water pollution.

Impacts

a) **Less-than-Significant Impact.** The proposed project would result in a minor increase in surface water pollutants from construction activities. Temporary water quality impacts could result if disturbed and eroded soil, petroleum products, and miscellaneous wastes may be discharged to receiving waters, specifically, San Francisco Bay, during construction of the proposed project. Soil and associated contaminants that enter stream channels can increase turbidity, stimulate the growth of algae, increase sedimentation of aquatic habitat, and introduce compounds that are toxic to aquatic organisms.

However, substantial soil erosion would not occur under project construction, and all earth moving activities would be contained within the paved areas of the project site. The proposed project would also be required to comply with BART Facilities Standards. Given these controls, as well as the limited area of disturbance (0.14 acre), and the temporary nature of construction activities, potential erosion impacts due to project construction would be less than significant. Coverage under the General Permit for construction stormwater discharges is not required for construction projects disturbing less than 1 acre of area, because such small projects generally have minimal water quality impacts. The OKS facility is covered under the State's General Permit for Stormwater Discharges Associated with Industrial Activities and the facility's existing SWPPP and monitoring plan would need to be amended to include the proposed project under NPDES regulations. Inclusion in the OKS facility's SWPPP and monitoring plan would ensure that runoff during operation of the proposed project would be less than significant.

b) **No Impact.** The proposed project would not involve construction practices or facilities that would substantially intercept or change the nature or occurrences of groundwater resources at the project site. The proposed project would not involve groundwater injections, nor is it located over a natural recharge zone. Consequently, there would be no groundwater augmentation nor would changes in surface infiltration characteristics affect groundwater recharge. Additionally, the OKS facility receives all of its water from Oakland's municipal supply, which is entirely sourced from surface water. Therefore, there would be no impacts related to local groundwater depletion.

c) **Less-than-Significant Impact.** The proposed project would construct a 20-foot by 12-foot by 10-foot concrete base for the shelter on asphalt paving, and would not substantially alter the drainage pattern on the project site. However, during the construction phase of the proposed project, ground disturbance and removal, trenching, and concrete laying could disturb surface soils. Substantial hauling of material to and from the site is not anticipated. Soil erosion and sedimentation during the construction period could affect the quality of runoff into local drainages. However, as discussed above, these impacts would be limited and temporary in nature and offset by the implementation of erosion and sediment control measures as required by BART Facilities Standards.

Since there are no streams or rivers within the project vicinity, the proposed project would not alter the course of a stream or river, nor would it result in erosion and siltation impacts on- or off-site.

d) **No Impact.** The proposed project would not substantially alter the drainage pattern on the project site. The proposed project would not increase the impervious surface area of the site and because it is already entirely paved, it would not affect the existing rate and amount of runoff from the project site. Therefore, implementation of the proposed project would not result in flooding on- or off-site. Since there are no streams or rivers within the project vicinity, the proposed project would not alter the course of a stream or river, nor would it result in significant flooding on- or off-site.

e) **Less-than-Significant Impact.** Because the project site is currently entirely paved, construction of the proposed project would not increase the amount of impervious surface present in the project vicinity. Thus, stormwater runoff generated at the project site would not increase. As discussed above under "Hydrology and Water Quality" items a) and b) above, construction-related surface runoff would not result in substantial water quality pollution. This impact is considered less than significant.

f) **No Impact.** The proposed project would not have water quality impacts other than those addressed in "Hydrology and Water Quality" items a), c), and e) above.

g) **No Impact.** The proposed project would not include housing. Therefore, the proposed project would have no impact on housing in flood hazard areas.

h) **No Impact.** As discussed above, the project site is not in a FEMA-designated floodplain, however, the project site is within an area designated by Oakland's Flood Hazard Map as likely to experience a 100-year flood event. The proposed project would not include construction of a barrier and would not place structures which would impede or redirect flood flows within this 100-year flood hazard area. There is no impact.

i) **No Impact.** The nearest dam to the project site is at the 12th Street Bridge in Oakland, that creates present day Lake Merritt, approximately 1 mile northeast from the project site. According to the Association of Bay Area Governments (ABAG), the project site is not within a dam inundation zone. Thus, the proposed project would not expose people to flood hazards resulting from dam failure. Additionally, failure of any levee along the eastern San Francisco Bay shoreline would not result in inundation of the project site because the levees are approximately at the elevation of mean sea level (msl), while the project site is at approximately 10 feet msl. Thus, the proposed project would not expose people to flood hazards resulting from levee failure.

j) **No Impact.** The project site is not within or adjacent to a creek. The proposed project is approximately 1 mile from Lake Merritt. Lake Merritt is approximately 140 acres and 8 to 10 feet deep. Because Lake Merritt is so small, any oscillation created in its waters during a major earthquake (M_w 7.0 to 8.0) is not likely to create water movement that would be powerful enough to significantly damage structures or threaten people at the project site. Available published tsunami and seiche models for the San Francisco Bay indicate that the project vicinity would be subject to a maximum of 4.7 feet of wave run-up from the San Francisco Bay during the 100-year event, and a maximum of 7.5 feet of wave run-up during the 500-year event. There is very low threat of waters from the San Francisco Bay reaching the project site because it is separated from the San Francisco Bay by Alameda

Island and from the channel (Oakland Inner Harbor) between the island and the mainland by numerous warehouses and roadway embankments. Therefore, any oscillation from San Francisco Bay waters would not be expected to reach the project site. As discussed above under "Geology and Soils", the relatively flat, paved terrain of the project site and surroundings are not susceptible to landslide or mudflow. Based on this information, development at the project site is not expected to result in impacts related to seiche, tsunami, or mudflow hazards.

9. LAND USE					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Physically divide an established community?	☐	☐	☐	■	1,2
b. Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■	2,3,5,21
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■	3

Setting

Under State law, BART is exempt from local General Plans, zoning ordinances, and other land use regulations. Accordingly, any inconsistency with such plans, ordinances, and regulations is not considered an impact subject to mitigation. Nevertheless, BART wishes to inform the public and local jurisdictions the extent to which its projects are consistent with such local requirements. Accordingly, land use information from the Oakland *General Plan* and Municipal Code in this section is provided for informational purposes only.

Existing land uses in the project vicinity are primarily industrial. The project site is bordered by a mix of commercial businesses (i.e., automotive repair yards), offices, and mixed residential and commercial neighborhoods to the east. Industrial warehouse uses are to the north. As discussed earlier, the project site is within the OKS facility which currently consists of several sheet metal buildings, at 601 A, 601 B, and 608 East 8th Street, in addition to stored equipment and vehicles. The project site contains a scattering of metal cargo containers, metal lockers, and other machinery and equipment (see Figure 2). The project site is entirely paved in asphalt, devoid of landscaping, and surrounded by a chain link fence. The project site is bound by 5th Avenue to the north, East 8th Street to the east, and the UPRR tracks to the west, which run parallel with I-880 immediately further west. Laney College's sports fields and track are situated approximately 600 feet northeast of the project site on East 8th Street.

The project site is designated in Oakland's *General Plan* as Business Mix, which accommodates a mix of commercial uses such as light industrial, manufacturing, food processing, commercial, bioscience, research and development, transportation services, warehouse and distribution, office, and other similar uses. The area to the east of the project site is designated as Housing and Business Mix.

The project site is zoned M-10 (Special Industrial Zone), which allows for civic, commercial, and manufacturing activities including limited child-care, administrative, telecommunications, food sales, medical

service, business and financial services, wholesale sales, fee parking, custom and light manufacturing, and other related services. Zoning designations for adjacent land uses include C-40 (Community Thoroughfare Commercial Zone) to the east and M-10 to the north and west. Figure 3 illustrates zoning designations in the project vicinity. The M-10 district also designates maximum heights, lot frontage, minimum yard space, and landscaping. Oakland Municipal Code, Chapter 17.128, Telecommunications Regulations, which is part of the planning code, states that when a tower is adjacent to a residential use, it must be set back from the nearest residential lot line at a distance at least equal to its total height. As part of the local planning code this regulation is not applicable to BART, as noted above.

Impacts

a) **No Impact.** The proposed project would be constructed entirely within the existing OKS facility. None of the adjacent areas, including the residential neighborhood to the east of the project site, would be altered or divided; therefore the proposed project would not divide an established community.

b) **No Impact.** The proposed project, as part of the BART Seismic Retrofit Program, is compatible with the BART Strategic Plan and most notably with the Physical Infrastructure focus area of the plan which strives to "Sharpen our focus on the repair, maintenance, and renovation of our system to reduce system failures and improve service and reliability". As such, the proposed project would not conflict with any plans, policies, or regulations of an agency with jurisdiction over the project.

The proposed radio tower facilities would not conflict with adjacent land uses and would be compatible with existing allowable uses and zoning designations. The proposed project would, however, conflict with the Oakland Municipal Code ordinance that requires telecommunications towers to be set back from the nearest residential lot line at a distance at least equal to its total height. Though residential uses are not considered to be adjacent[3] to the project site, the approximately 250-foot-tall radio tower would be approximately 200 feet from the nearest residence. Because BART is exempt by State law from such local requirements, this inconsistency is not considered a significant impact.

c) **No Impact.** The project site and its surrounding lands are not included in any habitat or natural community conservation plans and implementation of the proposed project would not conflict with any such plans.

[3] In the absence of a specific definition of "adjacent" within the Municipal Code, the Merriam-Webster Dictionary definition of "adjacent" is "having a common endpoint or border" and "immediately preceding or bordering".

10. MINERAL RESOURCES					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■	2,3
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	■	2,3

Impacts

a-b) **No Impact.** The project site is not located on or in the vicinity of valuable regional or state mineral resources; therefore the proposed project would not impact known valuable mineral resources.

11. NOISE					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐	24
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐	24
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	■	1
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐	1,24
e. For a project located within an airport land use plan, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■	2
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■	2

Background

Sound is created when objects vibrate, resulting in air pressure variations characterized by their amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude is the decibel (dB). The decibel scale is logarithmic; it describes the physical intensity of the pressure variations. The pitch of the sound is related to the frequency of the pressure variation. The human ear's sensitivity to sound is frequency-dependent. The A-weighted decibel scale (dBA) measures sound intensity while discriminating against frequencies in a manner approximating that of the human ear.

Noise is "unwanted" sound. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background is the noise from individual distinguishable local sources, such as aircraft overflights or traffic on an adjacent roadway.

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches

per second and is referenced as vibration decibels (VdB). Groundborne vibration levels vary from approximately 50 VdB, which is the typical background vibration velocity level that is barely perceptible by humans, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

Setting

Land uses in the vicinity of the project site include residential, commercial, industrial, and recreational uses. The project site is zoned for industrial uses and is between the BART railway to the northeast and the UPRR tracks to the southwest. The project site is within 200 feet of noise-sensitive residential uses. Existing noise sources at the project site include roadway traffic, industrial activities, and periodic train noise. During BART train operation hours, BART noise is the primary noise source in the project vicinity. With a BART passby noise level of approximately 86 dBA at the nearest residence, BART train noise results in an L_{eq}[4] hourly of approximately 71 dBA during peak hours.

BART has adopted the Federal Transit Administration (FTA) noise and vibration impact thresholds as part of its facilities standards. The FTA noise standards for operational noise are based on a sliding scale that allow increasing project noise levels as existing noise levels increase. For example, under FTA standards an area with an existing noise exposure level of 50 dBA would have an allowable project contribution of up to 53 dBA and an area with an existing noise level of 60 dBA would have an allowable project contribution of up to 57 dBA. The FTA does not establish criteria for construction noise impacts other than to suggest that an impact would occur in residential areas if construction noise would result in a daytime 8-hour L_{eq} of 80 dBA or above, or a nighttime L_{eq} of 70 dBA or above.

The BART Facilities Standards contains construction noise criteria that limit the generation of continuous and intermittent noise levels as a result of operating construction equipment. BART Facilities Standards apply to all BART construction activities, including those undertaken with the proposed project. The construction noise criteria used by BART are generally consistent with, but in some circumstances even more restrictive than, those recommended by the State of California Office of Noise Control in its *Model Noise Control Ordinance*.

The BART construction noise standards are specified in terms of the temporal nature of the noise (i.e., continuous or intermittent), the time of day, and the sensitivity of the affected receptor. These standards are indicated in Tables 1 and 2, below. Continuous noise standards are applied to prevent noises from stationary sources, parked mobile sources, or any source or combination of sources producing repetitive or long-term noise lasting more than a few hours from the limits indicated. Intermittent noise standards are applied to prevent noises from non-stationary mobile equipment operated by a driver or from any source of non-scheduled intermittent, non-repetitive, short-term noises not lasting more than a few hours from exceeding the limits indicated.

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[4] L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise, usually measured over one hour. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. L_{eq} values do not include a penalty for noise that might occur at night.

Table 1
Limits for Continuous Construction Noise

	Maximum Allowable Continuous Noise Level, dBA	
	Daytime	**Nighttime**
Residential		
Single-family Residential	60	50
Along an Arterial or Multi-family Residential Area, including Hospitals	65	55
Semi-residential/Commercial Areas, including Hotels	70	60
	At All Times	
Commercial		
Semi-residential/Commercial Areas, including Schools	65	
Commercial Areas with no nighttime residency	70	
Industrial		
All Locations	80	

Source: BART Facilities Standards, Standard Specifications, Division 1 Spec 01 57 00 Temporary Controls, Section 1.11, Noise Control, 2004.

Note: Noise limits apply at 200 feet from the construction limits or at the nearest affected building, whichever is closer.

Table 2
Limits for Intermittent Construction Noise

	Maximum Allowable Intermittent Noise Level, dBA	
	Daytime	**Nighttime**
Residential		
Single-family Residential	75	60
Along an Arterial or Multi-family Residential Area, including Hospitals	75	65
Semi-residential/Commercial Areas, including Hotels	80	70
Commercial	**At All Times**	
Semi-residential/Commercial Areas, including Schools	80	
Commercial Areas with no nighttime residency	85	
Industrial		
All Locations	90	

Source: BART Facilities Standards, Standard Specifications, Division 1 Spec 01 57 00 Temporary Controls, Section 1.11, Noise Control, 2004.

Note: Noise limits apply at 200 feet from the construction limits or at the nearest affected building, whichever is closer.

The BART Facilities Standards also include construction vibration criteria that would apply to all land uses including vibration sensitive receptors, such as residences, schools, and hospitals. These criteria are shown in Table 3, below.

Table 3
Limits for Construction Vibration

Vibration Type and Possible Aggregate Duration	Limit
Sustained ($\geq$ 1 hour/day)	0.01 in/sec (80 VdB)
Transient ($<$ 1 hour/day)	0.03 in/sec (90 VdB)
Transient ($<$ 10 minutes/day)	0.10 in/sec (100 VdB)

Source: BART Facilities Standards, Standard Specifications, Division 1 Spec 01 57 00 Temporary Controls, Section 1.11, Noise Control, 2004.

Note: Vibration limits apply at 200 feet from the construction limits or at the nearest affected building, whichever is closer.

Impacts

a) Less-than-Significant Impact with Mitigation Incorporated. Operation of the radio tower equipment would not generate any noise. In addition, there would be no new employees associated with operation of the radio tower such that new vehicular trips would be necessary and no new roadway noise would be generated by project operation. (See item (d), below, regarding periodic noise from the standby emergency generator.) Therefore, the analysis of potential noise impacts is focused on construction activities.

Project construction activities would result in increased noise levels in the project vicinity. Construction activities would require the use of heavy equipment during earth moving and removal, concrete work, aerial tower structure assembly, and trenching. The duration of construction activity at the project site would be approximately 35 days and would occur primarily during daytime hours. The use of heavy equipment at the project site would result in noise impacts at nearby receptors. Land uses in the project vicinity include single-family residences approximately 200 feet from the construction areas.

As shown in Tables 1 and 2, the BART Facilities Standards establish maximum exposure levels for all land uses within 200 feet of the project site. The BART Facilities Standards were established to prevent exposure of sensitive receptors to excessive noise. These criteria meet the standards established by the State of California Office of Noise Control, and their application would be sufficient to protect the public from exposure to excessive noise levels. Table 4 shows average noise levels for construction equipment with and without feasible noise control measures. Noise generating equipment used during project construction would be required to comply with BART's Facilities Standards for residential properties. For daytime construction, the maximum allowable continuous noise level is 60 dBA and the maximum allowable intermittent noise level is 75 dBA. With project construction

activities, there would be some equipment that would result in a potential impact at the nearest residential property with noise levels up to 79 dBA, which would be above the 75 dBA standard for intermittent construction noise. This impact would be considered potentially significant. However, implementation of the following mitigation measure would reduce noise levels below the standard to approximately 63 to 68 dBA for all equipment that would be used during project construction. Therefore, construction-related noise would not be expected to result in exposure of persons to or generation of noise in excess of the standards. With implementation of the following mitigation measure this impact would be considered less than significant.

> **Mitigation Measure 6. Implement Noise Control Devices and/or Measures to Minimize Excess Noise from use of Construction Equipment.** During project construction, the construction contractor shall implement noise control devices and/or measures to reduce potential excess noise from use of constriction equipment. Standard noise control measures and devices may include, but are not limited to the following: installation of engine mufflers, surrounding stationary equipment with noise barriers, and/or selection of more quiet machinery.

b) **Less-than-Significant Impact.** As discussed above, project construction activities would require the use of heavy equipment during earth moving and removal, concrete work, aerial tower structure assembly, and trenching. The duration of construction activity at the project site would be approximately 35 days and would occur primarily during daytime hours. The use of heavy equipment at the project site would result in vibration impacts at nearby receptors. Land uses in the project vicinity include single-family residences approximately 200 feet from the construction areas. As shown in Table 3, the BART Facilities Standards establish maximum exposure levels for all land uses within 200 feet of the project site. These criteria have been found by BART to minimize significant annoyance on sensitive receptors and are low enough to avoid the possibility of damage to fragile buildings. Because project construction would be required to be in compliance with the established BART Facilities Standards, project construction would not result in the exposure of persons to excessive groundborne vibration or groundborne noise. This impact is considered less than significant.

c) **No Impact.** Operation of the radio antenna equipment would not emit any noise. In addition, the project would not require any new employees at the project site such that new vehicular trips would be necessary and no new roadway noise would be generated by project operation. Therefore, the proposed project would not result in a permanent increase in ambient noise levels.

Table 4
Average Noise Levels of Construction Equipment with and without Controls (dBA)

	Noise Level at 50 feet		Noise Level at 200 Feet	
Equipment	**Unabated**	**With Feasible Noise Control[a]**	**Unabated**	**With Feasible Noise Control[a]**
Earthmoving				
Front Loaders	79	75	67	63
Backhoes	85	75	73	63
Dozers	80	75	68	63
Tractors	80	75	68	63
Scrapers	88	80	76	68
Graders	85	75	73	63
Trucks	91	75	79	63
Pavers	89	80	77	68
Materials Handling				
Concrete Mixer	85	75	73	63
Concrete Pump	82	75	70	63
Crane	83	75	71	63
Derrick	88	75	76	63
Stationary				
Pumps	76	75	64	63
Generator	78	75	66	63
Compressors	81	75	69	63
Impact				
Jack Hammers	88	75	76	63
Pneumatic Tools	86	80	74	68
Pile Driver (Impact)	101	95	89	83
Other				
Saws	78	75	66	63
Soil Vibrators/ Compactors	76	75	64	63

Source: U.S. Environmental Protection Agency. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances,* December 1971.

Note:

a. Feasible noise control methods include installation of noise control devices (e.g., mufflers), selection of quieter machinery from among available equipment and/or implementation of noise-control measures (e.g., surrounding stationary equipment with noise barriers), all of which require no major equipment redesign.

d) **Less-than-Significant Impact.** Project construction activities would result in temporary and/or periodic increases in the ambient noise levels in the project vicinity. See item (a) for discussion of construction noise.

The proposed project would also include a standby emergency generator, which would be operated only in the event of emergencies or periodic testing and would not constitute an on-going source of noise. As discussed above in Section 3, Air Quality, BART would be required to obtain an operating permit for the standby emergency generator. Provisions of the BAAQMD permit would limit the number of hours of operation for testing and maintenance of the standby emergency generator to 20 hours per year. Testing and maintenance would be expected to occur during normal business hours for approximately 30 minutes per month; therefore, noise associated with operation of the generator would only occur during the daytime hours and would not be considered a continuous source of noise.

Based on average construction generator noise levels as described in Table 4, the standby emergency generator would not have the potential to generate noise levels in excess of the BART Facility Standards standard of 75 dBA for intermittent noise at a sensitive receptor location. In addition, as described above, the existing L_{eq} hourly noise levels for nearby residents with peak hour BART passby noise would be approximately 71 dBA. The addition of a temporary noise level of 63 dBA from the generator to the existing ambient noise level would not cause a substantial increase to the existing peak hour L_{eq}. Therefore, any periodic noise associated with the operation of the standby emergency generator would be considered less than significant.

e-f) **No Impact.** There would be no noise impact due to proximity to a public airport or private airstrip because the project is not located within the vicinity of a public airport or private airstrip.

12. POPULATION AND HOUSING					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Induce substantial population growth in an area, either directly or indirectly?	☐	☐	☐	■	1,2
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■	1,2
c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■	1,2

Impacts

a-c) **No Impact.** The proposed project would not involve structures utilized by people, housing, or elements that would induce growth or employment in the area. No people or housing would be displaced and no new or replacement housing would be necessitated by the proposed project. As such, the proposed project would pose no impact on population and housing.

13. PUBLIC SERVICES					
	Potentially Significant Impact	Less-than-Significant With Mitigation Incorporated	Less-than-Significant Impact	No Impact	Information Source(s)
Would the project:					
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	■	1,22
a. Fire protection?	☐	☐	☐	■	1,22
b. Police protection?	☐	☐	☐	■	1,22
c. Schools?	☐	☐	☐	■	1,22
d. Parks?	☐	☐	☐	■	1,22
e. Other public facilities?	☐	☐	■	☐	1,22

Impacts

a-d) **No Impact.** The proposed project would construct a radio tower and ancillary facilities at the project site. As discussed above under "Population and Housing", an increase in on-site population or employment would not result from the proposed project. Therefore, the proposed project would not cause an increase in demand for any public services over current uses at the site. Local public services would not be affected by the proposed project, including the Oakland Fire Services Department, the Oakland Police Department, the Oakland Unified School District, parks in the area, or other public facilities since existing uses and operations at the OKS facility would remain during project construction and operation. There are no project activities that would be expected to increase the need for fire or police protection.

e) **Less-than-Significant Impact.** BART service on the Alameda, Livermore, Richmond, and Daly City-lines (A-, L-, R-, and M-lines) would temporarily be held for approximately 10-minute durations during tower erection activities. Tower erection activities would likely require safety monitoring by both BART and UPRR. Provisions for BART safety monitoring would be included in the construction contract document. Service delay notices would be publicly posted prior to commencement of construction activities. Because BART service delays would be temporary and normal service would resume upon project completion, the proposed project would have a less-than-significant impact on BART service.

14. RECREATION					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■	1,2
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■	1,2

Impacts

a-b) **No Impact.** The proposed project would construct a communication tower and associated support facilities and would not affect parks or recreational facilities in the vicinity, nor would it require the construction or expansion of recreational facilities. Therefore, there is no impact.

15. TRANSPORTATION/CIRCULATION					
	Potentially Significant Impact	**Less-than-Significant With Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**	**Information Source(s)**
Would the project:					
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	☐	☐	■	☐	1,2
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	■	1,2
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	■	1,2
d. Substantially increase hazards due to a design feature or incompatible uses?	☐	☐	☐	■	1,2
e. Result in inadequate emergency access?	☐	☐	☐	■	1,2
f. Result in inadequate parking capacity?	☐	☐	☐	■	1,2
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	■	1,2,3

Setting

Primary roads used to access the project site are 5th Avenue, East 8th Street, and the UP-owned service road immediately west of the project site.

Impacts

a) **Less-than-Significant Impact.** Operation of the proposed project would not cause an increase in traffic to and from the project site, as there would be no new employees associated with operation of the radio tower such that new vehicular trips would be necessary. Construction-related traffic would be temporary and would use existing access roads, primarily the UP-owned service road. At the peak of construction, it is estimated that construction-related traffic would be limited to approximately 12 to 15 vehicle trips per day, and is therefore considered a less than significant impact.

b) **No Impact.** Level of service standards apply to long-term traffic levels. As noted above, project operations would not cause any long-term increase in traffic levels.

c) **No Impact.** The project site is not located within close proximity to an airport and would not affect air traffic patterns. The proposed project would require approval from the FAA, including height limit requirements for the proposed tower. As the proposed project is expected to comply with FAA requirements, there would be no impact to air traffic patterns.

d) **No Impact.** The proposed project would not include modification to existing roadways or construction of new roadways. All existing roadways would remain intact and no hazards due to a design feature or incompatible uses would result from the proposed project.

e) **No Impact.** The proposed project would not result in inadequate emergency access to the site. Main access to the project site and to the proposed communication tower facility upon its completion would be via the UP-owned service road on the western border of the project site.

f) **No Impact.** The proposed project would not increase demand for parking at the project site. As noted above, there would be no new employees associated with operation of the radio tower to generate parking demand. All project-related vehicular construction equipment would be stored immediately to the west of the BART property line on the UP-owned service road. All non-vehicular equipment would be staged on the OKS facility. Therefore, the proposed project would not result in inadequate parking capacity.

g) **No Impact.** As noted in "Public Services," above, temporary service interruptions would occur to the BART system during erection of the proposed communication tower. BART service would be temporarily halted for about one 10-minute period per hour while the construction crane boom moves each tower piece into place. The service interruptions would be noticed and publicly posted prior to commencement of construction activities to minimize significant changes in transit operations. The proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation.

16. UTILITIES AND SERVICE SYSTEMS					
	Potentially Significant Impact	Less-than-Significant With Mitigation Incorporated	Less-than-Significant Impact	No Impact	Information Source(s)
Would the project:					
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	■	1,22
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	■	1,22
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	■	1,22
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	■	1,22
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■	1,22
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	■	1,22
g. Comply with federal, state and local statues and regulations related to solid waste?	☐	☐	☐	■	22

Impacts

a-g) **No Impact.** The proposed project does not involve any utility or service system changes at the project site. The proposed project would construct a communication tower and associated support facilities. As discussed above under "Population and Housing", an increase in on-site population or employment would not result from the proposed project. Accordingly, no increased demand for utilities and service systems would result from implementation of the proposed project. The proposed project would not exceed wastewater treatment requirements; require expansion or construction of new wastewater treatment facilities; or require expansion or construction of new stormwater drainage facilities. The proposed project would not alter water consumption rates or wastewater generation volumes at the project site, and thus availability of sufficient water supplies and wastewater treatment capacity would continue to serve the project site. The proposed project would not significantly change the solid waste disposal rates at the project site because no waste generation is expected to occur from the project's operation, and thus sufficient landfill capacity would remain. Lastly, the proposed project would

comply with all applicable federal, State, and local statutes related to solid waste disposal during construction.

MANDATORY FINDINGS OF SIGNIFICANCE		
	YES	**NO**
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?	☐	■
b. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	☐	■
c. Would the project cause substantial adverse effects on human beings, either directly or indirectly?	☐	■

a) The proposed project does not have the potential to adversely affect fish, wildlife, or plant species or habitat, including special status species because the project is located within an industrial facility in an existing urban area.

b) The proposed project has the potential to contribute to the cumulative air quality issues related to dust and particulate matter during construction. Mitigation measures have been incorporated into the project so that cumulatively considerable air quality impacts are not expected.

c) The project has the potential to have adverse aesthetics, air quality, hazardous materials, and noise impacts on people in the project area. Mitigation measures have been incorporated into the project to reduce these impacts to a less-than-significant level.

B. INFORMATION SOURCE DOCUMENTATION LIST

1. EIP Associates' staff expertise and experience on similar projects.
2. EIP Associates, field visit, December 15, 2005.
3. City of Oakland *General Plan,* March 1998 and June 1996.
4. California Farmland Mapping and Monitoring Program.
5. City of Oakland Municipal Code.
6. Metropolitan Transportation Commission, Final Transportation Air Quality Conformity Analysis for Transportation 2030 Plan and 2005 Transportation Improvement Program Amendment #05-05, February 11, 2005.
7. Bay Area Air Quality Management District, CEQA Guidelines, December 1999.
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9. William Self Associates, Technical Memo to BART, February 2006.
10. BART, Seismic Vulnerability Study, Bechtel Infrastructure Corporation, http://www.bart.gov/docs/eqs/BART_Seismic_Study.pdf.
11. ABAG, USGS Official Map of Alquist-Priolo Earthquake Fault Zones, September 2004.
12. California Department of Conservation Division of Mines and Geology, Maps of Known Active Faults Near-Source Zones in California and Adjacent Portions of Nevada, 1998.
13. United States Geologic Survey, Liquefaction Hazard Map of Alameda, Berkeley, Emeryville, Oakland, and Piedmont, California.
14. BART, BART Facilities Standards, Standard Specifications, Division 1 Spec 01 57 00 Temporary Controls, Section 1.08 Erosion and Sediment Control.
15. United States Department of Agriculture, Natural Resources Conservation Service (formerly the Soil Conservation Service), *Soil Survey of Alameda County, California, Western Part*, 1981.
16. Goldman, H.B., "Geology of San Francisco Bay," in *Geologic and Engineering Aspects of San Francisco Bay Fill*, H.B. Goldman, editor, California Geological Survey (formerly the Division of Mines and Geology), Special Report 97, San Francisco, California, 1969, pages 9 through 29, 6 figures, 3 tables, 4 plates, map scale 1:79 200, see Plate 4 'Thickness of Younger Bay Mud.
17. BASELINE Environmental Consulting, 2005, Phase I Environmental Site Assessment, BART OKS Radio Tower Site, Oakland, California, December 20.
18. Western Regional Climate Center, California Climate Summary for Oakland WSO AP, Online at http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?caokap+sfo, site visited December 20, 2005.
19. Federal Emergency Management Agency, Flood Hazard Areas map, 2005.
20. East Bay Municipal Utility District, Annual Water Quality Report, 2004.
21. San Francisco BART, BART Strategic Plan, Adopted 1999, Updated 2003.

22. Oakland Office of Planning and Building, Oakland General Plan Update, Oakland Community Services Technical Report #5, October 1995.

23. Garcia, A.W., and J.R. Houston, *Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound*, United States Army Corps of Engineers Technical Report H-75-17, Hydraulics Laboratory, United States Army Engineers Waterways Experiment Station, Vicksburg, Mississippi, November 1975, Figure 32.

24. BART, BART Facilities Standards, Standard Specifications, Division 1 Spec 01 57 00 Temporary Controls, Section 1.11 Noise Control.

25. Alameda County Clean Water Program, Work Plan for Implementation of NPDES Permit Provision C.10, May 28, 2003.

26. Environmental Vision, Technical Memo for BART OKS Radio Site Project, December 2005.

Appendices

Appendix A – Environmental Vision Technical Memo
Appendix B – Phase 1 Site Assessment
Appendix C – Radio Frequency Radiation Analysis

Appendix A
Environmental Vision Technical Memo

Aesthetics

BART Communication Tower Relocation

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3.0. Evaluation of Visual Effects
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1.0 Introduction

The purpose of this study is to document the existing visual resources in the project study area and to assess the potential visual impacts that might occur as a result of the proposed Oakland Shops (OKS) Radio Site Project construction and operation. Where applicable, feasible mitigation measures are identified to address anticipated visual impacts.

This analysis of the project's visual effects is based on field observations and review of project maps and technical data; aerial and ground level photographs of the project area; and computer-generated visual simulations. Site reconnaissance was conducted during December 2005 in order to observe the project area, to take representative photographs of existing visual conditions and to identify key public views appropriate for simulation.

2.0 Urban Context and Visual Setting

2.1 Urban Context

The project lies close to the I-880 freeway at the northwest edge of a mixed use area known as Oakland's San Antonio district. Figure 1, an aerial photograph of the project site and surroundings, conveys a sense of the site's urban context and visual setting. Bounded by 5th Avenue to the north and East 8th Street to the east, the triangular-shaped project site occupies relatively flat, urbanized land. As shown in the aerial photo, the site is wedged between the Union Pacific rail yard and rail line tracks on the west and the BART tracks on the east. The I-880 freeway, a six-lane heavily traveled freeway corridor, lies immediately west of the rail corridor. To the east, a variety of predominantly one and two story structures house a mixture of industrial, residential, and commercial uses. The general area has an industrial/mixed use urban character. Near the rail corridor open yard storage areas are interspersed with buildings and other structures. Limited amounts of vegetation including landscaping at residential properties and sporadic street tree plantings are found in the vicinity. The Laney College sports fields and track, situated on East 8th Street, lie approximately 600 feet northeast of the project site. In addition Clinton Square and Channel Park, located roughly a quarter

mile to the east and north respectively, are both landscaped with ornamental trees and lawn. Photographs showing representative public views of the project site and surrounding area are presented on Figures 3 through 5. Figure 2 depicts the photo viewpoint locations.

2.2 Project Site

The OKS Radio Site occupies roughly 0.2 acre at the southeast corner of the 5.8-acre BART Oakland Shops (OKS) facility. The overall OKS site, occupied by several low metal buildings, vehicle storage areas, and miscellaneous equipment, has an open yard/industrial character. Photos 1 through 4 are close range views of the project site looking across the BART tracks from East 8th Street and Park Way (Figure 3). As shown in these photos, the site is currently paved with asphalt and enclosed by chain link fencing topped with barbed wire. Several security lights, mounted on 50-foot-tall steel poles, and a cellular radio tower which is about 60 feet tall are situated on the site. Also located on the site are several metal cargo containers, metal lockers, and various machinery and equipment. With the exception of scattered shrubby weeds and one tree situated on its western edge, the site is void of vegetation.

2.3 Public View Corridors

Photo 5 is a view looking toward the site from Clinton Square, located to the northeast at International Boulevard between 6th and 7th Avenue. Views from this open space encompass the park landscape in the foreground with various buildings and streetscape elements seen beyond. The site itself is not visible from this location. Photos 7 and 8 convey the vicinity's mixed use urban character which includes a predominance of low rise industrial buildings and limited presence of vegetation. These 8th Avenue streetscape views, taken respectively at International Boulevard and at East 10th Street, encompass utility poles and streetlights in addition to existing buildings. Due primarily to the presence of intervening buildings the site is barely visible from these locations. Photo 8 is a close range view of the site taken near one of the residences located in proximity to the project. As seen from this location at East 8th Street and 9th Avenue, the site appears beyond street trees and the BART train (Photo 8).

The project site is also visible from places to the west, including points along the heavily traveled I-880 freeway. Due to its relatively high traffic volume, the I-880 view corridor represents the location where the greatest number of viewers would see the proposed project. Photos 9 and 12, taken respectively from north and southbound I-880 convey a sense of the freeway's existing visual character in the project area. Foreground views from the roadway encompass numerous moving vehicles and low rise industrial and commercial development situated along both sides of the freeway. Highway signs, light standards and utility poles are also visible. In views to the east, the railroad tracks appear in the foreground with the Oakland hills in the landscape backdrop. Photo 10 and 11, taken respectively from the Embarcadero roadway and from the Bay Trail Pier are more distant views looking toward the project from the southwest, more than a half mile away.

Representative views looking toward the site from the north are shown in Photos 13 through 16. Photo 13, taken from 6th Avenue at East 8th Street, is a close range view which encompasses nearby residences in the foreground. The BART tracks and numerous light standards and utility poles are also visible in the foreground. Views from the Channel Park open space area encompass foreground landscaping and sculpture as well as portions of the adjacent Laney College (Photos 15 and 16).

2.4 Public Plans and Policies

The proposed project is governed by the policies and regulations of BART and would be exempt from most local policies and regulations. For informational purposes only, the Land Use Section of the project Initial Study Mitigated Negative Declaration provides material from City of Oakland General Plan and Zoning Ordinance pertaining to the project site.

3.0 Evaluation of Visual Effects

3.1 Project Characteristics

BART proposes to construct a new radio site facility on its BART OKS facility. The proposed radio facilities would include a pre-constructed concrete shelter, a steel radio tower of approximately 250 feet in height, and a fixed-placement 15 kilowatt engine generator set. The tower would be neutral gray in color. The shelter and generator would be placed on a new concrete slab foundation. The concrete shelter would be approximately 20 feet by 12 feet by 10 feet.

The radio tower would be located less than ten feet from the concrete shelter. At this time, two design options for the tower are under consideration. The radio tower would either be lattice-style with three footings, or a single monopole with one footing. Site specific engineering data for these design options is not available at this time; however, BART has provided the following general design parameters (Thomas Herold, December 2005) With the lattice tower option, the distance between tower legs would likely be 27 feet at its base and 3 feet at the top. Under the monopole option, the tower would likely be about 6 feet in diameter at its base and 1 foot in diameter at the top. A triangular platform, six feet per side, would be mounted atop a monopole tower to hold four 16 foot antennas. With the lattice-style tower, the four antennas would be mounted directly to the tower structure supports at the top of the tower.

In addition, due to the height of the tower, flashing red beacons or white strobe lights would be required and the Federal Communications Commission (FCC) or Federal Aviation Administration (FAA) may require additional tower markings.

Project construction would take approximately 35 days to complete. Radio tower construction activities would occur primarily during off hours when BART trains are not operating, and nighttime construction is expected to occur. Existing lighting on the site would be sufficient for the proposed construction activities. The exception is that the tower will be raised into place during daylight hours.

3.2 Visual Simulations

Visual simulations, presented as Figures 7A through 9B, show the proposed project's scale, massing and appearance as seen from three selected public viewing locations. Figure 2 shows the simulation vantage point locations. For each vantage point, sets of two visual simulations are presented. The three simulation figures ending with" A" portray the monopole Design Option whereas the three "B" figures depict the lattice tower Design Option. The simulations show the project from the following three representative public viewing locations:

1. East 8th Avenue at 9th Avenue (Figures 7A and 7B),
2. Channel Park west of 7th Street (Figures 8A and 8B), and
3. Southbound I-880 Freeway (Figures 9A and 9B).

The visual simulations have been produced using digital photos taken in December 2005 and computer modeling and rendering techniques. The images are based on design data provided by BART engineers (December 2005).

3.3 Visual Impacts

The assessment of the project's potential visual impacts is based on several evaluation criteria including the extent of project visibility from key public vantage points and the degree of aesthetic compatibility in scale and appearance between proposed project elements and the surrounding urban landscape. The evaluation of potential visual impacts associated with the project is based, in part, on comparing the "before" and "after" visual conditions as portrayed in the simulation images and assessing the degree of visual change that the project would bring about.

3.3.1 Effect on a scenic view

The site occupies a portion of an existing industrial site which is in active use for maintenance functions and parking for maintenance vehicles. In addition welding and steel fabrications take place at the site. The project is situated within an urbanized area of Oakland that includes a variety of mixed industrial, commercial and residential uses. As demonstrated by the photos presented in Figures 3 through 6, the views currently experienced by the public in the project area typically reflect the urbanized character of a mixed industrial/commercial/residential area. None of the streets in the immediate vicinity is a designated scenic route.

The proposed project would introduce a new 250-foot-tall tower element on the site. The project would be visible from nearby public view corridors including I-880 and East 8th Street. The tower would be similar in form and general appearance to existing vertical elements such as street lights and utility poles currently found in the existing urban setting. The new tower would considerably taller than these existing vertical elements, however. The appearance of the proposed project, as seen from representative public vantage points in the surrounding area is discussed below and illustrated in the project visual simulations. The proposed project would introduce a new 250-foot-tall tower element on an existing industrial site located adjacent to an existing railroad corridor, within an urban mixed industrial/commercial residential area. The project would not substantially obstruct existing views of the Oakland hills that are currently seen from areas to the west including from the I-880 corridor. As discussed above, the project would not substantially affect a scenic vista or resource; therefore the impacts would be less than significant.

3.3.2 Effect on the existing visual character or quality of the site and its surroundings

<u>Project Construction</u>

Construction activities associated with building the project would involve the installation of a large scale tower structure and the use of heavy equipment. Project construction would be seen within the context of on-going maintenance and industrial activity that

currently takes place at the OKS facility. Construction activities would be visible to motorists traveling on public roadways including I-880 and East 8th Street. Motorists' views of project construction would be relatively brief in duration, generally lasting less than a minute. Project construction would also be visible from a limited number of residences situated along East 8th Street. Project construction is expected to be completed within a 35-day period. Given the existing active industrial character of the project site and the short-term temporary nature of visible construction activity, project construction would not represent a substantial alteration of the area's visual character.

Project Operation

Changes in the appearance of the project site would result from introducing a new 250-foot-tall tower and ancillary electrical components housed in a concrete shelter structure on a portion of the BART OKS facility site. The proposed project, particularly the new tower, would be visible from a variety of vantage points in the vicinity. Visual simulations, presented as Figures 7A through 9B, show "before" and "after" views of the proposed project as seen under representative viewing conditions.

Figures 7A and 7B portray a "before" and an "after" view of the project from East 8th Street and 9th Avenue, which is less than 900 feet from the proposed tower.

As shown in the simulation, the project would introduce a new vertical element seen within the context of an existing industrial site enclosed by chain link fencing. The tower would be seen beyond foreground vertical elements including street lights and street trees. In terms of its form and general appearance, the monopole design would appear similar to the existing street light standards (Figure 7A). However, given its vertical scale the new tower would be noticeably taller than the existing street lights and other built elements found within this existing urban setting. Due to its vertical scale, the tower would appear visually prominent in relationship to its surroundings when seen at close range. This effect would be particularly noticeable from the existing residences located across from the project, along the northeast side of E. 8th Avenue between the 7th and 9th Avenues. As shown in the Figure 7B simulation, the form of the lattice tower would

also be similar to existing vertical elements; however, due to its slightly more bulky silhouette the lattice tower could appear somewhat more noticeable than the monopole structure.

The Figure 7 simulation images generally represent the level of visual impact that would be experienced from the residential area located in close proximity to the project (less than 1,000 feet away), in cases where views toward the project are relatively unobstructed. The Figure 7 simulation photos portray winter conditions, with bare-branched deciduous trees. It can be assumed that, as seen from some close range viewpoints, the existing deciduous trees situated along E. 8th Street will provide an additional level of screening during spring and summer months.

Channel Park, a landscaped public open space and sculpture garden, lies less than a half mile northwest of the project site. The proposed tower would be visible from some places within Channel Park, although existing intervening vegetation and structures would screen views of the project from many locations within the park. Figures 8A and 8B depict “before” and “after” views of the project from the Channel Park pathway, about 2,000 feet from the project site. As seen from this location, the new tower would be visible above the existing low rise building seen toward the right side of the view. The new tower would be a noticeable new vertical element along the skyline. However, given the presence and scale of existing foreground landscape features, the tower would not appear prominent in relationship to its surroundings. As a result, the project would not substantially alter the overall visual character of the park’s landscape setting.

Figures 9A and 9B portray a “before” and an “after” motorist’s view of the project from the southbound I-880 corridor. The new tower would be visible to motorists from this roadway location, situated about 1,200 feet from the site.. From this perspective, the tower would be noticeable in the foreground, extending above the landscape backdrop into the skyline. The tower would appear within an urban landscape context of the freeway corridor and surrounding development pattern including buildings as well as vertical elements such as light standards, freeway signs and utility poles. A comparison

of the “before” and “after” Figure 9 images indicates that the new tower would represent an incremental visual change which would not substantially alter the visual character experienced by I-880 motorists. The project would not obstruct the views of the Oakland hills in the backdrop. It is anticipated that views of the project would be brief in duration, generally lasting less than a minute. In light of the freeway corridor’s existing urban visual character and the brief duration of project visibility, the project would not substantially affect I-880 motorists’ views.

3.3.3 New source of substantial light or glare

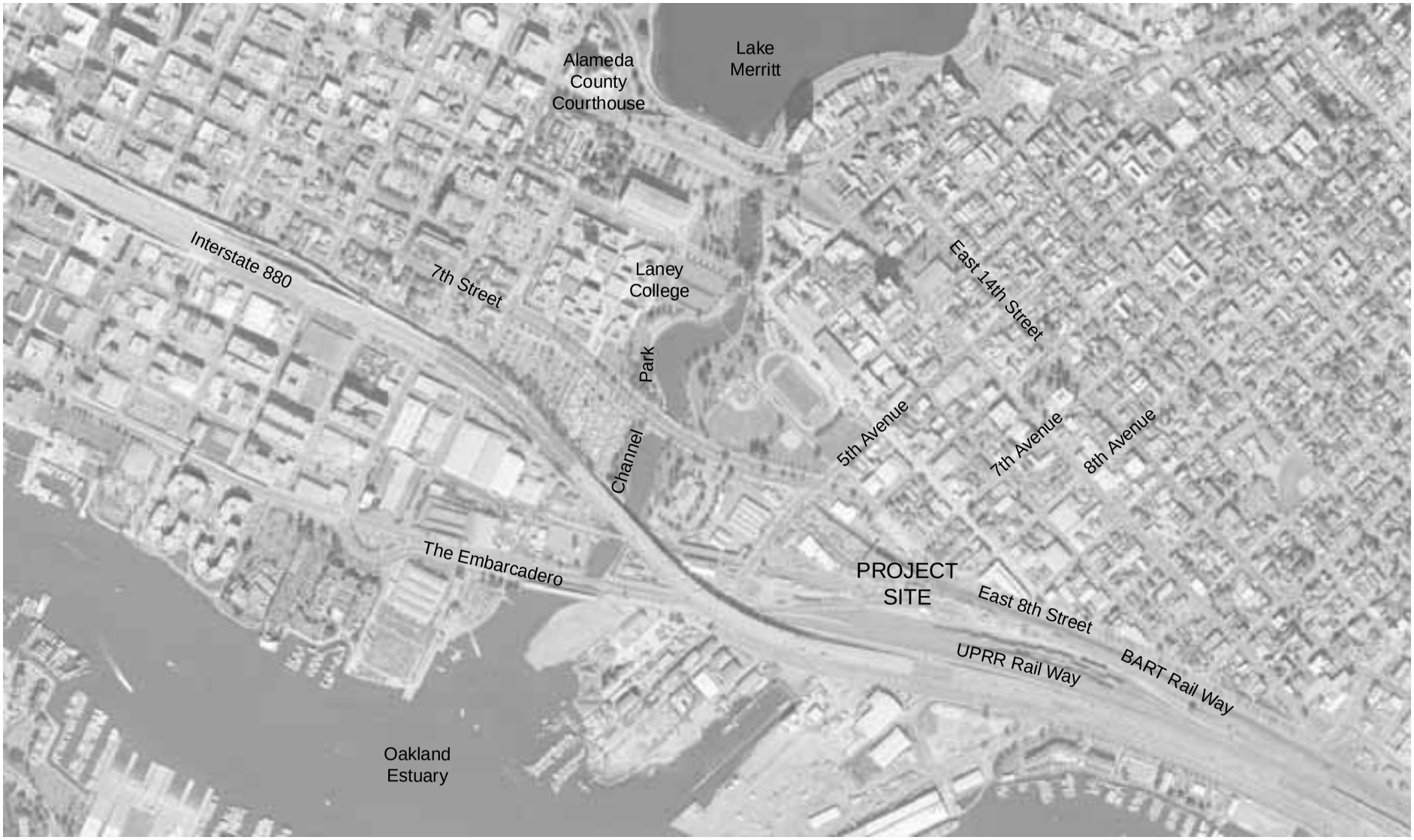
The proposed project would not include nighttime lighting, with the exception of tower lighting required by the FAA. Due to the height of the tower, flashing red beacons or white strobe lights would be required by the Federal Communications Commission (FCC) or Federal Aviation Administration (FAA) for safety purposes; both agencies may also require additional tower markings. The FAA has not yet made its determination as to the specific lighting requirements for the project. Given the project’s proximity residential and roadway viewers, continuous or pulsating red lights could appear less visually intrusive than bright white or strobe lights (if approved by the FCC and FAA, BART intends to utilize continuous or pulsating red lights).

The project is located in an existing urban setting with numerous sources of nighttime lighting including street and security lighting. The introduction of FAA lighting on the new communication tower would represent an incremental change that would not substantially alter current nighttime visual conditions.

The proposed project involves the installation of a steel tower structure. When the tower is seen from the surrounding area under bright lighting conditions including direct sunlight, this material may have the potential to cause some degree of glare.

4.0 Suggested Mitigation Measure

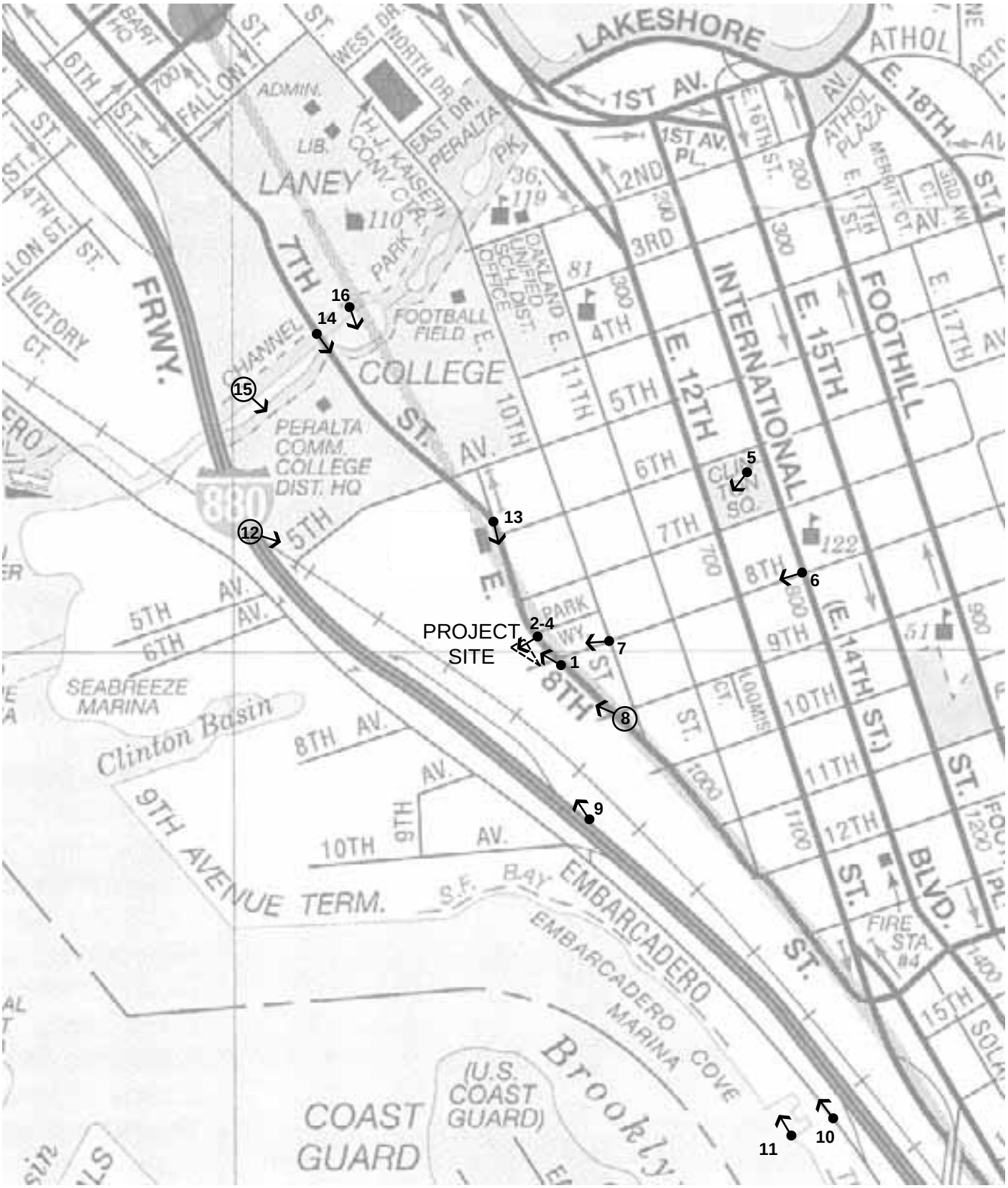
1. In order to reduce potential glare effects, a nonreflective finish should be applied to the tower structure.



0 500 1000 feet
Scale in Feet

ENVIRONMENTAL VISION
010906

Figure 1
Urban Landscape Context
Oakland Shops Radio Site Project



2 Photo Viewpoint

8 Simulation Viewpoint

0 250 500 feet

Figure 2
Photo Viewpoint Locations
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010906

1. East 8th Street near 8th Avenue looking west

2. East 8th Street at Park Way looking southwest

3. East 8th Street at Park Way looking west

4. East 8th Street at Park Way looking northwest

Figure 3
Photographs at the Project Site
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010906

5. Clinton Square at International Boulevard and 6th Avenue looking southwest

6. International Boulevard and 8th Avenue looking southwest

7. East 10th Street at 8th Avenue looking southwest

8. East 8th Street at 9th Avenue looking northwest

Figure 4
Visual Character Photographs
Oakland Shops Radio Site Project

9. Northbound Interstate 880 looking northwest

10. Embarcadero near 16th Avenue overcrossing looking north

11. Bay Trail Pier looking north

12. Southbound Interstate 880 looking east

Figure 5
Visual Character Photographs
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010906

13. 6th Avenue at East 8th Street looking south

14. East 7th Street at Channel Park looking southeast

15. Channel Park west of East 7th Street looking southeast

16. Channel Park east of East 7th Street looking southeast

Figure 6
Visual Character Photographs
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010906

Existing view from East 8th Street at 9th Avenue (VP 8)

Visual simulation of proposed monopole alternative

Figure 7A
Visual Simulation
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010306

Existing view from East 8th Street at 9th Avenue (VP 8)

Visual simulation of proposed lattice tower alternative

Figure 7B
Visual Simulation
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010306

Existing view from Channel Park west of 7th Street (VP 15)

Visual simulation of proposed monopole alternative

Figure 8A
Visual Simulation
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010306

Existing view from Channel Park west of 7th Street (VP 15)

Visual simulation of proposed lattice tower alternative

Figure 8B
Visual Simulation
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010306

Existing view from Southbound Interstate 880 (VP 12)

Visual simulation of proposed monopole alternative

Figure 9A
Visual Simulation
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010306

Existing view from Southbound Interstate 880 (VP 12)

Visual simulation of proposed lattice tower alternative

Figure 9B
Visual Simulation
Oakland Shops Radio Site Project

ENVIRONMENTAL VISION
010306

Appendix B
Phase 1 Site Assessment

PHASE I
SITE ASSESSMENT

FEBRUARY 2006

BART OKS RADIO TOWER SITE
Oakland, California

For:

Carter & Burgess
Oakland, California

Y5236-02

BASELINE Environmental Consulting
5900 Hollis Street, Suite D • Emeryville, CA 94608 • (510) 420-8686

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EXECUTIVE SUMMARY
PHASE I SITE ASSESSMENT
BART OKS Radio Tower Site, Oakland, California

BASELINE Environmental Consulting prepared this Phase I Environmental Site Assessment for the BART OKS Radio Tower Site in Oakland, California for Carter & Burgess. The scope of work for the Phase I investigation included a review of historical land use information, a site reconnaissance, and a review of regulatory agency files and database information.

- The project site consists of an area at the eastern end of the BART Oakland shops site. Adjoining areas include BART maintenance areas and railroad tracks and switchyards. No evidence of hazardous material releases was noted during a site reconnaissance of the project site and adjoining areas.

- A release of gasoline was reported from the fueling area of the BART Oakland Shops site during 1989 tank removal activities. Approximately 950 cubic yards of petroleum-affected soils were removed and disposed of. As this remediation of the site was completed, and the release case was closed by Alameda County in 1996, contamination from this site would not be likely to affect the proposed project.

- The project site was vacant from 1903 to 1915. From 1939 until 1967, the project site and surrounding areas were occupied by a warehouse building. This building was used for an electrical supply warehouse, an appliance repair shop, a paper warehouse, a printer roller service shop, a flour blending warehouse, and office space. A fire destroyed the western portion of the warehouse building around 1960. Given the history of light industrial land uses at the project site, it is possible that unreported releases of hazardous materials may have occurred at the project site. In addition, if debris from the fire were present at the project site, the debris could contain elevated metals from lead based paint or other hazardous materials associated with building debris or the warehoused materials.

- Nineteen sites within one-quarter mile of the project site, including two adjoining properties, appear on federal, state, and local agency databases of sites associated with hazardous materials storage, disposal, or release. Based on available details and the locations of the sites, reported releases from these sites would be considered unlikely to affect the project site.

PHASE I SITE ASSESSMENT
BART OKS RADIO TOWER SITE
Oakland, California

INTRODUCTION

This report presents the findings and conclusions of a Phase I environmental site assessment for the Bay Area Rapid Transit (BART) OKS Radio Tower Site in Oakland, California. This Phase I investigation was undertaken by BASELINE Environmental Consulting for Carter & Burgess in support of California Environmental Quality Act (CEQA) environmental review of a proposed radio tower project.

This Phase I investigation is intended to determine the potential for hazardous materials to affect the proposed project, based on current and historical land uses and reported hazardous materials releases at and adjacent to the project site. The scope of work for this Phase I investigation included: a review of historical land use information, including aerial photographs, fire insurance maps, and topographic maps; a site reconnaissance; a review of Federal, State, and local regulatory agency files and databases; and, the development of recommendations for further actions. All Phase I activities were performed in accordance with the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, established by the American Society for Testing and Materials (ASTM) in Method E1527-00.

SITE DESCRIPTION

The project site consists of an area at the eastern end of the BART Oakland Shops facility at 601 E. 8th Street in Oakland (Figures 1 and 2). The project site is approximately 500 square feet in area and located approximately 20 feet above mean sea level (msl) (USGS, 1980). The project site is bounded by BART tracks and right-of-way, Union Pacific Railroad tracks and switchyard, and the remainder of the BART Oakland Shops facility (Figure 2).

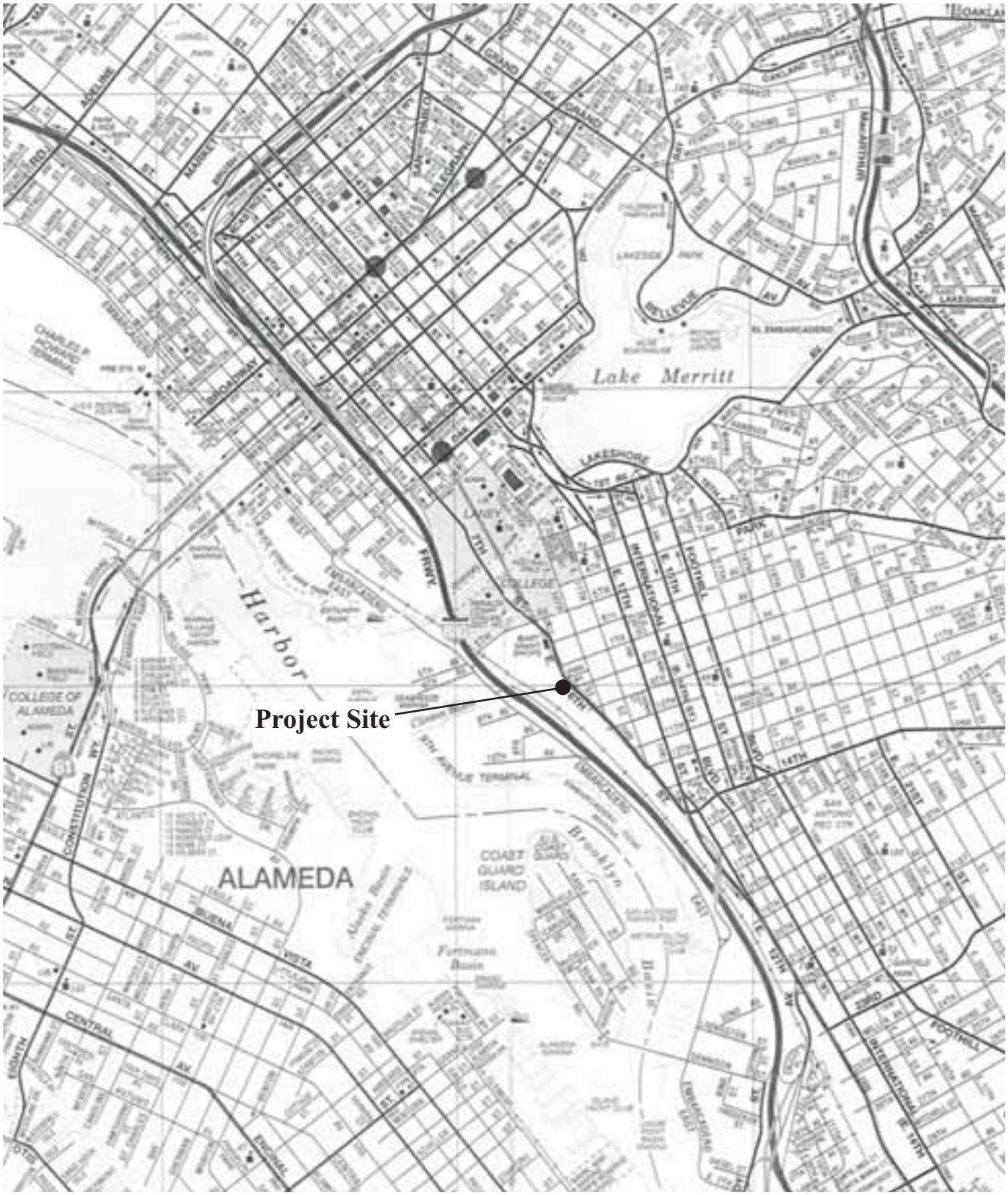
Based on previous environmental investigations in the project site vicinity, shallow groundwater would be expected to be encountered at a depth of 12 to 25 feet below ground surface (bgs), and flows toward the southwest, toward the Oakland Inner Harbor (Tong & Chang, 1997). It is unknown whether the site is underlain by artificial fill.

PROPOSED PROJECT

The proposed project would include installation of a pre-constructed concrete shelter, a steel radio tower of approximately 250 feet in height, and a fixed-placement 15 kilowatt engine generator set. The shelter and generator would be placed on a new concrete slab foundation. The concrete shelter would be approximately 20 feet by 12 feet in area by 10 feet high. The radio tower would be located less than ten feet from the concrete shelter.

REGIONAL LOCATION

Figure 1



BART OKS Radio Tower Site
Oakland, California

0 2000 Feet

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Y5236-02.00313.Fig1.cdr 12/19/05

SITE LOCATION

Figure 2

BART OKS Radio Tower Site
Oakland, California

0 150 Feet

BASELINE

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The 6- to 10-inch thick concrete slab foundation for the radio tower would be approximately 25 feet by 14 feet. The radio tower would either be lattice-style with three footings, or a single monopole with one footing. With the three footing option, the footings would be four feet in diameter and 15 feet deep. Under the monopole option, the single footing would be seven feet in diameter and 30 feet deep. A triangular platform, six feet per side, would be mounted atop a monopole tower to hold four 16-foot antennas. With the lattice-style tower, the four antennas would be mounted directly to the tower structure supports at the top of the tower.

Construction of the OKS Radio Site Project would require earth moving and removal, concrete work, aerial tower structure assembly, and trenching. Three PVC conduits, for power and fiber optic signals, would be installed approximately 18 inches bgs between the concrete shelter and the existing OKS buildings, spanning a distance of approximately 370 feet.

PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Phase I Site Assessment, 1997

In 1997, a Phase I Environmental Site Assessment was prepared in support of installation of a cellular telephone antenna tower at the BART Oakland Shops facility (Tong & Chang, 1997). The proposed cellular antenna site was located northwest of the BART Maintenance Barn (Figure 2), approximately 750 feet northwest of the current project site. A review of historical aerial photographs indicated that the proposed cellular antenna tower vicinity had contained commercial structures and residences since at least 1957.

The site reconnaissance noted three fuel and one waste oil underground storage tanks (USTs) at the fueling station portion of the property. Some staining was noted, related to automobile parking. Hazardous materials stored at the maintenance shed included isopropyl alcohol, water based inks and paints, and solvents. All hazardous materials were used or stored in proper containers in areas with secondary containment. The site reconnaissance detected no evidence of hazardous materials releases.

Thirty-eight sites, including the BART Oakland Shops site, were listed on regulatory agency records reviewed for the Phase I. The Phase I report stated that the off-site sources of hazardous materials that were considered a significant issue were either hydraulically downgradient from the subject site or were located at a distance that made migration to the site unlikely (Tong & Chang, 1997). The report did not make any recommendations for further action at the site.

Leaking Underground Storage Tank Investigations, 1989-1994

Four underground storage tanks were removed from the BART Oakland shops site in October 1989. Releases of gasoline-related compounds were identified from soil samples within the tank excavation, and approximately 350 cubic yards of affected soil were removed. After additional soil investigation, an additional 600 cubic yards of affected soils were removed in a separate removal event (Tong & Chang, 1997). Six groundwater wells were installed and monitored at the site between May 1991 and June 1994. After concluding that the affected soils, representing the source

of contamination at the site, had been properly removed and that the site no long presented a risk, the site was closed by Alameda County in March 1996 (Tong & Chang, 1997).

HISTORICAL LAND USES

Historical land uses at the project site were determined by reviewing historical aerial photographs from 1939 through 1998 and historical Sanborn Fire Insurance Maps from 1903 through 1969. Historical topographic maps from 1915 through 1980 were reviewed to verify information on the aerial photographs and Sanborn Maps. Historical land use resources reviewed for this investigation are included as Appendix A.

In 1903 and 1915, the project site was vacant. Surrounding land uses included residences and vacant lots to the west and north, and Southern Pacific Railroad and Western Pacific Railroad tracks to the south and east. By 1939, a warehouse building had been constructed, covering the project site and adjoining areas. The 1950 Sanborn Map identified this building as Westinghouse Electric Supply Company. The building contained electrical supply warehouse areas, office space, and an appliance repair shop. Surrounding land uses from 1939 through 1950 remained primarily residential to the west and north and railroad tracks to the south and east.

Between 1953 and 1957, the eastern portion of the warehouse building, including the project site, was converted to a building materials warehouse. The appliance repair shop was no longer present. Around 1960, a fire apparently destroyed the western portion of the warehouse building, used as an electrical supplies warehouse, which was designated "fire ruins." By 1964, the building had been rebuilt, and housed a printing roller service shop, paper warehouse, a flour blending warehouse, and an office. Residences to the west of the project site had been converted into a warehouse for janitorial supplies and industrial chemicals. Between 1965 and 1967, the buildings at and west of the project site were demolished, and the site was vacant. Sanborn Maps indicated that these blocks were being demolished in preparation for development of BART facilities.

By 1982, elevated BART tracks were in place north of the site, and the project site was developed as part of the BART Oakland Shops. Although the scale of the aerial photographs from 1982 through 1998 make fine details difficult to discern, it appears that the Maintenance Barn, Fueling Area, and Welding Shop were all in their current locations and configurations. No changes in land use at or adjacent to the project site were noted after 1982.

No specific records of use, storage, or disposal of significant quantities of hazardous materials were identified for the project site, although some hazardous materials were likely used at the appliance repair shop and printer roller service shops. The appliance repair area was present from at least 1950 and 1957 and was marked as a 50 by 50 foot area of the warehouse building, immediately north of the proposed antenna site. The printer roller shop was present in the western end of the warehouse building, immediately west of the proposed antenna site, from at least 1964 until 1967. Hazardous materials that may be associated with these land uses include lubricants, solvents, and refrigerants. Given the history of light industrial land uses at the project site (from at least 1939 until around 1967), it is possible that unreported releases of hazardous materials may have occurred at the project

site. In addition, if debris from the fire around 1960 were present at the project site, the debris could contain elevated metals from lead based paint or other hazardous materials associated with building debris.

CURRENT LAND USES/SITE RECONNAISSANCE

A visual reconnaissance of the project site and adjoining properties was conducted by a BASELINE environmental specialist on 30 November 2005. Two photographs of the project area taken during the site reconnaissance are included on Figure 3.

The site was paved with asphalt and, aside from a light tower and perimeter 6-foot high chain link fence, no permanent structure was present at or immediately adjacent to the project site. Wooden pallets were present in the site vicinity underlying small pieces of heavy equipment (such as generators and pumps) and several portable storage containers were located in the site vicinity. The containers were wired for electricity and were equipped with fluorescent light fixtures, but did not appear otherwise to have been permanently set in place. The containers had roll up doors on one side, and contained bins and palettes with primarily metal goods (nuts, bolts, big screws, rail spikes, etc.). The nearest permanent building was the welding shop, approximately 350 feet west of the project site (Figure 2). No evidence of hazardous materials storage or release was noted at or immediately adjacent to the project site during the site reconnaissance.

REGULATORY AGENCY DATABASE REVIEW

BASELINE contracted with EDR, Inc., an environmental information service, to search Federal, State, and local regulatory agency databases pertaining to hazardous material use and releases on properties at and near the project site (EDR, 2005a). A listing of the databases searched is provided in Table 1. The database report is included in Appendix B. Nineteen sites associated with hazardous materials, including the BART Oakland Shops site, were identified within a one-quarter mile radius of the project site in the database review (Figure 4 and Table 2).

Sites Associated with Hazardous Materials Use, Storage, and Disposal

Nine businesses within one-quarter mile were listed on the HAZNET database, indicating that these sites were listed as generators on at least one hazardous waste manifest (Table 2). Seven of the HAZNET sites and six additional sites within one-quarter mile are registered hazardous waste generators. Ten sites were listed as small-quantity hazardous waste generators, indicating that they are registered to generate between 100 and 1,000 kilograms (kg) per month of non-acutely hazardous waste; three sites, including the BART Oakland Shops site, were listed as large-quantity generators, indicating that they are registered to generate hazardous waste in excess of 1,000 kg per month (Table 2). One of these generators (Site 6 on Table 2 and Figure 4) reported hazardous waste violations in 1986; compliance with the regulations was recorded by 1991.

Nine sites within one-quarter mile of the project site, including the BART Oakland Shops site, currently or historically have registered petroleum (USTs), and one site has an active aboveground petroleum storage tank (AST) (Table 2). One site with an industrial wastewater discharge permit

PHOTOGRAPHS FROM SITE RECONNAISSANCE Figure 3

Photo 1: Proposed antenna location, looking east.

Photo 2: Material storage west of antenna location, looking west.

BART OKS Radio Tower Site
Oakland, California

BASELINE

Y5236-02.00313.Fig3.cdr 12/19/05

Table 1: REGULATORY AGENCY DATABASES REVIEWED
BART OKS Radio Tower Site, Oakland, California

Acronym	Database (Agency)	Agency Release Date
AST	Aboveground Petroleum Storage Tank Facilities (State Water Resources Control Board)	1 August 2005
AWP	Cal-Sites list of known hazardous waste sites targeted for cleanup (Cal EPA)	8 August 2005
BEP	Bond Expenditure Plan (California Department of Health Services)	1 January 1989
BRS	Biennial Reporting System for hazardous waste generators (US EPA)	31 December 2003
Cal-Sites	Cal-Sites list of known and potential hazardous waste sites (Cal EPA)	8 August 2005
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System (US EPA)	27 June 2005
CHMIRS	California Hazardous Material Incident Report System (Office of Emergency Services)	31 December 2003
Cleaners	Dry Cleaning Facilities (DTSC)	18 April 2005
Consent	Superfund Consent Decrees	14 December 2004
CORRACTS	RCRA Corrective Action Report (US EPA)	28 June 2005
Cortese	Cortese index of identified hazardous waste and substance sites	1 April 2001
CS	Contaminated Sites List (Alameda County)	16 August 2005
DEED	List of Deed Restrictions (DTSC)	2 August 2005
DOD	Department of Defense Facilities (USGS)	1 October 2003
EMI	Emissions Inventory Data (California Air Resources Board)	31 December 2003
ERNS	Emergency Response Notification System (US EPA)	31 December 2004
FID	Facility Inventory Database (State Water Resources Control Board)	31 October 1994
FINDS	Facility Index System (US EPA)	11 July 2005
FTTS	FIFRA/TSCA Tracing System (US EPA)	15 July 2005
FUDS	Formerly Used Defense Sites (US Army Corps of Engineers)	31 December 2004
HAZNET	Hazardous Waste Information System (Cal EPA)	31 December 2002
HMIRS	Hazardous Materials Information Reporting System (Department of Transportation)	27 June 2005
Indian Res	Map of Indian-administered lands	1 October 2003
LUST	Leaking Underground Storage Tank Information System (RWQCB and State Water Resources Control Board)	11 July 2005
MINES	Mine Safety and Health Administration Master Index	13 May 2005
MLTS	Material Licensing Tracking System (Nuclear Regulatory Commission)	14 July 2005
NFA	No Further Action Determination Properties (DTSC)	8 August 2005
NFE	Properties Needing Further Evaluation (DTSC)	8 August 2005
Notify 65	Proposition 65 Notification Records (State Water Resources Control Board)	21 October 1993
NPL	Active and Delisted National Priority List (Superfund) (US EPA)	1 July 2005
NPL LIENS	Federal Superfund Liens (US EPA)	15 October 1991
ODI	Open Dump Inventory (US EPA)	30 June 1985
PADS	PCB Activity Database System (US EPA)	30 March 2005
RAATS	RCRA Administrative Action Tracking System (US EPA)	17 April 1995
RCRIS	Resource Conservation and Recovery Information System (US EPA)	11 August 2005
REF	Properties Referred to Another Regulatory Agency (DTSC)	8 August 2005

Table 1 - *continued*

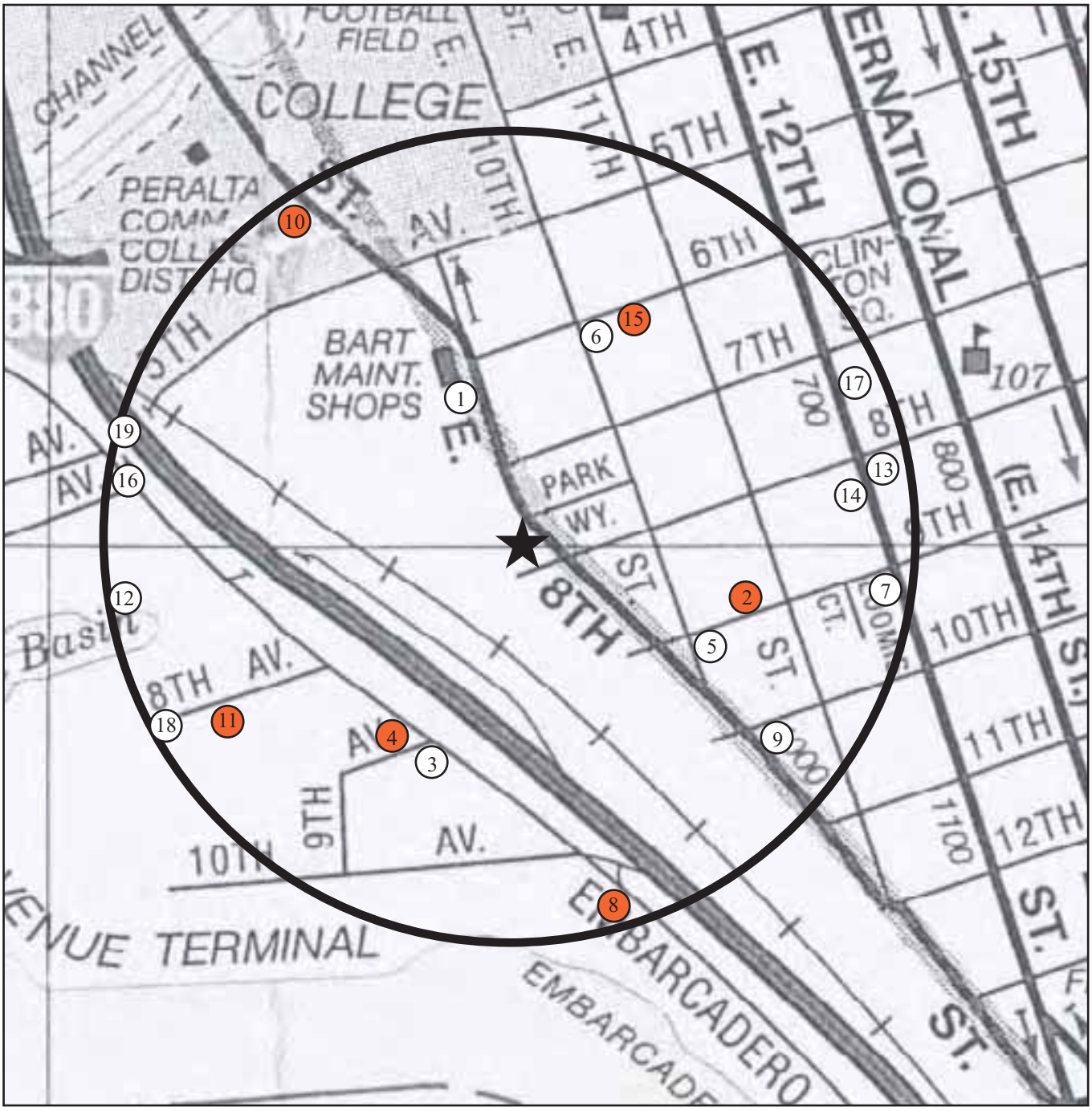
Acronym	Database (Agency)	Agency Release Date
ROD	NPL (Superfund) Records of Decision (US EPA)	8 June 2005
SCH	School Property Evaluation Program Sites (DTSC)	8 August 2005
SLIC	Spills, Leaks, Investigations, and Cleanups (RWQCB and State Water Resources Control Board)	11 July 2005
SSTS	Section 7 FIFRA Tracking System (US EPA)	31 December 2003
SWF/LF (SWIS)	Solid Waste Information System (Integrated Waste Management Board)	12 September 2005
Toxic Pits	Toxic Pits Cleanup Act Sites (State Water Resources Control Board)	1 July 1995
TRIS	Toxic Chemical Release Inventory System (US EPA)	31 December 2003
TSCA	Toxic Substances Control Act (US EPA)	31 December 2002
UMTRA	Uranium Mill Tailings Sites (US Department of Energy)	29 December 2004
UST	Underground Storage Tanks (Alameda County and State Water Resources Control Board)	1 July 2005
VCP	Voluntary Cleanup Program (DTSC)	8 August 2005
WDS	Waste Discharge System (State Water Resources Control Board)	19 September 2005
WMUDS	Waste Management Unit Database System (State Water Resources Control Board)	1 April 2000

Source: EDR, 2005a.

Note: Complete environmental database report included in Appendix B.

SITES ON REGULATORY DATABASES WITHIN ONE-QUARTER MILE OF THE PROJECT SITE

Figure 4



Legend

①	Site on Regulatory List or Database
②	Active Hazardous Material Release Site
▬	One-Half Mile Radius
★	Project Site

Note:
Numbers inside circles denote site numbers.
See Table 2 for site names, addresses, and status.

Source: EDR, 2005a.

0 2000 Feet

BASELINE

BART OKS Radio Tower Site
Oakland, California

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Table 2: SITES ASSOCIATED WITH HAZARDOUS MATERIALS USE, STORAGE, DISPOSAL, AND RELEASES WITHIN ONE-QUARTER MILE OF THE PROJECT BART OKS Radio Tower Site, Oakland, California

No.	Site Name/Address	List	Status
1	BART Oakland Shop 601 E. 8th Street	LUST; Cortese; LQG; UST	Release of gasoline affecting soil only reported in October 1989. Contaminated soil excavated and disposed of. Case closed in March 1996. No hazardous waste violations reported. Active UST site. Three fuel and one waste oil tank reported at site.
2	Cochran & Celli Inc./ Salle's Paint and Body 1049 9th Ave.	LUST; Cortese; CS; SQG; HAZNET; EMI; UST	Release of diesel reported in September 1994. Active leaking underground tank site. No remedial action completed at the site. No hazardous waste violations reported. Site listed as generator on 31 manifests of various hazardous wastes. Site listed on BAAQMD Toxics Emissions Inventory from 1995 through 2003. Active UST site. One 1,000-gallon fuel and one 500-gallon waste oil UST reported at site.
3	Liquid Carbonic Corporation 901 Embarcadero	CERCLIS; REF; CS; LUST; Notify 65; SQG; UST; WDS	Former CERCLIS site. Site inspection identified stained soil due to releases of oil. Case referred to Alameda County for follow up. Release of gasoline affecting groundwater reported in February 1990. Contaminated soil excavated and treated/disposed of. Case closed by Alameda County in January 1997. No hazardous waste violations reported. Inactive UST site. Site has industrial wastewater discharge requirements.
	Praxair Distribution, Inc. 901 Embarcadero	LQG; HAZNET	No hazardous waste violations reported. Site listed as generator on 20 manifests of a variety of hazardous wastes.
4	Canney Building H 211 845 Embarcadero	LUST; Cortese; CS	Release of diesel reported in August 1996. Active leaking underground tank site. No remedial action completed at the site.
	Midland Ross Metal Framing Division 845 Embarcadero	CERCLIS; SQG; UST	CERCLIS Preliminary Assessment completed at the site in February 1992. No further action proposed at site. No hazardous waste violations reported. Inactive UST site.
5	East Bay Enameling Incorporated 1024 9th Ave.	SQG; HAZNET	No hazardous waste violations reported. Site listed as generator on 8 manifests of various hazardous wastes.
6	Ryan Paint Manufacturing/American Ink Product Company 630 E. 10th St.	CERCLIS; LUST; CS; Notify 65; SQG	CERCLIS removal action completed in March 1988. No further CERCLIS action proposed at site. Release of gasoline affecting soil only reported in November 1988. Contaminated soil excavated and disposed. Case closed in February 1995. Two hazardous waste violations reported in 1986; compliance with regulations recorded in 1991.
7	Moals Body Shop Inc. 937 E. 12th St.	SQG; HAZNET	No hazardous waste violations reported. Site listed on 13 manifests of various solvent wastes.
8	Port of Oakland Embarcadero Cove 1211 Embarcadero	CS	Leak being confirmed. No additional details in environmental database report.

Table 2, *continued*

No.	Site Name/Address	List	Status
9	Photon Press 1036 E. 8th St.	SQG	No hazardous waste violations reported.
10	Peralta Community College 501 5th Ave.	LUST; CS; Cortese; SQG; UST	Release of diesel affecting soil only reported in September 1992. Active leaking underground storage tank site. No hazardous waste violations reported. Active UST site. Seven fuel USTs and one waste oil UST reported at site.
11	Keep on Trucking Co. 370 8th Ave.	LUST; Cortese: SLIC; SQG; HAZNET; AST; UST	Release of diesel affecting groundwater reported in February 1993. Active leaking underground storage tank site. No remedial action taken at the site. No details available regarding SLIC case in environmental database report. No hazardous waste violations reported. Site listed as generator on 17 manifests of waste oil and other liquid hazardous wastes. Active UST and AST site. Two diesel USTs and one AST reported at site.
12	Port of Oakland-Union Point Basin Marina	LQG; HAZNET	No hazardous waste violations reported. Site listed as generator on 87 manifests of various hazardous wastes.
13	Cakebread's Garage 802 E. 12th St.	UST	Inactive UST site.
14	JB Auto 819 E. 12th St.	CS	Status not reported in environmental database report.
14	Merritt Roof Company 1044 5th Ave.	LUST: Cortese; CS; UST	Release of gasoline affecting soil only reported in November 1995. Active leaking underground storage tank site. No remedial action taken at the site. Inactive UST site.
15	Allift & Equipment Company/Container Freight 251 5th Ave.	LUST; CS; UST; HAZNET	Release of gasoline affecting soil only reported in October 1991. Contaminated soil excavated and treated/disposed of. Case closed in January 1994. Active UST site. Site listed as generator on one manifest of halogenated organic liquid waste.
17	W. Silvera Company 744 E. 12th St.	CS; HAZNET	Status not reported in environmental database report. Site listed as generator on one manifest of empty container waste.
18	Port of Oakland Building H-209 271 8th Ave.	CS	Leak being confirmed.
19	EBMUD San Antonio Creek Wastewater Facility 225 5th Ave.	SQG; HAZNET	No hazardous waste violations reported. Site listed as generator on two manifests of contaminated soil from site cleanups.

Source: EDR, 2005a.

Notes: AST = State database of aboveground storage tanks.
CERCLIS = US EPA database of known or suspected hazardous material release sites.
Cortese = State list of hazardous material release sites.
CS = Alameda County Contaminated Sites Database.

Table 2, *continued*

EMI	=	Bay Area Air Quality Management District Toxics Inventory site.
HAZNET	=	State database of hazardous waste generators, based on manifest data.
LQG	=	US EPA RCRA-registered small-quantity hazardous waste generators, generating greater than 1,000 kg of non-acutely hazardous waste, or greater than one kg of acutely hazardous waste, per month.
LUST	=	State, County, and RWQCB databases of leaking underground storage tank sites.
Notify 65	=	Hazardous materials sites compiled in 1993 in accordance with California Proposition 65.
REF	=	Site referred by the Department of Toxic Substances Control to a local agency for further action.
SLIC	=	RWQCB database of Spills, Leaks, Investigations, and Cleanups (non-UST groundwater contamination cases)
SQG	=	US EPA RCRA-registered small-quantity hazardous waste generators, generating at least 100 kg, but less than 1,000 kg, of non-acutely hazardous waste per month.
UST	=	State registered underground storage tanks database.
WDS	=	State Waste Discharge Requirements System database of industrial wastewater dischargers.

See Figure 4 for site locations.
See Appendix B for complete environmental database report.

is located within one-quarter mile, and one site was listed on the Bay Area Air Quality Toxics Emissions Inventory (Table 2).

Sites Associated with Hazardous Materials Releases

Three sites within one-quarter mile of the project site were listed on the US EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database of known and suspected hazardous material sites. For each of the CERCLIS sites, preliminary assessment and removal actions were completed in the late 1980s and early 1990s. No further remedial action is proposed for these sites under the CERCLIS program.

Thirteen sites within one-quarter mile of the project site have reported hazardous materials releases from leaking underground storage tanks, including the BART Oakland Shops site (Table 2). These sites were listed on State and Regional Water Quality Control Board (RWQCB) databases of Leaking Underground Storage Tank (LUST), the State Cortese List, Alameda County's Contaminated Sites list, and/or the State Notify 65 list of hazardous materials release sites. Seven of the sites have been closed, indicating that remediation of the sites is complete or was not necessary. Six sites remain under regulatory oversight (Sites 2, 4, 8, 10, 11, and 15 on Table 2 and Figure 4). Each of the active sites is located greater than one-eighth mile from the site, and, based on groundwater flow toward the southwest, are located in a down- or cross-gradient direction from the project site (Figure 4). Based on the location of these releases, these sites would be unlikely to affect the project site.

One of the active LUST sites (Site 11 on Table 2 and Figure 4) was also listed in the RWQCB Spills, Leaks, Investigations, and Cleanups (SLIC) program of groundwater contamination sites; as this site is hydraulically downgradient from the project site, this release would not be likely to affect development the project site.

CONCLUSIONS

- The project site consists of an area at the eastern end of the BART Oakland shops site. Adjoining areas include BART maintenance areas and railroad tracks and switchyards. No evidence of hazardous material releases was noted during a site reconnaissance of the project site and adjoining areas.

- A release of gasoline was reported from the fueling area of the BART Oakland Shops site during 1989 tank removal activities. Approximately 950 cubic yards of petroleum-affected soils were removed and disposed of. As this remediation of the site was completed, and the release case was closed by Alameda County in 1996, contamination from this site would not be likely to affect the proposed project.

- The project site was vacant from 1903 to 1915. From 1939 until 1967, the project site and surrounding areas were occupied by a warehouse building. This building was used for an electrical supply warehouse, an appliance repair shop, a paper warehouse, a printer roller service shop, a flour blending warehouse, and office space. A fire destroyed the western

portion of the warehouse building around 1960. Given the history of light industrial land uses at the project site, it is possible that unreported releases of hazardous materials may have occurred at the project site. In addition, if debris from the fire were present at the project site, the debris could contain elevated metals from lead based paint or other hazardous materials associated with building debris or the warehoused materials.

- Nineteen sites within one-quarter mile of the project site, including two adjoining properties, appear on Federal, State, and local agency databases of sites associated with hazardous materials storage, disposal, or release. Based on available details and the locations of the site, reported releases from these sites would be considered unlikely to affect the project site.

LIMITATIONS

This Phase I Environmental Site Assessment has been conducted and this report has been prepared for the exclusive use of this client. It is intended to provide an understanding of the current environmental conditions at the Site and adjoining properties and the potential of on-site environmental degradation from future use or release of hazardous or petroleum-based substances on-site or at adjoining properties. BASELINE's interpretations and conclusions regarding this information and presented in this report are based on the expertise and experience of BASELINE in conducting similar assessments and current local, state, and federal regulations and standards.

In evaluating the Site, BASELINE has also relied upon representations and information furnished by individuals noted in the report with respect to existing operations and property conditions and the historic uses of the property to the extent that the information obtained has not been contradicted by data obtained from other sources. Accordingly, BASELINE accepts no responsibility for any deficiency, misstatements, or inaccuracy contained in this report as a result of misstatements, omissions, misrepresentations, or fraudulent information provided by the persons interviewed or documents reviewed.

BASELINE's objective is to perform our work with care, exercising the customary thoroughness and competence of earth science, environmental, and engineering consulting professionals, in accordance with the standard for professional services for a consulting firm at the time these services are provided. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental conditions and potential liability at a particular site. Therefore, BASELINE cannot act as insurers and cannot "certify or underwrite" that a site is free of environmental contamination, and no expressed or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed with the customary thoroughness and competence of our profession.

The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, conclusions, and recommendations expressed in the report.

The findings, observations, conclusions, and recommendations expressed by BASELINE in this report are limited by the scope of services and should not be considered an opinion concerning the compliance of any past or current owner or operator of the Site with any federal, state, or local law or regulation. No warranty or guarantee, whether express or implied is made with respect to the data reported or findings, observations, conclusions, and recommendations expressed in this report.

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APPENDICES
(ON CD-ROM IN PORTABLE DOCUMENT FORMAT)

A: HISTORICAL LAND USE RESOURCES

B: ENVIRONMENTAL DATABASE REPORT

C: QUALIFICATIONS OF PREPARERS

Appendix C
Radio Frequency Radiation Analysis

RADIO FREQUENCY RADIATION[1]

To address public health and human safety concerns, this appendix briefly discusses radio frequency radiation (RFR) and potential effects of the proposed OKS Radio Site Project.

Radio Frequency Radiation. RFR is one of several types of electromagnetic radiation. Electromagnetic radiation consists of waves of electricity and magnetic fields moving through space. These waves are generated by the movement of electrical charges. For example, the movement of a charge in a transmitting radio antenna, i.e., the alternating current, creates electromagnetic waves that radiate away from the antenna and can be picked up by a receiving antenna. Hertz is the unit for measuring frequency (in cycles per second) of the electromagnetic wave. RFR has frequencies in the range from about 3 kilohertz to 300 gigahertz. Common sources of RFR include a) telecommunications applications such as AM/FM radio, television, citizens band radio, and cordless telephones, and b) non-telecommunication applications such as micro-wave ovens, radar, industrial sealing and heating operations, and medical applications.

Potential Health and Safety Effects of RFR. Whole-body absorption of RF energy by a standing human adult has been shown to occur at a maximum rate when the frequency of the RF radiation is between about 80 and 100 Megahertz (MHz), depending on the size, shape, and height of the individual. Human health effects from heating of tissue by RF energy may include the following: tissue damage; ocular damage; reproductive effects, such as temporary sterility in men; mutations, DNA altering, and carcinogenic effects; and central nervous system effects. In addition to intensity, the frequency of an RF electromagnetic wave can be important in determining how much energy is absorbed and, therefore, the potential for harm. However, the subject of health and safety effects due to radiation continues to be controversial and without conclusive evidence of a causal link between RFR and long-term health effects. At relatively low levels of exposure to RFR, i.e., field intensities lower than those would produce significant and measurable heating, the evidence for production of harmful biological effect is speculative and unproven. Studies conducted by institutions such as the American National Standards Institute, the Institute of Electrical and Electronic Engineers, the National Council on Radiation Protection and Measurements, the International Committee on Non-ionizing Radiation Protection, and the Occupational Safety and Health Administration, among others, have shown that environmental levels of RF energy routinely encountered by the general public are far below levels that can produce significant heating and increased body temperature. However, there may be situations, particularly work-place environments near high-powered RF sources, where recommended limits for safe exposure of human beings to RF energy could be exceeded. In such cases, restrictive measures or actions may be necessary to ensure the safe use of RF energy. There has yet to be a determination that such effects might indicate a human health hazard, particularly with regard to long-term exposure. Given this uncertainty, the Federal Communications Commission (FCC) has established guidelines that include a substantial margin of safety from human exposure to RFR.

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[1] Sources used in this appendix: Federal Communications Commission, *A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance*, June 2, 2000; and City of San Jose, KYCY AM Radio Transmitter Facility Draft Environmental Impact Report (SCH# 2000072106), August 2001.

Federal Communications Commission Guidelines. The proposed project would be subject to approval from the FCC, which requires compliance with FCC limits for human exposure to radiofrequency electromagnetic fields. The exposure limits are specified in 47 C.F.R. § 1.1310 in terms of frequency, field strength, power density, and averaging time. The limits established in the FCC guidelines are designed to protect the public health with a very large margin of safety and have been endorsed by federal health and safety agencies such as the Environmental Protection Agency and the Food and Drug Administration. As noted above, there is no proven evidence of health effects due to RFR. The FCC guidelines are based on available epidemiological studies. Therefore, as long as all FCC requirements are met; there would be no potential adverse health and safety effects.

BART Communication System. BART's current communication system operates at frequencies between 868 and 869, a frequency range similar to that of the band allocated to cellular and PCS communication, which begins at frequency 869. Because of the similarity in frequency use between the two, the above-referenced FCC guide on transmission antenna RF emissions that specifically relates to cellular/PCS antennas was used to address RF emissions analysis related to the proposed project. Although BART proposes to switch its communication frequency to a range between 851 and 854 to avoid future conflicts with cellular communications, this is still within a band close enough to that of cellular/PCS so as to warrant use of the FCC guide for this analysis.

OKS Radio Site Project. The proposed 250-foot-tall BART communication tower and antenna would be unmanned except for periodic maintenance. The nearest residences are approximately 200 feet east from the proposed tower base location. The top of the tower and the base of the antenna would be approximately 230 feet above ground, while the top of the antenna would be approximately 250 feet in the air, greatly separated from human activity.

The proposed project would not cause adverse health and safety effects to humans due to RFR exposure. The proposed project would be required to meet all FCC regulations, including standards that are designed to protect occupational workers and the general population from the health and safety impacts of excessive RFR exposure. The FCC guide summarizes the findings of multiple studies and provides an *Optional Checklist for Determination of Whether a Facility is Categorically Excluded* for local agencies to use in determining if potential RFR exposure is an expected issue for a proposed project. Based on a review of this checklist, the the proposed project was determined to be categorically excluded from further evaluation of RFR issues because: (1) BART's proposed communication system is a Private Land Mobile Radio Service/Local Radio Service Provider/Private Use/Two-way radio; (2) the antenna would not be mounted on a building in which there would be residents/occupants near to the transmitter; and (3) the lowest point of the antenna would be more than 32 feet (10 meters) from the ground, which is the minimum distance at which point RFR exposure is required to be evaluated. Therefore, the level of potential exposure to radio frequency emissions from the project is so minimal that any further evaluation is considered unnecessary under FCC guidelines. Based on such minimal levels there is no potential for the proposed project to cause adverse health and safety effects to humans as a result of RFF exposure.