

CITY OF OAKLAND

LIGHTHOUSE ACADEMY PROJECT

CEQA ANALYSIS

Prepared for:

CITY OF OAKLAND
1 FRANK H. OGAWA PLAZA
OAKLAND, CA 94612

Prepared by:

Michael Baker
INTERNATIONAL

ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

OCTOBER 2017

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1.0 PROJECT CHARACTERISTICS

1. Project title:

Lighthouse Academy Project

2. Lead agency name and address:

City of Oakland
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, CA 94612

3. Contact person and phone number:

Maurice Brenyah-Addow
Planning and Building Department
(510) 238-6342
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, CA 94612

4. Project location:

701 - 735 105th Avenue
Accessor's Parcel Numbers (APN): APN 045-5268-004-00; 005-00; 006-00; 007-00; 008-00; 009-00;
010-00; 011-00; 012-00; 013-00; 014-00; 015-00; 016-00; 017-00; and 018-00.

5. Project sponsor's name and address:

Pacific Charter School Development
644 40th St. Suite 205/206
Oakland, CA 94609
(213) 542-4700
Attn: Whitney Rubin, Project Manager

6. Existing General Plan designation:

Business Mix

7. Zoning:

CIX-2/S-19 (Commercial-Industrial Mix 2/Health and Safety Protection Overlay Zone)

8. Requested permits:

See Project Approvals in Section 5, Project Description.

9. Project Case Number

PLN17041

1.0 PROJECT CHARACTERISTICS

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2.0 EXECUTIVE SUMMARY

The project Applicant, Lighthouse Community Public Schools, is proposing to establish a kindergarten through 12th grade (K–12) charter school on a 3.9-acre parcel (approximately 169,884 square feet) located at 701-735 105th Avenue at the intersection of 105th Avenue and Edes Avenue (Accessor's parcel Number (APN) 045-5268-019-00). The project site is currently being used as Bible College and theological seminary serving 300 students, 70 of which live on-site. The Project would be developed in two phases.

Phase 1 would renovate the existing buildings on the site. The one-story, 15,176-square-foot educational building located on the southwest corner of the project site would be renovated, and the one-story, 20,160-square-foot administrative building located on the southeast corner of the property that houses administrative offices and dormitories would be renovated and converted into classrooms and offices. No changes in building square footage are proposed. The existing parking lot location would remain the same with ingress and egress from 105th Avenue, and egress only onto Edes Avenue. A portion of the existing playfields would be converted to a parking lot to create an integrated student pickup and drop-off area. After the parking lot is converted, ingress and egress would be from two separate driveways on Edes Avenue. The maximum student capacity under Phase 1 would be 500 students.

Phase 2 would include the construction of a new, approximately 23,600-square-foot high school educational classroom facility, and convert the existing parking lot to a playground. A new plaza would be constructed around the high school building with new landscaping installed along the eastern edge.

When completed, Phase 1 and Phase 2 would result in a total building square footage or development of approximately 58,936 gross square feet. Enrollment would increase to a maximum student capacity of 850 students with an estimated 85 full-time teachers and administrative staff.

This California Environmental Quality Act (CEQA) Analysis evaluates the Lighthouse Academy Project (the Project) under CEQA Guidelines Sections 15168, 15183 and 15183.3 to determine whether it qualifies for streamlined CEQA review, tiering from the program-level analyses completed in the City of Oakland General Plan¹ (General Plan), Land Use and Transportation Element (LUTE) Environmental Impact Report (EIR) (1998)² and the Coliseum Area Redevelopment Plan (CARP) EIR (1995)³, collectively referred to herein as the Program EIRs—that analyzed environmental impacts associated with adoption and implementation of the General Plan and Redevelopment Plan..

¹ City of Oakland, 1998. *General Plan*, Land Use and Transportation Element.

² City of Oakland, 1998. *Oakland General Plan Land Use and Transportation Element* Environmental Impact Report (EIR)

³ City of Oakland, 1995. *Coliseum Area Redevelopment Plan (CARP)* Environmental Impact Report (EIR)

2.0 EXECUTIVE SUMMARY

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3.0 BACKGROUND

The project site is addressed in prior City of Oakland planning documents, including the following plans:

- Coliseum Area Redevelopment Plan (CARP).
- 1998 General Plan Land Use and Transportation Element (LUTE)

The City prepared program Environmental Impact Reports (EIRs) for these plans, which are considered in this California Environmental Quality Act (CEQA) analysis. Each of these documents are summarized below and are hereby incorporated by reference and can be obtained from the City of Oakland Bureau of Planning at 250 Frank H. Ogawa Plaza, Suite 2114, Oakland, CA 94612, and at <http://www2.oaklandnet.com/Government/o/PBN/OurServices/Application/EIR/index.htm>.

3.1 COLISEUM AREA REDEVELOPMENT PLAN EIR

The City of Oakland (City) certified the EIR for the Coliseum Area Redevelopment Plan (CARP) in 1995. The CARP area encompasses approximately 6,500 acres around the Oakland Coliseum. The following goals and objectives are the CARP's guiding principles:

- Provide for long-term job training and employment opportunities.
- Stimulate homeownership throughout the area.
- Improve public safety for people living and working in the area.
- Improve the quality of the residential environment by assisting new construction, rehabilitation, and conservation of living units.
- Eliminate the land-use conflicts between the residential and industrial edge.
- Improve transportation, public facilities, and infrastructure in residential, commercial, and industrial areas.
- Abate the most visible deteriorated conditions which affect the commercial and industrial sections of the area.
- Stimulate industrial, research and development, and commercial development by improving obsolete, underutilized, and vacant properties in the area.
- Assist neighborhood commercial revitalization.
- Attract and retain businesses to the Coliseum Redevelopment Area.

ENVIRONMENTAL EFFECTS SUMMARY – COLISEUM AREA REDEVELOPMENT PLAN EIR

The 1995 CARP EIR determined that development consistent with the CARP would result in no impact or less than significant impacts in the following resource areas: land use, population, employment, and housing, traffic, public utilities, and public services. The EIR determined that mitigation measures and/or the City's standard conditions of approval would reduce significant impacts to a less than significant level in the following resource areas: noise, hazardous materials, geology and seismicity, hydrology and water quality, biotic resources, cultural resources, and energy. The EIR determined the CARP would result in significant and unavoidable impacts to air quality due to an increase in regional emissions of nitrogen oxides in excess of the Bay Area Air Quality Management District (BAAQMD) thresholds.

3.0 BACKGROUND

3.2 LAND USE AND TRANSPORTATION ELEMENT EIR

The City certified the EIR for its General Plan Land Use and Transportation Element (LUTE) in 1998. The LUTE identifies policies to guide land use changes in the city and sets forth an action program to implement the land use policy through development controls and other strategies

Applicable mitigation measures identified in the 1998 LUTE EIR are largely the same as those identified in the other program EIRs prepared after the 1998 LUTE EIR, either as mitigation measures or newer City of Oakland standard conditions of approval (SCAs), the latter of which are described below.

ENVIRONMENTAL EFFECTS SUMMARY – LAND USE AND TRANSPORTATION ELEMENT EIR

The 1998 LUTE EIR (including its Initial Study Checklist) determined that development consistent with the LUTE would result in impacts that would be reduced to a less than significant level with the implementation of mitigation measures and/or SCAs (described below): aesthetics (views, architectural compatibility, and shadow only); air quality (construction dust [including PM₁₀] and emissions, odors); cultural resources (except as noted below as less than significant); hazards and hazardous materials; land use (use and density incompatibilities); noise (use and density incompatibilities, including from transit/transportation improvements); population and housing (induced growth, policy consistency/clean air plan); public services (except as noted below as significant);⁴ and transportation/circulation (intersection operations).

Less than significant impacts were identified for the following resources in the 1998 LUTE EIR and Initial Study: aesthetics (scenic resources, light and glare); air quality (clean air plan consistency, roadway emissions, energy use emissions, local/regional climate change); biological resources; cultural resources (historic context/settings, architectural compatibility); energy; geology and seismicity; hydrology and water quality; land use (conflicts in mixed-use projects and near transit); noise (roadway noise citywide, multifamily near transportation/transit improvements); population and housing (exceeding household projections, housing displacement from industrial encroachment); public services (water demand, wastewater flows, stormwater quality, parks services); and transportation/circulation (transit demand). No impacts were identified for agricultural or forestry resources and mineral resources.

Significant unavoidable impacts were identified for the following environmental resources in the 1998 LUTE EIR: air quality (regional emissions); public services (fire safety); transportation/circulation (roadway segment operations: Grand Avenue between Harrison St. and I-580); and policy consistency (Clean Air Plan). Due to the potential for significant unavoidable impacts, a Statement of Overriding Considerations was adopted as part of the City's approvals.

⁴ The 1998 LUTE EIR addressed effects on solid waste demand and infrastructure facilities for water, sanitary sewer, and stormwater drainage under Public Services.

4.0 PURPOSE AND SUMMARY

The purpose of this CEQA document is to evaluate the potential environmental effects of the proposed project and to determine whether such impacts were adequately covered under the Program EIRs, such that CEQA streamlining and/or tiering provisions and exemptions could be applied. The analysis herein incorporates information from the Program EIRs. It includes a CEQA Checklist (see Chapter VII) and supporting documentation to provide comprehensive review and public information for the basis of any determination.

Based on the environmental evaluation, and as the checklist demonstrates, the proposed project qualifies for several CEQA streamlining and/or tiering provisions and CEQA exemptions, each of which separately and independently provide a basis for CEQA compliance. These provisions and exemptions are discussed below, and provide a basis for CEQA compliance.

COMMUNITY PLAN EXEMPTION

Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183 (Projects Consistent with a Community Plan or Zoning) allow streamlined environmental review for projects that are “consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project specific significant effects which are peculiar to the project or its site.” Section 15183(c) specifies that “if an impact is not peculiar to the parcel or to the proposed project, has been addressed as a significant effect in the prior EIR, or can be substantially mitigated by the imposition of uniformly applied development policies or standards..., then an EIR need not be prepared for the project solely on the basis of that impact.”

The analysis in the Program EIRs—the 1998 LUTE EIR and the Coliseum Area Redevelopment Plan (CARP) EIR—are applicable to the Lighthouse Academy Project and provide the basis for use of the Community Plan Exemption.

QUALIFIED INFILL EXEMPTION

Public Resources Code Section 21094.5 and CEQA Guidelines Section 15183.3 (Streamlining for Infill Projects) allow streamlining for certain qualified infill projects by limiting the topics subject to review at the project level, if the effects of infill development have been addressed in a planning level decision, or by uniformly applicable development policies.

An infill project is eligible if the project (1) is located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least 75 percent of the site’s perimeter; (2) satisfies the performance standards provided in CEQA Guidelines Appendix M; and (3) is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy. No additional environmental review is required if the infill project would not cause any new specific effects or more significant effects, or if uniformly applicable development policies or standards would substantially mitigate such effects.

Consistent with CEQA Guidelines Section 15183.3(b), which allows streamlining for qualified infill projects, this environmental document is limited to topics applicable to project-level review only. Cumulative level effects of infill development have been addressed in other planning level decisions of the LUTE and 1998 LUTE EIR and the CARP EIR or by uniformly applicable development policies (SCAs) which mitigate such impacts.

4.0 PURPOSE AND SUMMARY

These Program EIRs provide the basis for use of the Qualified Infill Exemption under CEQA Guidelines Section 15183.3.

PROGRAM EIRs AND REDEVELOPMENT PROJECTS / ADDENDUM TO AN EIR

CEQA Guidelines Section 15168 (Program EIRs) and Section 15180 (Redevelopment Projects) provide that the Coliseum Area Redevelopment Plan (CARP) EIR can be used as a Program EIR in support of streamlining and/or tiering provisions under CEQA. The Coliseum Area Redevelopment Plan (CARP) EIR is a Program EIR for streamlining and/or tiering provisions by CEQA Section 15168. The section defines the Program EIR as one prepared on a series of actions that can be characterized as one large project and are related geographically and by other shared characteristics. Section 15168 states that “subsequent activities in the Program EIR must be examined in the light of the Program EIR to determine whether an additional environmental document must be prepared.” If the agency finds that pursuant to CEQA Guidelines Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the Program EIR and no new environmental document would be required.

Further, CEQA Guidelines Section 15180 specifies that “if a certified redevelopment plan EIR is prepared, no subsequent EIRs are required for individual components of the redevelopment plan unless a subsequent EIR or supplement to the EIR would be required by Section 15162 or 15163.” The Coliseum Area Redevelopment Plan EIR is considered a certified redevelopment plan.

Public Resources Code Section 21166 and CEQA Guidelines Section 15164 state that an addendum to a certified EIR is allowed when minor changes or additions are necessary, and none of the conditions for preparation of a subsequent EIR or Negative Declaration per Section 15162 are satisfied.

STANDARD CONDITIONS OF APPROVAL

The City of Oakland established its Standard Conditions of Approval and Uniformly Applied Development Standards (SCAs) in 2008, and they have since been amended and revised several times. The City’s SCAs are incorporated into new and changed projects as conditions of approval regardless of a project’s environmental determination. The SCAs incorporate policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection Ordinance, Stormwater Water Management and Discharge Control Ordinance, Oakland Protected Trees Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, California Building Code and Uniform Fire Code, among others), which have been found to substantially mitigate environmental effects. The SCAs are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects.

Consistent with the requirements of CEQA, a determination of whether the project would have a significant impact was made prior to the approval of the proposed project and, where applicable, SCAs and/or mitigation measures in the Program EIRs have been identified to mitigate those impacts. In some instances, exactly how the measures/conditions identified will be achieved awaits completion of future studies, an approach that is legally permissible where measures/conditions are known to be feasible for the impact identified; where subsequent compliance with identified federal, state, or local regulations or requirements apply; where specific performance criteria is specified and required; and where the proposed project commits to developing measures that comply with the requirements and criteria identified.

Some of the SCAs identified in this document as applicable to the proposed project were also identified in the 1998 LUTE EIR and Coliseum Area Redevelopment Plan (CARP) EIR prior to the City's application of SCAs. Further, certain mitigation measures identified in these Program EIRs have since been adopted by the City as SCAs for all projects. Therefore, some of the previously identified applicable mitigation measures from the Program EIRs have been modified, and in some cases wholly replaced, to reflect the City's current standard language and requirements of its SCAs. Any mitigation measures applicable to the proposed project are captured in the SCAs and references to mitigation measures reflect standard language only.

LIGHTHOUSE COMMUNITY PUBLIC SCHOOLS PROJECT CEQA COMPLIANCE

The Project satisfies each of the aforementioned CEQA provisions, as summarized below.

- 1) **Community Plan Exemption.** Based on the analysis conducted in this document, and pursuant to CEQA Guidelines Section 15183, the proposed project qualifies for a community plan exemption. The proposed project meets the requirements for a community plan exemption, as it is permitted in the zoning district where the project site is located, and is consistent with the land uses envisioned for the site. This analysis considers the evaluation in the 1998 LUTE EIR and the Coliseum Area Redevelopment Plan EIR for the project. This CEQA Analysis concludes that the proposed project would not result in significant impacts that (1) are peculiar to the project or project site; (2) were not identified as significant project-level, cumulative, or offsite effects in the Program EIRs; or (3) were previously identified as significant effects, but are determined to have a more severe adverse impact than discussed in the Program EIRs. Findings regarding the proposed project's consistency with the zoning are included as Attachment B to this document.
- 2) **Qualified Infill Streamlining.** The analysis conducted in this document indicates that, the proposed project qualifies for a qualified infill exemption. Pursuant to CEQA Guidelines Section 15183.3, the proposed project is consistent with the required performance standards provided in CEQA Guidelines Appendix M, as evaluated in Attachment C to this document. This CEQA Analysis supports that the proposed project would not cause any new specific effects or more significant effects than previously identified in applicable planning level EIRs, and uniformly applicable development policies or standards (referred to herein as SCAs) would substantially mitigate the project's effects. The proposed project is proposed on a previously developed site and is surrounded by urban uses. Furthermore, the proposed project is consistent with the land use, density, building intensity, and applicable policies for the site. The analysis herein considers the analysis in the 1998 LUTE EIR and the Coliseum Area Redevelopment Plan EIR.
- 3) **Program EIRs/Addendum.** The potential environmental impacts associated with the proposed project have been adequately analyzed and covered in the Program EIRs per CEQA Guidelines Section 15168 and 15180. This analysis demonstrates that the proposed project would not result in substantial changes or involve new information that would warrant preparation of a subsequent EIR, per CEQA Guidelines Section 15162 or 15163, because the level of development now proposed for the site is within the broader development assumptions analyzed in the Program and Redevelopment EIRs. As such, this CEQA Analysis is considered to be an addendum to the Program EIRs. The Program EIRs allow for flexibility in the quantity and profile of future development with the project area. The project would not meet or exceed the maximum build out evaluated in the Program EIRs.

4.0 PURPOSE AND SUMMARY

Examination of the analysis, findings, and conclusions of the prior EIRs, as summarized in the CEQA analysis below, indicates that the prior CEQA documents adequately analyzed and covered the potential environmental impacts associated with the proposed project. The streamlining and/or tiering provisions of CEQA apply to the proposed project. Therefore, no further review or analysis, under CEQA, is required.

All applicable SCAs for the proposed project are listed in Attachment A to this document, which is incorporated by reference into this CEQA Analysis. Because the SCAs are mandatory City requirements, the impact analysis for the proposed project assumes that they will be imposed and implemented. If this CEQA Checklist or its attachments inaccurately identifies or fails to list a mitigation measure or SCA, the applicability of that mitigation measure or SCA to the proposed project is not affected.

5.0 PROJECT DESCRIPTION

5.1 PROJECT LOCATION

The Project is located in Oakland, California. Oakland is in Alameda County and is surrounded by the cities of Alameda, Emeryville, Berkeley, and San Leandro (**Figure 5.0-1, Regional Vicinity Map**). The project site is located at 701–735 105th Avenue, at the intersection of 105th Avenue and Edes Avenue (**Figure 5.0-2, Project Location**). The site's Assessor's Parcel Number is 045-5268-019-00.

Regional access to the project site is via Interstate 880 (I-880) via the 98th Avenue exit (Exit 35), located 0.5 mile west of the site. Local access to the site is via 105th Avenue and Edes Avenue. The full-access driveway on 105th Avenue facilitates emergency vehicle access to the project site.

5.2 EXISTING CONDITIONS AND SURROUNDING LAND USES

The project site is approximately 3.9 acres. The site is currently being used as the School of Urban Missions Bible College and Theological Seminary (SUM), which serves 300 students, 70 of whom live on-site.

There are currently three buildings on the site: an educational building, an administrative/dormitory building, and a smaller restroom/concession stand. The one-story, 15,176-square-foot educational building is located on the southwest corner of the project site and includes 10 classrooms, a library, and restrooms. The one-story, 20,160-square-foot administrative building is located on the southeast corner of the property and houses administrative offices and dormitories. The restroom/concession stand is approximately 700 square feet.

The project site also includes an asphalt paved 86-space parking lot, a sports field, and landscaped areas. The parking lot is located in the center of the site, between the educational and administrative/dormitory buildings. A basketball court is present on the western border of the parking lot, with a large play field, a gravel track, and a small stage on the northern portion of the site.

The project site is bordered by active train tracks to the north and east. Industrial uses are located to the south across 105th Avenue and to the east of the railroad tracks. Commercial uses are located to the west across Edes Avenue. Residential development is located in the greater surrounding area to the west, north, and east. The project site has an elevation of approximately 31 feet above sea level, and the topography gently slopes to the southwest.

5.3 GENERAL PLAN DESIGNATION AND ZONING

The City of Oakland General Plan Land Use Map designates the project site as Business Mix. The Business Mix designation is intended to create, preserve, and enhance areas of the city that are appropriate for a wide variety of business and related commercial and industrial establishments.

The project site is zoned CIX-2/S-19 Commercial Industrial Mix-2/Health and Safety Protection Overlay. The intent of the CIX-2 zone is to create, preserve, and enhance areas for industrial uses, including manufacturing, scientific and product-related research and development, construction, transportation, warehousing/storage/distribution, recycling/waste-related activities, clean technology, and similar uses. The primary purposes of the areas are to support Oakland's economic base and to provide employment opportunities.

5.0 PROJECT DESCRIPTION

The S-19 protection overlay is intended to promote public health, safety, and welfare by regulating handling and of toxic substances, hazardous materials, hazardous waste, or explosives. S-19 zoning reduces threats to the environment or to public health, particularly to residents living adjacent to industrial areas where these materials are commonly used, produced, or found.

5.4 PROPOSED PROJECT

The project would adaptively reuse the existing structures on the project site, reconfigure some of the existing infrastructure and construct a new building to allow the use of a kindergarten through 12th grade (K–12) charter school. The project would be developed in two phases.

Phase 1 would renovate the existing educational and administrative/dormitory buildings to convert spaces into classrooms and offices. No changes in building square footage are proposed. Phase 1 would also relocate the existing playground and construct a new parking lot in the northwestern portion of the site. The new parking lot would provide an integrated student pickup and drop-off area with ingress and egress on Edes Avenue.

Phase 2 would construct a new, approximately 23,600-square-foot high school educational classroom facility. Phase 2 also would include construction of a plaza around the new high school building and new landscaping installed along the eastern edge of the parking lot (**Figure 5.0-3, Phase 1 and 2 Components**).

Upon completion of Phase 1 and Phase 2, the total developable envelope on the project site would be approximately 58,936 gross square feet. Building 1 would house the elementary school; Building 2 would house the middle school and administrative space, and Building 3 would house the high school.

School hours would be as follows

- Kindergarten: 8:30 AM–3:30 PM with 50 percent of students remaining on campus until 6:00 PM
- Elementary school: 8:30 AM–3:30 PM with 50 percent of students remaining on campus until 6:00 PM
- Middle school: 8:30 AM–3:30 PM with 50 percent of students remaining on campus until 6:00 PM
- High school: 8:30 AM–3:45 PM with 25 percent of students remaining on campus until 6:00 PM

During Phase 1, student enrollment would be limited to 500 students⁵. Upon completion of Phase 2, enrollment would increase to a maximum student capacity of 850 students with an estimated 85 full-time teachers and administrative staff. Project components are shown in **Table 5.0-1, Project Components**.

⁵ Academic and administrative staffing levels for Phase 1 have not yet been determined.

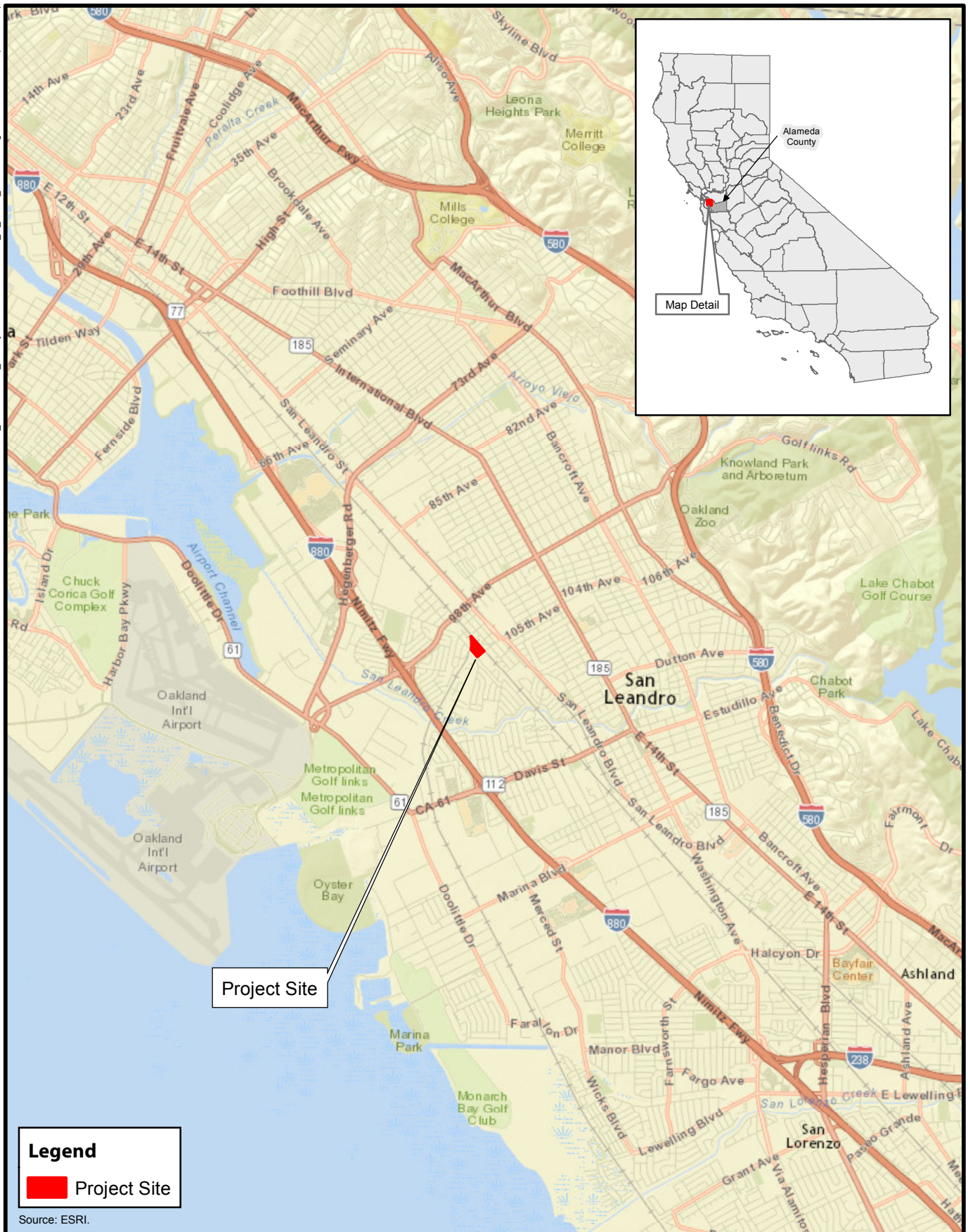


FIGURE 5.0-1
Regional Vicinity

5.0 PROJECT DESCRIPTION

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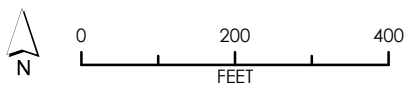


FIGURE 5.0-2
Project Location

5.0 PROJECT DESCRIPTION

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Figure 5.02-3
Phase I and II Components

5.0 PROJECT DESCRIPTION

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**TABLE 5.0-1
PROJECT COMPONENTS**

Component	Square Footage	Spaces	Enrollment	Staff
Phase 1				
Renovate Building 1 (elementary school)	15,176		333	
Renovate Building 2 (middle school & administrative)	20,160		167	
Parking spaces	—	86	—	
Phase 2				
Construct Building 3 (high school)	23,600		350	
Relocate playground	24,000	—	—	
Relocate parking area	—	—	—	
Reduce existing playfield	31,000			
Install site improvements (plaza and parking area landscaping)	—	—	—	
Parking spaces	—	-16	—	
Totals	58,936	70	850	85

The Project proposes a Major Conditional Use Permit to allow for the development and use of a charter school facility serving 850 students in grades K-12 in the CIX-2/S-19 zone.

The Project would include renovations to the existing buildings and construction of new buildings which would meet the following specifications:

Existing Buildings

- Walls facing the railroad tracks would be renovated and a furred interior stud added.
- A3/8-inch laminated glass pane would be added to all existing windows.
- Existing ceiling tiles would be removed and replaced with gypsum-backed tiles.

New Building

- All exterior walls would be double-stud walls.
- Exterior construction would include standard three-coat stucco finish.
- All windows facing the train tracks would be inoperable and dual-paned.

SOIL REMEDIATION

According to the project-specific Phase I Environmental Site Assessment, the project site was historically used for iron foundry activities. Based on the types of activities typically associated with an iron foundry, the potential exists for shallow soil contamination of heavy metals (**Appendix HAZ**). Elevated metals concentrations were identified in soil beneath the hardscaped patio. Shallow

5.0 PROJECT DESCRIPTION

soils appear to consist of non-native, mixed fill materials in some areas of the project site, notably on the athletic field. Impacts to these soils appear to consist of carcinogenic polycyclic aromatic hydrocarbons (PAHs) above ambient/background levels. The Project would include soil removal for soil remediation purposes, installation of replacement materials, and management of new and existing covers as shown in **Figure 5.0-4, Soil Remediation Activities**. Remediation activities would take place as follows:

- **Future athletic field** – Top 1 foot of existing athletic field soils would be excavated, off-hauled, and replaced with residential-quality fill and new grass surface, resulting in a 1-foot athletic field cap/cover.
- **Future parking lot** – Top 1.5 foot of existing athletic field soils would be excavated, off-hauled, and replaced with up to a 1-foot section of new asphalt pavement and base rock, resulting in a hardscaped cap/cover. The total amount to be excavated and off-hauled is estimated to be 1,667 cubic yards or 2,500 tons. The amount of soil (cubic yards) to be imported would be less, to account for replacement with pavement sections.
- **Existing area** – Existing area of elevated metals in soil beneath hardscaped patio. Proposal to manage in place beneath existing cap/cover.

Soils from the existing athletic field would be exported as alternative daily cover (ADC) to a nonhazardous Class II licensed landfill (e.g., Waste Management's Altamont Landfill). Additionally, the Project would entail the management of subsurface soils under the existing and future hardscaping and a Soil Management Plan as part of the Removal Action Workplan (RAW). The soil remediation would take place around the wet weather grading restrictions imposed by the City of Oakland from October to April of every year. If an exception is granted to the wet weather grading restrictions, the remediation would begin in December 2017 or January 2018. The complete remediation workplan is in **Appendix HAZ**.

Following the completion of site improvements, institutional controls in the form of a Land Use Covenant (LUC) and implementation of the Site Management Plan would be utilized to ensure that this remedy remains protective to occupants of the project site. These institutional controls would at a minimum ensure that the cap remains functional and provide guidelines for breaching the cap to perform subsurface activities including utility maintenance or other underground activities.

5.5 PROJECT CONSTRUCTION

Project construction would be conducted in two phases, with Phase 1 beginning in January 2018 and ending in June 2018. Phase 2 would be constructed from July 2018 to October 2019. Project construction would take place over two phases, detailed below in **Table 5.0-2, Construction Phasing and Duration**.

Phase 1 would renovate the existing buildings and relocate the parking lot. Phase 2 would construct the new building, relocate the playground, and install other site improvements. Construction equipment would differ for each phase. Phase 1 would require hand tools and small power tools, as well as trucks to deliver equipment. Most Phase 1 construction activities would take place on the interior of the existing buildings except for the export and import of soil. Phase 2 would require a grader, excavator, compactor, concrete mixer and pump, scraper, front loader, jackhammer, an AC paver, and other equipment. Project construction would take place in compliance with the City's Noise Ordinance, which specifies construction hours.

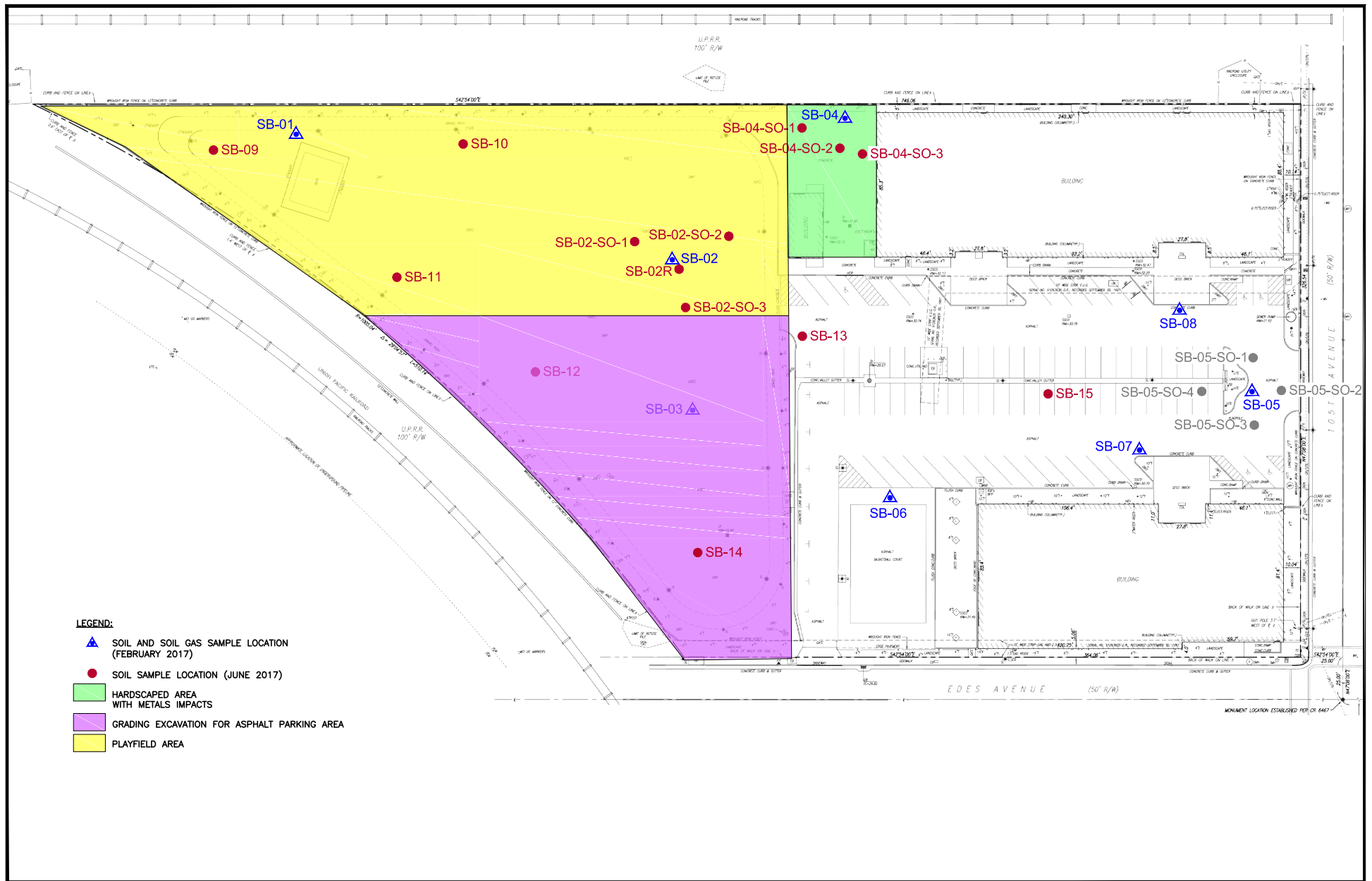


Figure 5.02-4
Soil Remediation Activities

5.0 PROJECT DESCRIPTION

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**TABLE 5.0-2
CONSTRUCTION PHASING AND DURATION**

Phase	Duration	Construction Activities
Phase 1: Renovate Buildings 1 and 2	6 months	<ul style="list-style-type: none"> • Adaptation of the existing buildings into classroom space • Other interior renovations • Installation of soundproofing measures • Soil export and import • Installation of new parking lot
Phase 2: Construct Building 3, relocate playground, reduce existing playfields, install site improvements	14–16 months	<ul style="list-style-type: none"> • High school building site • Excavation/foundations • Podium slab/rough utilities • Rough framing/roofing/exterior • Interior finish/plumbing/electrical • Fixtures/casework/appliances • Demolition of existing parking lot • Installation of new playground • Installation of site improvements (plaza, landscaping)
Total	22 months	

Construction vehicles would access the site via 105th Avenue. Roads would not be closed during construction, and all road access would be maintained during construction. Signage would be used to warn motorists approaching the Project from 105th Avenue and Edes Avenue, as needed. A Construction Management Plan (CMP) detailing construction logistics would be required for review and approval by the City prior to issuance of Building Permits.

Depending on the construction phase, the number of on-site construction workers could range from approximately 12 to 35 workers per day. The maximum number of workers would be present during framing, rough-in, and interior finish, as well as for the exterior work during the building construction phase.

5.6 PROJECT APPROVALS

The Project requires the following discretionary actions/approvals, including without limitation:

Actions by the City of Oakland:

- Planning Commission – Regular Design Review, CEQA Determination, and Major Conditional Use Permit to allow for the development of a Community Education use serving 850 students in grades K–12 in the CIX-2/S-19 zone
- Building Department – building permit
- Other City Permits – grading permit, encroachment permit, pz permit for the parking lot, and other related on-site and off-site work permits

5.0 PROJECT DESCRIPTION

Actions by other agencies:

- California Department of Toxic Substances Control (DTSC) – approval of Soil Management Plan and Removal Action Workplan (RAW)
- San Francisco Bay Regional Water Quality Control Board (RWQCB) – Waste Discharge Requirements (WDR) or National Pollutant Discharge Elimination System (NPDES) permit

6.0 SUMMARY OF FINDINGS

An evaluation of the proposed project is provided in the CEQA Checklist below. This evaluation concludes that the proposed project qualifies for an exemption from additional environmental review. The proposed project was found to be consistent with the development density and land use characteristics established by the City of Oakland General Plan, and any potential environmental impacts associated with its development were adequately analyzed and covered by the analysis in the applicable Program EIRs, which are the 1998 LUTE EIR and the CARP EIR.

The proposed project would be required to comply with the applicable mitigation measures identified in the Program EIRs as modified, and in some cases wholly replaced, to reflect the City's current standard language and requirements of its SCAs, as well as any applicable City of Oakland SCAs (see Attachment A, at the end of the CEQA Checklist). With implementation of the applicable SCAs, the proposed project would not result in a substantial increase in the severity of significant impacts that were previously identified in the Program EIRs or any new significant impacts that were not previously identified in the Program EIRs.

In accordance with Public Resources Code Sections 21083.3 and 21090, and CEQA Guidelines Sections 15183 and 15183.3, and as set forth in the CEQA Checklist below, the proposed project qualifies for one or more exemptions because the following findings can be made:

- **Community Plan Exemption.** The analysis within Attachment B demonstrates that the project is consistent with the development density established by existing zoning and General Plan policies for which an EIR was certified (i.e., the Program EIRs), and therefore qualifies for a community plan exemption. The analysis herein considers the Program EIRs and concludes that the proposed project would not result in significant impacts that (1) would be peculiar to the project or project site; (2) were not previously identified as significant project-level, cumulative, or off-site effects in the Program EIRs; or (3) were previously identified as significant but—as a result of substantial new information that was not known at the time the Program EIRs was certified—would increase in severity above the level described in the EIR. Therefore, the proposed project is exempt from further environmental review in accordance with Public Resources Code Section 21083 and 21083.05 and CEQA Guidelines Section 15183.
- **Qualified Infill Exemption.** The analysis indicates that the proposed project qualifies for an infill exemption and is consistent with the required performance standards provided in CEQA Guidelines Appendix M, as evaluated in Attachment C to this document. This CEQA Analysis concurs that the proposed project would not cause any new specific effects or more significant effects than previously identified in applicable Program EIRs and that uniformly applicable development policies or standards (SCAs) would substantially mitigate the proposed project's effects.

The proposed project is proposed on a developed site, surrounded by urban uses, and is consistent with the land use, density, building intensity, and applicable policies for the site. The proposed project therefore meets the requirements for an infill exemption, as evidenced in Attachment C to this document. The analysis herein considers the analysis in the Program EIRs and finds that the proposed project would not cause any new significant impacts on the environment that were not already analyzed in the Program EIRs or result in more significant impacts than those that were previously analyzed in the Program EIRs. The effects of the proposed project have been addressed in the Program EIRs, and no further environmental documents are required, in accordance with Public Resources Code Section 21083 and 21094.5.5 and State CEQA Guidelines Section 15183.3.

6.0 SUMMARY OF FINDINGS

- **Reliance on Prior EIRs.** The analysis in the Program EIRs and in this CEQA Analysis demonstrates that the proposed project would not result in substantial changes or involve new information that would warrant preparation of a subsequent EIR per CEQA Guidelines Section 15162 or Section 15163. The broader development assumptions and effects of the proposed project have been addressed in the Program EIRs. No further environmental documents are required in accordance with Public Resources Code Section 21083 and State CEQA Guidelines Sections CEQA Guidelines Sections 15168 and 15180.

Each of the above findings provides a separate and independent basis for CEQA compliance.

Darin Ranelletti
Environmental Review Officer

Date_____

7.0 ENVIRONMENTAL CHECKLIST

OVERVIEW

This CEQA Checklist provides a summary of the potential environmental impacts that may result from adoption and implementation of the proposed project. The analysis in this CEQA Checklist also summarizes the impacts and findings of Program EIRs that covered, specifically or as part of the cumulative analyses; the environmental effects of the proposed project and that are still applicable to the proposed project. As previously indicated, the Program EIRs include the Coliseum Area Redevelopment Plan (CARP) EIR and the Land Use and Transportation (LUTE) EIR. Given the timespan between the preparations of these EIRs, there are variations in the specific environmental topics addressed and significance criteria, however, as discussed above in Chapter IV and throughout this Checklist, the overall environmental effects identified in each are largely the same and any significant differences are noted.

This CEQA Checklist hereby incorporates by reference the discussion and analysis in the Program EIRs for all potential environmental impact topics; however, only those environmental topics that could have a potential project-level environmental impact are included herein. The EIR significance criteria have been consolidated and abbreviated in this CEQA Checklist for administrative purposes; a complete list of the significance criteria can be found in the Program EIRs.

This CEQA Checklist provides a determination of whether the Project would result in:

- Equal or lesser severity of impact previously identified in the Program EIRs;
- Substantial increase in severity of previously identified significant impact in the Program EIRs; or
- New significant impacts.

Where the severity of the project impacts would be the same as or less than the severity of the impacts described in the Program EIRs, the checkbox for Equal or Less Severity of Impact Previously Identified in the Program EIRs is checked. If the checkbox for Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs, or New Significant Impact is checked, it would indicate that there are significant impacts that are:

- Peculiar to the Project or the project site (per CEQA Guidelines Sections 15183 or 15183.3);
- Not identified in the previous EIR (Program EIRs) (per CEQA Guidelines Sections 15183 or 15183.3), including off-site and cumulative impacts (per CEQA Guidelines Section 15183);
- Due to substantial changes in the Project (per CEQA Guidelines Section 15162);
- Due to substantial changes in circumstances under which the Project will be undertaken (per CEQA Guidelines Section 15162); or
- Due to substantial new information not known at the time the Program EIRs were certified (per CEQA Guidelines Sections 15162, 15183, or 15183.3).

7.0 ENVIRONMENTAL CHECKLIST

The proposed project is required to comply with applicable mitigation measures identified in the Program EIRs and the City of Oakland SCAs.⁶ The project sponsor has agreed to incorporate and/or implement the SCAs as part of the proposed project. This CEQA Checklist includes references to the applicable SCAs, a list of the SCAs is included in Attachment A, and this list is incorporated by reference into the CEQA Checklist. If the CEQA Checklist (including Attachment A) inaccurately identifies or fails to list an SCA, the applicability of that SCA to the proposed project is not affected. If the language describing an SCA included in the CEQA Checklist (including Attachment A) is inaccurately transcribed, the language set forth in the Program EIRs or City of Oakland SCAs shall control.

⁶ These are development standards that are incorporated into projects as SCAs, regardless of a project's environmental determination, pursuant, in part, to CEQA Guidelines Section 15183. As applicable, the SCAs are adopted as requirements of an individual project when it is approved by the City, and are designed to, and will, substantially mitigate environmental effects. In reviewing project applications, the City determines which of the SCAs are applied, based on the zoning district, community plan, and the type(s) of permit(s)/approvals(s) required for the project. Depending on the specific characteristics of the project type and/or project site, the City will determine which SCA applies to each project.

1. AESTHETICS, SHADOW, AND WIND

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Have a substantial adverse effect on a public scenic vista?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, located within a state or locally designated scenic highway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Introduce landscape that would now or in the future cast substantial shadows on existing solar collectors (in conflict with California Public Resource Code sections 25980--5986)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Cast shadow that substantially impairs the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Cast shadow on an historic resource, as defined by CEQA Guidelines Section 15064.5(a), such that the shadow would materially impair the resource's historic significance by materially altering those physical characteristics of the resource that convey its historical significance and that justify its inclusion on or eligibility for listing in the National Register of Historic Places, California Register of Historical Resources, Local Register of historical resources, or a historical resource survey form (DPR Form 523) with a rating of 1-5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Require an exception (variance) to the policies and regulations in the General Plan, Planning Code, or Uniform Building Code, and the exception causes a fundamental conflict with policies and regulations in the General Plan, Planning Code, and Uniform Building Code addressing the provision of adequate light related to appropriate uses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Create winds that exceed 36 mph for more than one hour during daylight hours during the year?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.0 ENVIRONMENTAL CHECKLIST

PROGRAM EIRs FINDINGS

The CARP EIR did not analyze visual and aesthetic impacts. The CARP Initial Study found that CARP implementation may (1) obstruct a scenic vista or view open to the public and (2) produce shade and shadow, or otherwise diminish sunlight or solar access. Comments in the CARP Initial Study noted that applicable use permit criteria and performance standards would mitigate these impacts.

The LUTE EIR determined that LUTE implementation would have a less than significant impact with mitigation incorporated on the city's visual character due to development of high-rise buildings in the city's core. Additionally, the LUTE EIR found that LUTE policies and land use designations that would encourage development along transit-oriented corridors would have a similar less than significant impact with mitigation incorporated on the city's aesthetic resources. The LUTE EIR determined that impacts on scenic resources would be less than significant with implementation of policies included in the Open Space, Conservation, and Recreation (OSCAR) Element.

The LUTE EIR includes four mitigation measures for visual and aesthetic conditions and wind: Mitigation Measures (MM) F.2a, F.2b, F.2c, and N.1. MM F.2a calls for development of a stepback ordinance for height and bulk that would encourage a pedestrian scale and strong vertical elements stepping back from the street. MM F.2b calls for development of zoning regulations that support the preferred skyline design. MM F.2c calls for view corridors, including views of Lake Merritt, the Estuary, and architecturally or historically significant buildings. MM N.1 calls for project sponsors to incorporate specific design elements in the final siting and designs for high rises that could reduce ground-level winds in the Downtown Showcase District. Due to the nature of the proposed Project, these mitigation measures do not apply, as discussed below.

PROJECT ANALYSIS AND CONCLUSION

The Project is not located in a scenic vista and would not impede visibility, nor is it visible from the City-identified public vistas and there would be no potential impact on scenic vistas from the project site. Additionally, the Project is not located near an officially designated scenic highway (Caltrans 2017). The new building in the Project would not cast shadows on adjacent solar collectors or a historic resource or to public or quasi-public land. The Project would be less than 100 feet in height; thus, it is not subject to wind analysis.

Existing Setting

The project site includes three one-story buildings, a parking lot, a sports field, and landscaped areas.

On Visual Character (Criterion c)

The Project would renovate the existing buildings on the project site and construct an approximately 23,600-square-foot two-story educational classroom facility. The new building would be approximately 30 feet tall and would be primarily accessed from the west elevation, which would be oriented toward an interior plaza adjacent to the school's relocated parking lot (see **Figure 5.0-3, Phase I and II Components**). The Project would require design review approval, pursuant to Section 17.136.040 of the City's Planning Code, as it requires a Major Conditional Use Permit. The design review process would ensure that the Project would be consistent with standards and guidelines related to aesthetics, compatible with the existing built form and architectural character of the neighboring area as a whole, and compatible with the distinctive visual character of individual areas. Additionally, the Project would be required to comply with

SCA AES-1 for graffiti control and SCA AES-2 for landscape plans, which would enhance the visual character of the site and its surroundings.

Light and Glare (Criterion d)

The Project would comply with SCA AES-3, which requires that all new exterior lighting fixtures be adequately shielded to a point below the light bulb and reflector to prevent unnecessary glare onto adjacent properties. Additionally, lighting is required to comply with the performance standards set in Section 17.120.110 of the Oakland Planning Code relating to glare, so as to not adversely affect nearby properties or public streets.

The closest residences to the project site are approximately 200 feet to the west across Cary Avenue. The Project's incorporation of light fixture shielding and the City's approval of materials that would not create glare would result in a less than significant impact on lighting and glare.

Shadows (Criterion f)

Shadow lengths for the new 30-foot-tall educational classroom facility were prepared and winter solstice, summer solstice, spring equinox, and fall equinox were used for shadow calculations to represent seasonal shadow impacts. Shadows created during all daylight hours were analyzed; however, only morning sun was found to create shadows in the direction of adjacent buildings. Shadows created by the Project would not shade adjacent buildings during morning peak solar collection hours. Therefore, shadow impacts would be less than significant.

Conclusion

Based on the project-specific analysis and the findings and conclusions in the Program EIRs, Project implementation would not substantially increase the severity of the significant aesthetics, shadow, and wind impacts identified, nor would it result in new significant impacts related to aesthetics, shadow, and wind that were not previously identified in the Program EIRs. The project would be required to implement City of Oakland SCAs related to visual control, landscaping, and lighting plans as identified in **Appendix SCA**. For reference, these are SCA-AES-1: Lighting (#18), SCA-AES-2: Graffiti Control (#16), SCA-AES-3: Landscape Plan (#17).

7.0 ENVIRONMENTAL CHECKLIST

2. AIR QUALITY

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in the Program EIRs	New Significant Impact
a. During project construction result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. During project operation result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5, or 82 pounds per day of PM10; or result in maximum annual emissions of 10 tons per year of ROG, NOx, or PM2.5, or 15 tons per year of PM10?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Contribute to carbon monoxide (CO) concentrations exceeding the California Ambient Air Quality Standards (CAAQS) of nine parts per million (ppm) averaged over eight hours and 20 ppm for one hour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. For new sources of Toxic Air Contaminants (TACs), during either project construction or project operation expose sensitive receptors to substantial levels of TACs under project conditions resulting in (a) an increase in cancer risk level greater than 10 in one million, (b) a non-cancer risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of annual average PM2.5 of greater than 0.3 micrograms per cubic meter; or, under cumulative conditions, resulting in (a) a cancer risk level greater than 100 in a million, (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0, or (c) annual average PM2.5 of greater than 0.8 micrograms per cubic meter?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Expose new sensitive receptors to substantial ambient levels of Toxic Air Contaminants (TACs) resulting in (a) a cancer risk level greater than 100 in a million, (b) a noncancer risk (chronic or acute) hazard index greater than 10.0, or (c) annual average PM2.5 of greater than 0.8 microgram per cubic meter?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs

The CARP EIR determined that CARP implementation would have a less than significant with mitigation incorporated impact from particulate matter small enough to cause respiratory problems in susceptible persons due to construction. Additionally, the CARP EIR found that exhaust emissions would have a temporary impact and would have a less than significant impact. The CARP EIR determined that construction excavation impacts from exposure of hazardous materials found in soil would be less than significant.

The CARP EIR includes three mitigation measures for air quality resources: Air Quality Mitigation 1, 2, and 3. Mitigation 1 calls for a dust control plan, off-road equipment to be tuned up prior to being brought to the job site, truck idling to be limited to 5 minutes while waiting to load or unload, and measures to reduce congestion caused by construction vehicles. Mitigation 2 calls for the implementation of transportation control measures by the City. Mitigation 3 calls for the City to participate in the Alameda County Congestion Management Agency corridor management plan. SCA GEN-1 calls for the applicant to submit a Construction Management Plan that addresses dust control and construction emissions, which addresses Mitigation 1. Mitigation 2 and 3 are not relevant to the Project, as they require action by the City, not applicants on a project-by-project basis.

The LUTE EIR determined that LUTE implementation would result in a significant unavoidable impact on regional emissions of criteria air pollutants due to the LUTE's inconsistency with vehicle miles traveled assumptions used in air quality planning.

The LUTE EIR includes Mitigation Measure E.1., which calls for large new development within the city to implement Transportation Control Measures as recommended by the Bay Area Air Quality Management District. SCA AQ-2 identifies conditions that apply to qualifying nonresidential uses, as determined by the Bay Area Quality Management District's CEQA Guidelines. These would be applied to the Project if applicable.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

Oakland is located within the San Francisco Bay Area, which is dominated by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean near Hawaii. This portion of Oakland is bounded by urban development and open space to the north, the San Leandro Bay to the northwest, the San Francisco Bay to the west and southwest, and the Diablo Range to the east.

The San Francisco Bay Area typically has moderate ventilation, frequent inversions that restrict vertical dilution, and terrain that restricts horizontal dilution, resulting in a relatively high atmospheric potential for pollution. The primary pollutants of concern in the Bay Area are ozone, particulate matter, and carbon monoxide. These pollutants can have health effects such as respiratory impairment and heart/lung disease symptoms. Motor vehicle use is the largest source of ozone precursors, carbon monoxide, and particulates in the Bay Area. Other sources of particulate matter include factories, construction, grading, demolition, and wood burning. Consumer products such as aerosol sprays and paint applications are also sources of ozone precursors. Ozone and particulate matter are considered regional pollutants in that concentrations are not determined by proximity to individual sources, but show a relative uniformity over a region. Carbon monoxide tends to be concentrated at the source, such as at congested intersections.

Air Quality Standards (Criteria 2a, b, c, e and f)

The Project would result in an increase in criteria air pollutant and precursor emissions from mobile on-road sources and onsite area sources during both the operational and construction periods. The Project would be required to comply with applicable SCAs related to construction emissions (SCA-AIR-1). The Project would not employ a backup generator; therefore, it would not introduce any stationary sources of air pollution.

7.0 ENVIRONMENTAL CHECKLIST

The City of Oakland utilizes screening criteria to provide a conservative indication of whether a Project could result in potentially significant air quality impacts related to operational emissions. If the screening criteria are not exceeded by a project, quantification of a project's air pollutant emissions is not necessary to make a determination that the impact will be below the thresholds of significance. Emissions from the construction and operation of the project were estimated using the California Emissions Estimator Model (CalEEMod). CalEEMod utilizes widely accepted methodologies for estimating emissions using site-specific data and default data based on land uses. Construction activities generate emissions from several different sources, including construction equipment, on-road vehicle travel, and fugitive dust. Project operational emissions include pollutants generated by vehicle travel, landscaping equipment, and equipment or activities in buildings that consume energy in the form of natural gas and electricity. As shown in Tables 2.1 and 2.2 below, the Project would not exceed BAAQMD established thresholds for either construction or operation.

**TABLE 2.1:
MAXIMUM DAILY CONSTRUCTION EMISSIONS SUMMARY (POUNDS PER DAY)**

Construction Emissions	ROG	NOx	Exhaust PM ₁₀	Exhaust PM _{2.5}	Fugitive Dust PM ₁₀	Fugitive Dust PM _{2.5}
Maximum Daily Emissions*	40.24	25.93	1.44	1.34	2.33	1.16
BAAQMD Potentially Significant Impact Threshold	54	54	82	54	Basic Construction Mitigation Measures	Basic Construction Mitigation Measures
Exceed BAAQMD Threshold?	No	No	No	No	No	No

*See Appendix AQ

**TABLE 2.2:
MAXIMUM DAILY OPERATIONAL EMISSIONS SUMMARY (POUNDS PER DAY)**

Operation	ROG	NOx	Total PM ₁₀	Total PM _{2.5}	CO
Summer					
Area Source	1.68	0	0	0	0.02
Energy	0.03	0.26	0.02	0.02	0.22
Mobile	1.95	7.86	5.05	1.38	20.07
<i>Total</i>	<i>3.66</i>	<i>8.12</i>	<i>5.07</i>	<i>1.41</i>	<i>20.31</i>
Winter					
Area Source	1.67	0	0	0	0.02
Energy	0.03	0.26	0.02	0.02	0.22
Mobile	1.71	8.32	5.05	1.39	20.39
<i>Total</i>	<i>3.41</i>	<i>8.58</i>	<i>5.07</i>	<i>1.41</i>	<i>20.63</i>
Thresholds					
BAAQMD Potentially Significant Impact Threshold	54	54	82	54	—
Exceed BAAQMD Threshold?	No	No	No	No	N/A

As demonstrated, projected emissions would fall below all significance thresholds developed by the BAAQMD during both construction and operations. Therefore, the Project would not result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation. Furthermore, by its very nature, air pollution is largely a cumulative impact. According to the BAAQMD, no single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. According to the BAAQMD, if a project exceeds the district's identified significance thresholds, the project's impacts would be cumulatively considerable. As demonstrated, the proposed Project would not exceed thresholds for air pollutant emissions during construction or operations. Therefore, since the Project would not exceed significance thresholds, it would result in no cumulative impacts. Additionally, implementation of the basic controls under SCA-AIR-1 would reduce emissions of both criteria air pollutants and TACs during construction. The Project would add new sensitive receptors within 1,000 feet of stationary and roadway sources of TACs. As a result, a screening analysis was conducted to assess the cumulative health risk to the Project's sensitive receptors and shown below. Based on a conservative screening-level health risk analysis, the cumulative health risks to the Project's sensitive receptors from existing and reasonably foreseeable future sources of TACs would be less than the City's cumulative health risk thresholds (cancer risk of 100 in a million, chronic hazard index [HI] of 10, and fine particulate matter [PM_{2.5}] concentration of 0.8 micrograms per cubic meter). This is below the threshold to prepare a Health Risk Assessment or adopt further risk reduction strategies to reduce the exposure of the Project's sensitive receptors to TACs under SCA-AIR-2: Exposure to Air Pollution (Toxic Air Contaminants).

**LIGHTHOUSE CHARTER SCHOOL
TAC SCREENING SUMMARY**

Highways within 1,000 feet							
None				-	-	-	
Roadways within 1,000 feet with ADT higher than 10,000							
Name	Direction	Side of Road	ADT	Distance (feet)	Cancer Risk (in one million)	PM _{2.5} (µg/m ³)	Hazard Index (HI)
San Leandro St.	N-S	W	14,900	780	0.75	.015	0
Permitted Stationary Sources within 1,000 feet							
Name	ID			Distance (feet)	Cancer Risk (in one million)	PM _{2.5} (µg/m ³)	Hazard Index (HI)
Melrose Metal Finishing	2537			120	0	0.002	0.04
The Art-Craft Company	8394			805	0	0	0
BAAQMD Individual Threshold					10	0.3	1
Cumulative					Cancer Risk (in one million)	PM _{2.5} (µg/m ³)	Hazard Index (HI)
Sum of all sources					0.75	0.015	0.04
BAAQMD Cumulative Threshold					100	0.8	10

Notes:

Roadway Cancer Risk and PM_{2.5} concentration from BAAQMD Roadway Screening Analysis Calculator for Alameda County, 2015
 ADT for San Leandro Street from Oakland Traffic counts by Kittelson & Associates, <http://maps.kittelson.com/OaklandCounts>, 2013
 Stationary Source Data from BAAQMD Stationary Source Screening Analysis Tool, Alameda County, 2012

7.0 ENVIRONMENTAL CHECKLIST

As school projects are not generally considered substantial sources of operational TACs, preparation of a Health Risk Assessment or adoption of further risk reduction strategies to reduce the exposure of existing sensitive receptors to new TAC emissions under SCA-AIR-3: Stationary Sources of Air Pollution (Toxic Air Contaminants) would not be required.

The buildings were originally constructed in 1982-83 and structurally renovated, during year 2000-2002 and likely do not contain asbestos.

Conclusion

Based on the Project-specific analysis, and the findings and conclusions of the Program EIRs, Project implementation would not substantially increase the severity of significant impacts identified in the Program EIRs, nor would it result in new significant impacts related to air quality that were not previously identified. The Project would be required to implement SCAs related to air quality, as identified in **Appendix SCA**. For reference, these are: SCA-GEN-1: Construction Management Plan (#13), SCA-AIR-1: Construction-Related Air Pollution Controls--Dust and Equipment Emissions (#19), SCA-AIR-2: Exposure to Air Pollution--Toxic Air Contaminants (#20), SCA-AIR-3: Stationary Sources of Air Pollution--Toxic Air Contaminants (#21).

3. BIOLOGICAL RESOURCES

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
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 Wildlife or US Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Wildlife or US Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands (as defined by section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Substantially interfere 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRS

The CARP EIR found that direct and indirect impacts on common vegetation and wildlife species would occur. The CARP EIR determined that this impact would be less than significant. The CARP EIR includes seven mitigation measures for biotic resources: Biotic Resources Mitigations 1, 2, 3, 4, 5, 6, and 7. These mitigation measures do not apply to the Project, as these resources are not present in the project area.

The LUTE EIR also found that development consistent with the LUTE could affect the habitat of certain special-status plants and result in the loss of special-status plant species, and could result in the loss of mature trees on new development sites. The LUTE EIR determined that this impact would be less than significant.

7.0 ENVIRONMENTAL CHECKLIST

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

The Project site is located in an urban setting on a site that has been developed for different uses for over 90 years. It is approximately 0.5 mile from San Leandro Creek (the nearest creek to the project site) and more than 1 mile from the nearest wetland. It is occupied by two structures, a small building, parking lot and adjacent fields. The project site is not identified as a resource conservation area, proposed new resource conservation area, urban park, private use with open space characteristics, potential opportunity area to improve shoreline access, or priority area for creek restoration in Figure 3: Open Space Plan of the Oakland (1996) Open Space, Conservation, and Recreation Element. As such, thresholds a, b, c, d, and f are not relevant to the Project. The project site is located in an urban setting on a site that has been developed for different uses for over 90 years and is currently a community education land use. As such, the project site provides no natural habitat for special-status species, wildlife corridors, or riparian or sensitive habitat.

Protected Trees (Criterion e)

The Project is subject to the City's Tree Protection Ordinance (OMC Chapter 12.36). Pursuant to SCA BIO-1, a tree permit, which may be granted conditional on replacement tree planting, would be required for the removal of any tree. SCA-2 provides protections for tree removal during bird breeding season. Additionally, tree protection fencing would be required during construction to protect trees in and in close proximity to construction areas. The Project would comply with the City's Tree Protection Ordinance.

Conclusion

Based on the project analysis and the findings and conclusions in the Program EIRs, the Project would not substantially increase the severity of the significant biological impacts identified, nor would it result in new significant impacts related to biological resources that were not identified in Program EIRs. No mitigation measures would be needed for the Project. Applicable SCAs are identified in **Appendix SCA**. For reference, these are: SCA BIO-2--Tree Removal During Bird Breeding Season (#26) and SCA BIO-1--Tree Permit (#26).

4. CULTURAL RESOURCES

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in the Program EIRs	New Significant Impact
a. Cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5? Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be "materially impaired." The significance of an historical resource is "materially impaired" when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California Register of Historical Resources, the National Register of Historic Places, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRS FINDINGS

The CARP EIR concluded that CARP implementation would have a significant impact on archaeological sites located within the plan area. As such, it required the implementation of Mitigation Measure 4.11-1, which establishes measures for the handling of archaeological resources upon discovery and consultation with the California Native American Heritage Commission. It also included Mitigation Measure 4.11-2, which establishes procedures for discovery of unknown archaeological resources.

The CARP EIR also determined that CARP implementation would have a significant impact on cultural resources, due to demolition and alteration of said resources. As such, it required the implementation of Mitigation Measure 4.11-3, which establishes procedures for historic resources evaluation and potential demolition.

The LUTE EIR concluded that LUTE implementation would have a less than significant impact on archaeological resources and historic resources. Implementation of existing regulations and standard design guidelines, as outlined in Mitigation Measures G.3a and G.3b, would reduce any potential impacts. These mitigation measures are not applicable to the proposed Project.

7.0 ENVIRONMENTAL CHECKLIST

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

The project site was developed around 1982, when building permits were issued to construct warehouses, with one converted to an assembly church in 1991. In 1993 aerial photos, two large structures and a parking lot were visible on the site. The School of Urban Missionaries has been listed as the site occupant since 2000, the year a building permit was issued to convert the other warehouse into a private school. The property has existed in its current configuration since 2003 when the auxiliary restroom/concession stand was constructed and the dormitories were constructed inside of the eastern building. Due to the age of the structures on the project site they do not qualify as cultural resources under CEQA.

Cultural Resources (Criterion a & b)

No buildings older than 50 years of age are on the project site, and no existing structures would be removed. Therefore, the Project would not impact cultural resources, as none are located on the project site.

Archaeological and Paleontological Resources and Human Remains (Criterion c & d)

The site would be excavated to remove contaminated soil and for the new high school building foundation. There have been several excavations on the site since 1988, and no finds were reported. SCA CUL-1, SCA CUL-2 and SCA CUL-3 which relate to archaeological and paleontological resources and human remains would apply to project construction and implementation. The SCAs .

Conclusion

Based on the project-specific analysis and the findings and conclusions in the Program EIRs, the Project would not substantially increase the severity of significant cultural resource impacts, nor would it result in new significant impacts related to cultural resources that were not identified in the Program EIRs. The Project would be required to implement SCAs related to the discovery of archaeological and paleontological resources and the discovery of human remains during construction, as identified in **Appendix SCA**. For reference, they are as follows: SCA CUL-1, Archaeological and Paleontological Resources—Discovery During Construction (#29); SCA CUL-2, Archaeologically Sensitive Areas—Pre-construction Measures (#30), and SCA CUL-3, Human Remains—Discovery During Construction (#31).

5. GEOLOGY AND SOILS

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Expose people or structures to substantial risk of loss, injury, or death involving the following? <ul style="list-style-type: none"> Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault Strong seismic ground shaking Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse Landslides 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007, as it may be revised), creating substantial risks to life or property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The Program EIRs determined that ground failure could occur due to seismically induced liquefaction and differential settlement from a maximum credible earthquake on the Hayward or San Andreas faults. Ground failure would damage major structures, highways, railroads, airport runways, port facilities, and some utility pipelines. The CARP EIR determined that this impact would be significant but mitigatable to a less than significant level.

The CARP EIR also determined that differential settlement could occur and could cause structural distress in buildings within the CARP area. The CARP EIR determined that this impact would be significant but mitigatable to less than significant.

The CARP EIR includes two mitigation measures for seismic conditions: Geology and Seismicity Mitigation 1 and 2. Mitigation 1 identifies construction techniques for building on weak soils. Mitigation 2 calls for special structural design to accommodate shaking and securing building fixtures, such as bookcases and water heaters, after building construction. These mitigation measures can be read in full in the Program EIRs

7.0 ENVIRONMENTAL CHECKLIST

The CARP EIR includes one mitigation measure for expansive soils: Geology and Seismicity Mitigation 3. This mitigation measure requires building-site-specific analysis to determine what construction techniques are to be implemented to mitigate for expansive soils. The LUTE EIR determined that impacts as they relate to ground failure and other earthquake-related hazards would result in less than significant impacts due to LUTE implementation. Additionally, the LUTE EIR determined that LUTE implementation would result in less than significant impacts due to other geologic hazards (steep slopes, high erosion, landsliding), expansive soils, and soil erosion.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

The project site is located within the San Francisco Bay Plain. It has an elevation of approximately 31 feet above sea level, and the topography gently slopes toward the south to southwest. According to the CARP EIR, natural geologic deposits are predominant in the area. Thresholds d, e and f are not relevant to the Project since it would not be located above a well, pit, swamp, mound tank vault, or unmarked sewer line, nor would it be located above a landfill or unknown fill soils. The Project would also not require an alternative wastewater disposal system, therefore threshold g is no longer discussed.

Seismic Hazards

The project site does not contain any active faults (CGS 2010) and it is not within an Alquist-Priolo Fault Zone (ABAG 2017a). It is approximately 1.9 miles west of the Hayward fault. According to the ABAG (2017b) Interactive Liquefaction Susceptibility Map, the project site is located in an area that has been characterized as having moderate liquefaction susceptibility.

Soils

According to the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS 2017), project site soils are classified as 25.5 percent Clear Lake clay and 74.5 percent Danville silty clay loam, with 0 to 2 percent slopes. Silt and loam soils are not expansive and have a low shrink-swell potential. Certain kinds of clay soils expand when wet and shrink when dry.

Seismic Hazards, Expansive Soils, and Soil Erosion (Criteria a, b, and c)

Pursuant to SCA GEO-1, the project applicant is required to provide a soils report that contains, at a minimum, field test results and observations regarding the nature, distribution, and strength of existing soils, and recommendations for appropriate grading practices and project design. If the soils report reveals that the site is located in a Seismic Hazards Zone per the State Seismic Hazards Mapping Act (pertaining to seismically induced liquefaction), the Project would also be subject to SCA GEO-2, Seismic Hazards Zone (Landslide/Liquefaction).

The Project would require the excavation of more than 500 cubic yards of soil. Projects in the city that propose to excavate more than 500 cubic yards of soil are required to obtain a grading permit. The grading permit would require the project applicant to comply with local and state construction requirements, including the California Building Code, in the design and building of the Project.

The CARP EIR's two geology and seismicity mitigation measures, Geology and Seismicity Mitigation 1 and 2 for construction on potentially weak soils and structure design to accommodate ground shaking, would be applicable to the Project, if the project-specific soil report finds such soils

present. As described above, project soils have a low expansive potential; therefore, Mitigation 3 would not be applicable.

Conclusion

Based on the project-specific analysis and findings and conclusions of the Program EIRs, the Project would not substantially increase the severity of significant geologic impacts identified, nor would it result in new significant impacts related to geology and soils that were not identified in the Program EIRs. The Project would also comply with the requirements of the California Building Code, Seismic Hazards Mapping Act. SCAs regarding soils and seismicity are identified in **Appendix SCA**. For reference, they are and City SCAs GEO-1—Soils Report (#31) and GEO-2—Liquefaction (#36), which ensure implementation of recommendations from an approved soil report to prevent exposure of people or structures to substantial risk of loss, injury, or death.

7.0 ENVIRONMENTAL CHECKLIST

6. GREENHOUSE GAS EMISSIONS/GLOBAL CLIMATE CHANGE

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in the Program EIRs	New Significant Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, specifically: a) For a project involving a stationary source, produce total emissions of more than 10,000 metric tons of CO ₂ e annually; b) For a project involving a land use development, produce total emissions of more than 1,100 metric tons of CO ₂ e annually AND more than 4.6 metric tons of CO ₂ e per service population annually, and c) Produce emissions of more than 6.6 metric tons of CO ₂ e per service population annually?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Fundamentally conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIR FINDINGS

Climate change and greenhouse gas (GHG) emissions were not expressly addressed in the CARP or LUTE EIR. Since information on climate change and greenhouse gas emissions was known, or could have been known, when the Program EIR was certified, it is not new information as specifically defined under CEQA. This is consistent with the First District Court of Appeal's ruling in *Concerned Dublin Citizens v. City of Dublin*, 214 Cal.App.4th 1301 (2013).

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. However, over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global climate change. The gases that are widely seen as the principal contributors to human-induced global climate change are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). While GHGs produced by human activities include naturally occurring GHGs such as CO₂, CH₄, and N₂O, some gases, like HFCs, PFCs, and SF₆, are completely new to the atmosphere. Certain other gases, such as water vapor, are short-lived in the atmosphere compared to those GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this analysis, the term "GHGs" will refer collectively to the six gases identified above.

In October 20010, the Oakland City Council adopted the Private Sector Green Building Policy (6-32), which establishes baseline green building standards for private sector new construction and provides a framework for the implementation of these standards. In addition to Oakland's local green building ordinance, the state of California adopted a Green Building Code known as CALGreen in 2010. Both the City's local ordinance and the 2013 amendments to CALGreen are now in effect. Green building strategies integrate materials and methods that promote natural resource conservation, improve energy efficiency, contribute to the health of employees and residents, and increase economic vitality.

The Oakland City Council approved an Energy and Climate Action Plan (ECAP) in December of 2012. The purpose of the ECAP is to identify and prioritize actions the City can take to reduce energy consumption and GHG emissions associated with Oakland. The ECAP establishes GHG reduction actions, as well as frameworks for coordinating implementation and monitoring and reporting on progress.

Generation of GHG Above Established Criteria (Criterion a and b)

The Project would be required to comply with applicable SCAs that would reduce GHG emissions. These include but are not limited to preparation and implementation of a TDM Plan under SCA-TRANS-4 and a Construction and Demolition Waste Reduction and Recycling Plan under SCA-UTIL-1.

The City requires a GHG Reduction Plan for projects of a certain minimum size that produce total GHG emissions exceeding one or both of the City's established thresholds of significance, and that would potentially result in a significant impact. Emissions from the construction and operation of the project were estimated using the California Emissions Estimator Model (CalEEMod). CalEEMod utilizes widely accepted methodologies for estimating emissions using site-specific data and default data based on land uses. Construction activities generate emissions from several different sources, including construction equipment, on-road vehicle travel, and fugitive dust. Project operational emissions include pollutants generated by vehicle travel, landscaping equipment, and equipment or activities in buildings that consume energy in the form of natural gas and electricity. As shown in Tables 7.1 and 7.2 below, the Project would not exceed any of the established thresholds.

TABLE 6.1:
ANNUAL CONSTRUCTION AND OPERATIONAL EMISSIONS (METRIC TONS PER YEAR)

Project	ROG	NO _x	Total PM ₁₀	Total PM _{2.5}	CO	SO ₂
Project Construction	1.36	5.11	0.43	0.31	3.87	0.10
Project Operations	0.52	1.07	0.64	0.18	2.45	0.01
Thresholds						
EPA Conformity Determination Thresholds (40 CFR 93.153)	50	100	100	100	100	100

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TABLE 6.2:
OPERATIONAL GHG EMISSIONS (METRIC TONS PER YEAR)

Source	CO ₂ e
Operation	884
BAAQMD Potentially Significant Impact Threshold	1,100
Exceed BAAQMD Threshold	No

GHG emissions would be further reduced through implementation of City SCAs. These include but are not limited to preparation and implementation of a Transportation and Parking Demand Management (TDM) Plan under SCA-TRANS-1: Transportation and Parking Demand Management (#71) and a Construction and Demolition Waste Reduction and Recycling Plan under SCA-UTIL-3: Construction and Demolition Waste Reduction and Recycling (#74). The proposed project would not be subject to a GHG Reduction Plan under the City's SCA (#38), because estimated GHG emissions are below the City's thresholds of significance and the proposed project is not large enough to trigger the requirement for a GHG Reduction plan.

Conclusion

Based on the Project-specific analysis, and the findings and conclusions of the Program EIRs, Project implementation would not substantially increase the severity of significant impacts identified, nor would it result in new significant impacts related to GHG and climate change that were not identified in the Program EIRs. The Project would be required to implement SCAs to reduce GHG emissions as identified in **Appendix SCA**. For reference, they are as follows: SCA-TRANS-1: Transportation and Parking Demand Management (#71) and SCA-UTIL-3: Construction and Demolition Waste Reduction and Recycling (#74).

7. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIR	New Significant Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Create a significant hazard to the public through the storage or use of acutely hazardous materials near sensitive receptors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the "Cortese List") and, as a result, would create a significant hazard to the public or the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Be 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, and would result in a significant safety hazard for people residing or working in the project area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Be located within the vicinity of a private airstrip, and would result in a significant safety hazard for people residing or working in the project area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Fundamentally impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The CARP EIR found that when handled properly and when used in compliance with permitting and other regulatory requirements, hazardous substances do not necessarily pose a human health

7.0 ENVIRONMENTAL CHECKLIST

concern or a threat to the environment. The CARP EIR determined that this impact would be less than significant.

The CARP EIR found that with the increased numbers of businesses that handle, store, or transport hazardous substances, there would be an increased potential for accidents or spills of hazardous materials. The CARP EIR determined that this impact would be less than significant, but specific projects may warrant specific mitigation measures.

The CARP EIR also found that although remediation efforts are currently under way at many identified known or suspected hazardous waste sites in the Coliseum Redevelopment Area, the extent of additional remediation that would be required due to development in the study area could not be determined at the time. The CARP EIR determined that this impact would be less than significant.

The CARP EIR found that because the extent of demolition or renovation that would occur due to CARP implementation is unknown, and the location and quantity of hazardous building materials within the Coliseum Redevelopment Area is also unknown, the specific potential for worker and public exposure to hazardous building materials as a result of redevelopment could not be evaluated at the time the EIR was prepared. Site-specific public health effects due to exposure to hazardous building materials during demolition and renovation activities in the CARP area could potentially result in significant impacts if proper cleanup and disposal procedures are not followed. The CARP EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR found that proposed land use changes for the Central Business District, military bases, the Coliseum area, and BART Transit Villages include a change to mixed uses that may allow housing as well as commercial operations that may use hazardous materials. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR found that adoption of the LUTE could encourage new businesses and expansion of existing businesses within the areas designated for change. This could result in associated potential increases in the quantities of hazardous substances used, stored, and transported, increasing the potential for accidents or spills and increasing the potential for exposure to workers, the public, and the environment. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR also found that adoption of the LUTE would increase the potential for demolition and renovation activities within the areas designated for change. Many of these buildings could contain hazardous building materials and demolition or renovation could result in exposure to hazardous building materials, such as asbestos, lead, mercury, or polychlorinated biphenyls (PCBs), with associated public health concerns. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR found that adoption of the LUTE would increase the potential for construction activities within the areas designated for change, which could increase the likelihood of encountering contaminated soil or groundwater and potentially expose workers and the community to hazardous substances. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR also found that remediation efforts at an identified hazardous waste site could expose workers and the public to hazardous substances. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR includes one mitigation measure for hazardous materials: Hazardous Materials Mitigation M.5. This mitigation measure calls for hazards to construction workers and the general public to be mitigated by site-specific health and safety plans.

PROJECT ANALYSIS AND CONCLUSION

The Project would not change the surrounding streets or roadways, nor would it limit emergency access or plans. Any temporary roadway closures required during project construction would be subject to City of Oakland review and approval to ensure consistency with City requirements.

Existing Setting

The information included in this subsection is based on the Phase I Environmental Site Assessment report prepared by SCA Environmental, Inc. (2017) for the Project (**Appendix HAZ**). Thresholds f, i, and j are not relevant to the Project. The Project would not block or interfere with emergency access routes, as project operation and construction would not impair access to San Leandro Street, the nearest Emergency Evacuation Route to the project site (approximately 900 feet away). The project site is in an urban area that is not adjacent to open space; therefore, wildland fires would not occur in the project area.

The project site was developed as early as 1926 by the Best Steel Casting Company as an iron foundry with multiple structures including mechanical shops, steel ovens, and large foundry buildings. The General Metal Corporation–Steel Division took over the property in approximately 1943 and operated the facility as an iron foundry until between 1955 and 1958, after which the buildings on site were demolished, with several of the slabs left in place. The property then remained vacant until approximately 1982, when building permits were issued to construct warehouses and convert one to an assembly church in 1991. In 1993 aerial photos, two large structures and a parking lot were visible on the site. The School of Urban Missionaries has been listed as the site occupant since 2000, the year a building permit was issued to convert the other warehouse into a private school. The property has existed in its current configuration since 2003 when the auxiliary restroom/concession stand was constructed and the dormitories were constructed inside the eastern building (**Appendix HAZ**).

The Project site reported accidental release of hazardous materials on April 6, 1989, per the California Hazardous Material Incident Reporting System. There is no documented resolution to this incident. The project site is also in a previous industrial area and the potential that leaking underground storage tanks and other contamination from various sites in the vicinity have affected subsurface conditions near the project site. The project site is located approximately 1.6 miles from Oakland International Airport and is within its Airport Influence Area (Alameda County ALUC 2010).

Hazardous Materials (Criteria a, b, c, and e)

The Project would be required to follow all applicable laws and regulations related to transportation, use, and storage of all hazardous materials and to safeguard workers and the general public. To the extent that renovation of the existing buildings involves asbestos and/or lead paint, the project applicant would be required to comply with SCA HAZ-1. This standard condition requires the applicant to comply with all applicable laws and regulations regarding demolition and renovation of asbestos containing materials. Additionally, the applicant would be required to comply with SCA HAZ-2. This standard condition requires best management practices to be implemented during construction to minimize potential negative effects on groundwater, soils, and human health.

7.0 ENVIRONMENTAL CHECKLIST

Summary of Current Environmental Conditions and Proposed Actions

In compliance with the SCA HAZ-3, Hazardous Building Materials and Site Contamination, Phase I and Phase II Environmental Site Assessments were completed for the site (**Appendix HAZ**). Based on the findings of the Phase II ESA, further investigations including soil, groundwater, and soil vapor sampling, with associated laboratory analysis, were conducted and a Soil Management Plan (SMP) prepared and conditionally approved by the Alameda County Department of Health (DTSC) to prevent or minimize human exposure to soil, groundwater, and soil vapor which may contain chemicals of potential concern (COPC) at the site.⁷ The SMP prepared would govern all future intrusive work at the site such as soil grading, excavation, recompaction, trenching, and backfilling activities. The Site Management Plan is included in **Appendix HAZ**.

Based on the preliminary screening of the collected data the following COPCs were identified as having detected concentrations above the residential site use screening criteria:

- Antimony in soil – The maximum detected concentration of antimony, 67 mg/kg in near-surface soil sample SB-04-SO3-0.5, as well as one additional concentration, 60 mg/kg, in nearby near-surface soil sample SB-04-SO1-0.5, exceed the DTSC-modified screening level (DTSC-SL) for residential soil of 31 mg/kg.
- Arsenic in soil – The maximum detected concentration of arsenic, 29 mg/kg in near-surface soil sample SB-04-SO1-0.5, as well as two additional concentrations, 25 mg/kg and 13 mg/kg, in near-surface soil samples SB-04-SO3-0.5 and SB-04-0.5, respectively, exceed the ambient-based screening level of 11 mg/kg.
- Cobalt in soil – the maximum detected concentration of cobalt, 28 mg/kg in near-surface soil sample SB-04-SO1-0.5 exceeds the Department of Toxic Substances Control Screening Levels (DTSC-SL) for residential soil of 23 mg/kg.
- Lead in soil – Lead was detected in all surface and subsurface soil samples collected, at concentrations ranging from 6.1 to 1,300 mg/kg. Of the 40 soil samples analyzed for lead, nine exceed the DTSC-SL for residential soil of 80 mg/kg.
- Carcinogenic PAHs in soil⁸ – Carcinogenic PAHs, expressed as BaPe concentrations, were detected above the ambient-based screening level of 0.92 mg/kg in 9 of the 21 surface soil samples collected at the site, ranging from 1.2 mg/kg to 2.4 mg/kg, and in 2 of the 23 subsurface soil samples collected at the site, with detections of 11 mg/kg (SB-02-4.0) and 12 mg/kg (SB-12-4.0).
- Volatile organic compounds (VOCs) in soil gas – All detected concentrations of VOCs are below their respective residential site use screening levels except for 1,3-butadiene. 1,3-butadiene was detected at four of the eight sample locations (at SB-01, SB-03, SB-05, and SB-06) at concentrations ranging from 2.7 to 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The detected concentrations of 8.8 $\mu\text{g}/\text{m}^3$ and 10 $\mu\text{g}/\text{m}^3$ in soil gas samples SB-03-SG and SB-05-SG, respectively, slightly exceed the residential soil gas screening level of 8.5 $\mu\text{g}/\text{m}^3$.

⁷ Conditional approval was granted in a letter from the Alameda County Department of Environmental Health dated July 27, 2016.

⁸ Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Remedial Action Work Plan

Given the contamination on the project site, the Project includes a proposed remedial action plan to be reviewed and approved by DTSC. The components of the remedial action work plan or RAW are provided in **Figure 5.02-4** (see Section 5.0, Project Description), and are more fully described below. DTSC will review and issue the RAW and may include additional requirements or changes. These requirements or changes will be incorporated into the RAW and become part of the Project.

Within those areas of the property where existing hardscapes provide a surface cover, future improvements would replace the cover and cap the underlying contamination. The foundation and concrete floor of the new Building 3 (**Figure 5.02-3**) would replace the existing asphalt-covered basketball court. Similarly, the new playground would replace the existing parking lot area. Hardscape areas currently provide a surface cap for the immediate area surrounding the SB-04 boring with metal impacts, and these areas would not be disturbed during site improvements. In the area of the proposed new parking lot area (currently the southwestern portion of the playfield), the Project's Removal Action Workplan requires that a minimum of 9 inches of existing soil would require excavation to allow for the construction of the new parking lot (see **Appendix HAZ**). Additional soil may be excavated to provide a 1-foot cap to impacted soils.

The new parking lot would be built up from the remedial grade surface and include placement of orange demarcation netting, placement of a minimum of 3 inches of clean soil and compaction, and placement of 6 inches of base rock and 3 inches of asphalt. The new parking lot has an area of approximately 30,000 square feet; with a 1-foot excavation, approximately 1,100 cubic yards of soil would be removed from the project site. Within the playfield area, in order to provide a protective cap, 1 foot of soil would be excavated and replaced with clean soil backfill.

The new playfield surface would be built up from the remedial grade surface and include placement of high-visibility demarcation netting and placement and compaction of clean soil backfill. The existing playfield would be reduced in size, with the new playfield having an area of approximately 43,785 square feet. With an excavation to 1 foot, approximately 1,622 cubic yards of soil would be removed from the project site. In addition to the two larger excavations, existing soils within landscape areas adjacent to the eastern building would be excavated to a depth of 1 foot to address lead detections. The new post-remediation surface would have a high-visibility demarcation netting, and placement and compaction of clean soil backfill. Two narrow alleys adjacent to the eastern building (and fronting 105th Avenue and the adjacent rail corridor) would have new gates installed to prevent pedestrian access. The future condition of the capped areas would be maintained through the implementation of institutional controls, like a Land Use Covenant (LUC).

Earthwork Activities

- Prior to initiating earthworks activities, the site areas designated for waste removal would be staked and demarcated with white paint. In hardscaped covered areas, non-soil cover materials would be ripped up and segregated to conform to landfill acceptance criteria.
- In the playfield area, the upper 6 inches of vegetative cover and soil would be removed and separately stockpiled (due to the organic matter in this layer, the material may not be accepted as daily cover). Upon exposing the soil surfaces, excavation would proceed to the remedial rough grades.

7.0 ENVIRONMENTAL CHECKLIST

- Final excavation remedial grade surfaces would be lined with high-visibility demarcation netting before placement and compaction of backfill soil proceeds. Soil would be placed and compacted to specifications provided by the geotechnical engineer.

Soil Management Practices

To the extent possible, soil and waste material would be either temporary stockpiled or directly loaded into trucks for transport to a disposal facility. Temporary stockpiles would be placed on Visqueen plastic with borders lined with fiber rolls to prevent sediment transport. At the end of each workday, stockpiles would be covered with Visqueen plastic and weighted. Temporary stockpiles would be wetted during the course of the workday to prevent dust emissions to the atmosphere.

Drainage Planning

The Project site topography would be developed to maintain a minimum 1-foot cap across remedial areas. Prior to final construction design, the waste removal areas would be designated to the civil engineer, such that remedial design criteria can be incorporated into the final site improvement designs. The finished surfaces would be graded/sloped to provide adequate runoff and drainage to municipal storm drains.

Soil Management Plan

An SMP has been prepared for the site and would be submitted to the DTSC prior to initiation of fieldwork. The SMP is included in **Appendix HAZ** and is considered a living document. Updates to the SMP may be made independent from updates to the Remedial Action Work Plan based on changing field conditions.

The SMP presents the decision framework and risk management measures for managing known environmental conditions, including COPCs, before, during, and following site redevelopment, in a manner both protective of human health in accordance with applicable regulatory requirements and considering the existing and planned future land uses. The SMP also describes contingency actions for unanticipated environmental conditions encountered during redevelopment earthwork activities at the site.

The provisions of the SMP are mandatory and apply before and during site redevelopment. Following site redevelopment, the provisions of the SMP are mandatory and would be recorded in a Land Use Covenant (LUC) for the site. The SMP addresses conditions and activities including but not limited to:

- Dust and odor generation associated with excavation and trenching, grading and loading, backfilling, movement of construction and transportation equipment, and fugitive dust generation from wind.
- Management/disposal of soils during redevelopment including off-site transport of soils.

The DTSC is responsible for ensuring that the Project would not present an unacceptable risk to human health or the environment, and its review of the detailed project design, construction methods, and review and final approval of the SMP would include actions to address known and potentially undiscovered contamination at the site.

Consistent with the requirements of CEQA, this document provides a determination of whether the Project would have a significant impact. Where applicable, SCAs and/or mitigation measures in the LUTE and CARP EIRs have been identified that serve to mitigate potential impacts. In some instances, exactly how the measures/conditions identified would be achieved awaits completion of future studies, an approach that is legally permissible where measures/conditions are known to be feasible for the impact identified; where subsequent compliance with identified federal, state or local regulations or requirements apply; where specific performance criteria is specified and required; and where a project commits to developing measures that comply with the requirements and criteria identified. In this case, the studies required pursuant to standard conditions of approval and regulatory requirements for hazardous materials have been completed (i.e., the Phase I and Phase II ESAs, the Remedial Action Work Plan). Implementation of the recommendations and requirements of these studies, under the jurisdiction of the DTSC, would ensure that impacts related to hazardous materials would be less than significant.

Hazardous Materials Within One-Quarter Mile of a School (Criterion d)

The Project site is a school. Small amounts of hazardous materials, hazardous substances, and hazardous waste may be handled in association with the school. However, SCA HAZ-3 requires any project involving the handling, storage, or transportation of hazardous materials to submit a hazardous materials business plan. The plan would detail the types of hazardous materials that would be stored, where they would be stored, an employee emergency response training plan, and a description of how materials would be handled, transported, and disposed. If the school intends to handle, store, or transport such materials, it would submit its hazardous materials business plan for Oakland Fire Department approval, monitoring, and inspection. Implementation of a hazardous materials business plan and monitoring by the Oakland Fire Department would result in safe handling of hazardous or acutely hazardous materials, substances, and waste at the school.

Airport Hazards (Criteria g and h)

The project site is located approximately 1.6 miles from Oakland International Airport and is within its Airport Influence Area. Section 2.7.5.6 (Basic Land Use Compatibility Criterion) of the Oakland International Airport Land Use Compatibility Plan Traffic Pattern Zone includes general development standards that ensure land use compatibility and human safety for any uses located there (Alameda County ALUC 2010). The Project is consistent with development standards for the zone.

The project site is not located within 2 miles of a private airstrip. Therefore, the Project would not expose persons residing or working in the project area to safety hazards in relation to private airstrip operation.

Conclusion

Based on the project-specific analysis and the findings and conclusions of the Program EIRs, the Project would not substantially increase the severity of significant impacts identified nor would it result in new significant impacts related to hazards and hazardous materials that were not identified in the Program EIRs. The Program EIRs did not identify any mitigation measures that are relevant to the project site related to hazards and hazardous materials, and none would be needed for the Project. SCAs related to asbestos removal, lead-based paint/coatings, PCBs, ESA reports and remediation, health and safety plans, groundwater and soil contamination, and hazardous materials business plans would apply to the Project, as identified in **Appendix SCA**. For reference, they are as follows: SCA HAZ-1-- Hazardous Materials Related to Construction (#39), and SCA HAZ-2, Hazardous Building Materials and Site Contamination (#40).

7.0 ENVIRONMENTAL CHECKLIST

8. HYDROLOGY AND WATER QUALITY

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in substantial flooding on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Create or contribute substantial runoff which would be an additional source of polluted runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Otherwise substantially degrade water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, that would impede or redirect flood flows?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Expose people or structures to a substantial risk of loss, injury, or death involving flooding?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Expose people or structures to a substantial risk of loss, injury, or death as a result of inundation by seiche, tsunami, or mudflow?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or increasing the rate or amount of flow, of a creek, river, or stream in a manner that would result in substantial erosion, siltation, or flooding, both on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect hydrologic resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The CARP EIR found that new development, including grading, excavation, demolition, and expanded or new operations, could increase pollutant loads in surface runoff. Hazardous

materials may also be encountered during excavation and dewatering for foundations, site remediation, infrastructure installation, and other activities that may affect surface water and groundwater quality. The CARP EIR determined that this impact would be significant but mitigatable to less than significant.

The CARP found that new development and expansion of businesses and housing would marginally increase runoff from the area, which is already highly urbanized. No significant impacts to existing storm drain facilities were anticipated due to CARP implementation. The CARP EIR determined that this impact would be less than significant.

The CARP EIR also found that increased activity levels at developed sites could increase the amount of waste washed into the storm drains from parking lots and potential spills of hazardous materials. The CARP EIR determined that this impact would be less than significant.

The CARP EIR includes seven mitigation measures for surface water hydrology, storm drainage, and water quality: Hydrology Mitigation Measures 1, 2, 3, 4, 5, 6, and 7. Mitigation Measure 1 requires preparation of a stormwater pollution prevention plan. Mitigation Measure 2 complies with the City's standard grading conditions of approval. Mitigation Measure 3 requires adherence to the Alameda County Urban Runoff Clean Water Program to minimize potential deterioration of water quality. Mitigation Measure 4 mandates compliance with the City's grading and stormwater control ordinances. Mitigation Measure 5 includes best management practices (BMPs) for stormwater control. Mitigation Measure 6 calls for peak flows and storm volumes to be maintained at pre-project levels to minimize water runoff. Mitigation Measure 7 requires oil/grease separators in the storm drain system for parking lots that would accommodate 50 or more cars.

The LUTE EIR found that implementation of the LUTE would result in increased development activity at various locations throughout the city, including locations adjacent to creeks and waterways, which could result in water quality impacts during construction. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR also found that implementation of the LUTE would result in increased development activity that could alter drainage patterns, could increase impermeable surfaces leading to increased volume of runoff, and could potentially affect the quality of stormwater runoff. However, since the areas proposed for the greatest change are already developed with similar uses, the changes in runoff patterns, volume, and quality would be negligible. The LUTE EIR determined that this impact would be less than significant.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

Thresholds b, d, h, i, j, k, l, and m are not relevant to the Project. The project site is served by the East Bay Municipal Utility District (EBMUD), which uses river water as its primary water sources (EBMUD 2013). Additionally, the project site does not contain any wells. Groundwater supplies would not be depleted. The project site is not within a 100-year flood hazard area (Oakland 2017b).

According to the Flooding Hazards section of the Oakland (2012) General Plan Safety Element, dam failure could cause isolated damage in the city. However, none of the 13 nearby dams have been determined to be at risk of failure. The project site is approximately 1.6 miles away from the nearest body of water and therefore would not be exposed to risks from inundation by seiche, tsunami, or mudflow. No creek drainage pattern would be altered by the Project, as San Leandro Creek, the closest creek to the project site, is approximately 0.5 mile away. Additionally, the

7.0 ENVIRONMENTAL CHECKLIST

Project would not conflict with the City's Creek Protection Ordinance because there are no nearby creeks.

Water Quality (Criteria a, c, and g)

As described below, the City's SCAs would require stormwater treatment measures to reduce water quality impacts. Additionally, the project site is relatively flat, with a slope of less than 2 percent, so erosion or siltation that would affect the quality of receiving waters would not occur. SCA HYD-1 applies to all projects that create or replace any amount of impervious surface. Project design measures to reduce stormwater runoff would include directing roof runoff on vegetated areas, clustering structures, and using permeable paving in place of impervious paving where appropriate.

Drainage and Runoff (Criteria e and f)

The Project would construct an approximately 23,600-square-foot building, convert a portion of the site's existing playfields to a parking lot, and convert the existing parking lot to a playground. Other site improvements include construction of a plaza around the new building and new landscaping around a portion of the parking lot.

The Project would exceed 10,000 square feet of impervious area. Therefore, the Project is a Regulated Project pursuant to National Pollutant Discharge Elimination System (NPDES) C.3 stormwater management requirements. As a Regulated Project, the Project would be required to draft a Stormwater Management Plan as outlined in SCA HYD-1 (SCA HYD #45) requires a Sediment and Erosion Control Plan for construction.

Adherence with this requirement would result in Low Impact Development (LID) design features that would minimize runoff through infiltration of water into soils, evapotranspiration (evaporating water into the air directly or through plant transpiration), and biotreatment (filtering water through vegetation and engineered soil before it reaches the storm drain). These design features and overall C.3 compliance would minimize project stormwater runoff and provide on-site stormwater treatment.

Conclusion

Based on the project-specific analysis and the findings and conclusions of the Program EIRs, the Project would not substantially increase the severity of significant hydrology and water quality impacts identified, nor would it result in new significant impacts related to hydrology and water quality that were not identified in the Program EIRs. The Project would be required to implement standard conditions of approval related to stormwater, drainages and drainage patterns, and water quality, as identified in **Appendix SCA**. For reference, they are as follows: SCA HYD-1, Erosion and Sedimentation (#45).

9. LAND USE AND PLANNING

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Physically divide an established community?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in a fundamental conflict between adjacent or nearby land uses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Fundamentally 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 and actually result in a physical change in the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The Program EIRs found that the Coliseum Bay Area Rapid Transit (BART) Station Target Area and its vicinity could be subject to significant impacts due to intermodal and commercial development near housing. The CARP EIR determined that this impact would be significant but mitigatable to less than significant.

The CARP EIR found that CARP implementation would include area-wide programs such as rezoning, buffering, transportation/public facility/infrastructure improvements, housing construction and rehabilitation, homeownership, and efforts that would reduce blight and would benefit the area's land use compatibility and maintenance. The CARP EIR determined that this impact would be less than significant.

The CARP EIR also found that the Coliseum Redevelopment Area, especially within target areas, would be subject to varying levels of new development (retail, office, industrial, and housing). The CARP EIR determined that this impact would be less than significant.

The CARP EIR found that CARP implementation would improve the overall visual character of the area, through landscaping, code enforcement, rezoning, and rehabilitation. The CARP EIR determined that this impact would be less than significant.

The CARP EIR includes three mitigation measures for Land Use and Zoning Compatibility: Mitigation Measures 1, 2, and 3. Mitigation Measure 1 would provide pedestrian access between businesses on 81st Avenue and the Coliseum BART station. Mitigation Measure 2 includes code enforcement for the location, height, and setback of signs within the CARP area. Mitigation Measure 3 mandates that the Office of Employment and Economic Development work with BART, Caltrans, and the Port of Oakland concerning the BART Oakland Intermodal connector project to ensure that the proposed alignment, station designs, and potential intermediate station locations are compatible. Mitigation Measures 1 and 3 would not apply to the Project.

7.0 ENVIRONMENTAL CHECKLIST

The LUTE EIR found that LUTE implementation would alter the Oakland General Plan land use classifications, changing the densities that are allowed in various residential designations and restructuring the commercial and industrial designations to reflect a broader range of industry and business than anticipated in the 1980 General Plan Land Use Element. While the 1980 element stratified industrial and transportation uses into two separate categories, the LUTE EIR combined general industrial and transportation uses in a single category and separated lighter industrial and other business uses into a new category called Business Mix. Development consistent with the new definitions could result in a broader range of commercial and industrial uses in some areas. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR found that Land Use Diagram changes could facilitate the redevelopment of large parts of the city, including military bases, transit corridors, the Coliseum area, the Estuary shoreline, and downtown. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR includes 11 mitigation measures for land use. These measures call for development of land use performance standards and regulations, and are not applicable to the Project.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

Thresholds a, b, and d are not relevant to the Project. The Project would maintain its community education land use and would not divide any established communities on the project site or in the vicinity. Community education uses are permitted in the CIX-2 zoning district where the project site is located. Additionally, the project site is not located within a habitat conservation plan or natural community conservation plan.

The project site's General Plan designation is Business Mix. The intent of the Business Mix designation is to create, preserve, and enhance areas of the city that are appropriate for a wide variety of business and related commercial and industrial establishments. The Business Mix designation is a flexible "economic development zone," which strives to accommodate older industries and anticipate new technologies. These areas contain a wide range of businesses and business-serving activities. The project site's zoning is Commercial Industrial Mix-2 (CIX-2)/Health and Safety Protection Overlay (S-19). The intent of the CIX-2 zone is to create, preserve, and enhance areas for industrial uses; this zoning also permits community education uses. The CIX-2 zone allows for a building height of 55 feet. The S-19 Protection Overlay is intended to promote public health, safety, and welfare by ensuring that activities which use hazardous material substances or store hazardous materials, hazardous waste, or explosives locate in appropriate locations and develop in such a manner as not to be a serious threat to the environment or to public health, particularly to residents living adjacent to industrial areas where these materials are commonly used, produced, or found.

Plans Adopted to Avoid Environmental Effects (Criterion c)

The Project would be consistent with the General Plan, the zoning, and the Planning Code requirements of Section 17. Therefore, the Project would be consistent with the applicable land use plans and policies for the site that were adopted for the purpose of avoiding or mitigating an environmental effect.

Conclusion

Based on the project-specific analysis and the findings and conclusions of the Program EIRs, the Project would not substantially increase the severity of significant land use and planning impacts identified, nor would it result in new significant impacts related to land use and planning that were not identified in the Program EIRs.

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10. NOISE

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding construction noise, except if an acoustical analysis is performed that identifies recommended measures to reduce potential impacts. During the hours of 7:00 p.m. to 7:00 a.m. on weekdays and 8:00 p.m. to 9:00 a.m. on weekends and federal holidays, noise levels received by any land use from construction or demolition shall not exceed the applicable nighttime operational noise level standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generate noise in violation of the City of Oakland nuisance standards (Oakland Municipal Code Section 8.18.020) regarding persistent construction-related noise?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding operational noise?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Generate noise resulting in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or, if under a cumulative scenario where the cumulative increase results in a 5 dBA permanent increase in ambient noise levels in the project vicinity without the project (i.e., the cumulative condition including the project compared to the existing conditions) and a 3 dBA permanent increase is attributable to the project (i.e., the cumulative condition including the project compared to the cumulative baseline condition without the project)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Expose persons to interior L_{dn} or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories and long-term care facilities (and may be extended by local legislative action to include single-family dwellings) per California Noise Insulation Standards (CCR Part 2, Title 24)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Expose the project to community noise in conflict with the land use compatibility guidelines of the Oakland General Plan after incorporation of all applicable Standard Conditions of Approval)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Expose persons to or generate noise levels in excess of applicable standards established by a regulatory agency (e.g., occupational noise standards of the Occupational Safety and Health Administration [OSHA])?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. During either project construction or project operation expose persons to or generate ground-borne vibration that exceeds the criteria established by the Federal Transit Administration (FTA)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Be located within an airport land use plan and would expose people residing or working in the project area to excessive noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Be located within the vicinity of a private airstrip, and would expose people residing or working in the project area to excessive noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The CARP EIR found that construction noise would result in temporary disturbance of adjacent uses. The CARP EIR determined that this impact would be significant but mitigatable to less than significant.

The CARP EIR also found that operational noise effects would be greatest where existing residential uses or sensitive receptors are located next to a proposed development or would be located adjacent to an existing industrial development. The CARP EIR determined that this impact would be less than significant.

The CARP EIR also found that future noise levels would increase by less than 3 dBA due to Redevelopment Plan-related traffic. The CARP EIR determined that this impact would be less than significant.

The CARP EIR also found that there could be noise compatibility problem concerns for any new residential uses that would be constructed in proximity to major roadways or industrial facilities. For existing residential uses that are adjacent to major roadways, traffic increases could exacerbate noise effects. The CARP EIR determined that this impact would be less than significant.

The LUTE EIR found that development of the downtown projects would generate short-term increases in noise and vibration due to construction. The LUTE EIR determined that this would be a significant and unavoidable impact.

The LUTE EIR also found that construction of projects in the Coliseum Showcase District would generate short-term increases in noise and vibration. The LUTE EIR determined that this would be a significant and unavoidable impact.

The LUTE EIR also concluded that proposed General Plan map changes to allow higher residential densities could pose noise compatibility problems between future residential development and existing, lower-density residential uses. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR also found that proposed General Plan map changes to allow live-work and other forms of housing in transitional industrial areas could pose future noise compatibility problems. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR includes nine mitigation measures for noise: Noise Mitigation Measures (MM) L.3a, L.3b, L.4, L.5a, L.5b, L.5c, L.5d, L.8, and L.11. The applicable mitigation measures, MM L.8 and MM L.11, call for project sponsors to implement noise control techniques to minimize disturbance to adjacent or nearby sensitive noise receptors during project construction.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

The project site is bounded by Edes Avenue, 105th Avenue, and two railway lines. The railway lines adjacent to the project site are the primary maximum noise level generators for the project site. Interstate 880, State Route 185, State Route 61, San Leandro Street, Fruitvale Avenue, High Street, 66th Avenue, Hegenberger Road/Airport Drive, and 98th Avenue are also noise generators as the project site is located approximately 0.2 mile from San Leandro Street, 0.2 mile from 98th Avenue, and 0.5 mile from Interstate 880. The project site is also subject to noise from aircraft overflights and

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BART (Bay Area Rapid Transit) trains as tracks for BART run above ground along San Leandro Street (0.2 mile northeast of the project site).

Thresholds e, l, and j are not relevant to the Project. The Project would not include multi-family dwellings, hotels, motels, dormitories, or long-term care facilities; therefore, the Project would not expose persons within these facilities to interior noise levels greater than 45 dBA. While the project site is located within Oakland International Airport's Airport Influence Area, it is not located in the airport's 60 CNEL noise contour (Alameda County ALUC 2010). The project site is not located in the vicinity of a private airstrip.

Construction Noise (Criteria 10a and b)

Project construction is expected to occur over approximately 12 to 18 months and would consist of phases including demolition, excavation, and above-grade construction. There is nothing unique or peculiar about the project's construction activities. The Project does not propose to use pile driving. The Project would be required to implement SCA NOI-58, Construction Days/Hours, to limit the days and hours of construction; SCA NOI-59, Construction Noise, and SCA NOI-60, Extreme Construction Noise, to ensure the application of noise reduction measures to reduce noise impacts and extreme construction noise; and SCA NOI-62, Construction Noise Complaints, to provide measures to respond to and track construction noise complaints (if any).

Operational Noise (Criterion c)

During project operation, noise from increased traffic, including student pickup and drop-off, employee trips, and deliveries, would be generated. However, there is nothing unique or peculiar about the Project's traffic. The Project would be required to implement SCA NOI-64, Operational Noise, which requires all operational noise to comply with the performance standards of Chapter 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. With the implementation of SCA NOI-64, the Project would not violate the City of Oakland operational noise standards and noise generated by mechanical equipment and delivery trucks at the site.

Ambient Noise (Criterion d)

Project student pickup and drop-off, employee trips, and delivery trips would generate local vehicle traffic during project operation. Community education uses are consistent with and permitted in the Business Mix General Plan Land Use designation and, Commercial Industrial Mix-2 (CIX-2)/Health and Safety Protection Overlay (S-19).

Noise Exposure (Criteria 10f and g)

A project noise study was prepared by Charles M. Salter Associates to evaluate noise and vibration for the Project. This study can be read in full in **Appendix NOI**.

To evaluate the project site's existing noise environment, two multiday continuous noise measurements were conducted. The noise study found that the project site is subjected to high levels of intermittent noise from train activity (both freight and commuter rail). Noise generated by train activity reached 109 dBA during long-term noise measurements and measured between 10 and 20 noise events per day. The noise events were caused by passing trains with the proximity to the train tracks dictating whether the project site's existing environmental noise levels are conditionally acceptable or normally unacceptable categories for school land use compatibility.

The noise study determined that to reduce the measured 109 dBA to acceptable levels inside proposed classrooms, specialized construction methods would be required. Those construction methods are incorporated into the Project and would include the following design techniques:

- Minimize glazing along the façade facing the train tracks.
- Orient most of the glazing to look inward to the project site.
- Locate hallways along the facades facing train tracks to create an acoustical buffer thereby reducing noise from trains.
- Where classrooms must be adjacent to tracks, incorporate double CMU walls with minimal glazing.
- Construct roof assemblies with double sheathing (i.e. at the roof and below the roof framing to create an insulated cavity at the roofing).
- Retain an acoustical consultant to review specific design decisions regarding the exterior façade design.

Charles M. Salter Associates, an acoustical consultant reviewed the specific design techniques and called for the implementation of the following additional measures to achieve a maximum hourly equivalent sound level ($L_{eq}(h)$) of 50 dBA, as required by CALGreen (2013):

Existing Buildings

- 1) Add a furred interior stud to all walls facing railroad tracks. The stud should be spaced 1 inch away from the existing concrete masonry wall. Insulate the stud cavity and add two layers of gypsum board as the interior sheathing. Hold back the face layer of gypsum board from the floor and ceiling 1/4-inch and caulk the gap airtight with acoustical sealant.
- 2) If the existing windows remain, an additional 3/8-inch laminated glass pane must be added to the existing glazing. Provide at least 3 inches of air spaces between the two glazing assemblies.
- 3) Replace existing ceiling tiles with gypsum backed tiles for increased noise reduction and add insulation into the ceiling cavity.

New Building

- 1) Construct exterior walls as double stud walls with minimum 1-inch air space and two layers of gypsum board on each side of the wall. Hold back the interior face layer of gypsum board from the floor and ceiling 1/4 inch and caulk the gap airtight with acoustical sealant. Exterior construction should be standard three-coat stucco finish.
- 2) Where possible, do not face windows out to the railroad tracks. If windows are required, use dual pane assemblies with minimum 3-inch air space and at least one laminated 3/8-inch pane of glass. Windows should not be operable.

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- 3) For classroom ceilings, consider solid gypsum board lids with 1-inch acoustical panels facing into the room. Alternatively, specify gypsum backed ceiling tiles and add insulation into the ceiling cavity.

Exterior Noise

The City of Oakland uses a land-use compatibility method that employs day-night average noise level (DNL) as the metric for comparison. Because the school only uses the outdoor areas during daytime hours, the DNL does not accurately depict the noise exposure nor the land-use compatibility of the Project's outdoor areas. To assess the ambient noise levels on the project site's playfields, the nighttime trains were discounted and the noise assessment used the hourly average noise level Leq(h) instead of the DNL. This metric examines the hour-by-hour noise variation due to single events and steady-state noise levels.

Based on this analysis, the Leq(h) at outdoor use areas ranged between 58 to 67 dB, which the land-use compatibility guidelines categorize as "normally acceptable" to "conditionally acceptable," for most of the time. On occasion, the noise levels exceeded the 70 dB "normally unacceptable" threshold, when the train engineer blows the horn at the 105th Avenue grade crossing. The duration of noise from trains lasts less than 1 minute, but, during that time can exceed 100 dB (i.e., due to train horn blasts and engine rumble) at the closest locations to the train track.

Playground Noise Analysis

As part of Phase 2, a playground will be constructed on the parking lot between the existing buildings and adjacent to the new high school building. Charles M. Salter Associates, calculated that the anticipated maximum noise level at this location could reach hourly noise levels, Leq (h) of 68 dB. While the structures provide noise attenuation and decrease the outdoor noise exposure at the playground, the highest noise at the playground may reach "conditionally acceptable" levels according to the compatibility guidelines during train passbys. During all other times, noise levels would be considered normally acceptable to conditionally acceptable.

Playfield Noise Analysis

The playfield is located within 100 feet of the Amtrak rail line on the site's east side and 100 feet of the Union Pacific rail line to the west. During train passbys, which occur at regular intervals for Amtrak but randomly for freight trains, noise levels may reach "normally unacceptable levels" according to the compatibility guidelines. During all other times, noise levels would be considered normally acceptable to conditionally acceptable.

Playfield and Playground Schedule

To reduce noise impacts, the project would limit playground and playfield activities to take place only when trains are not present. Restricting times for outdoor use activities is a more effective method of reducing exposure to ambient noise levels than constructing noise barriers. For a barrier to reduce noise to "normally acceptable" levels, barriers would have to be 20 feet tall as shorter barriers would allow sound to pass over the top and are acoustically ineffective. Any barrier would also likely be a concrete block wall and may be subject to graffiti and vandalism.

Outdoor activities at the playground and playfield would be scheduled during the following times:

- 9:45 a.m.-10:45 a.m.

- 11:15 a.m.-12:00 p.m.
- 12:30 p.m.-1:45 p.m.
- 2:30 p.m.-5:15 p.m.

These times are in sync with the current train schedules and would be modified if the train schedules change.

Because students and staff would not be located on the playground or the playfield when the highest noise disturbance would take place, they would not be subject to the higher noise levels.

Vibration (Criterion h)

Construction vibration has the potential to cause structural damage. Implementation of the City's SCAs would lessen the impacts of periodic vibration, minimize potential adverse vibration effects from project-related construction activities, require compliance with City of Oakland operational noise standards including for noise generated by the HVAC systems and delivery trucks, and require the incorporation of noise reduction measures into the building's design.

Conclusion

Based on an examination of the analysis, findings, and conclusions of the Program EIRs, implementation of the Project would not substantially increase the severity of significant noise impacts identified, nor would it result in new significant impacts related to noise that were not identified in the Program EIRs. With implementation of the required SCAs listed above and included in **Appendix SCA**, the Project would not result in significant effects related to noise and vibration. For reference, they are as follows: SCA NOI-1, Construction Days/Hours (#58), SCA NOI-2, Construction Noise (#59), SCA NOI-3, Extreme Construction Noise (#60) SCA NOI-4: Project-Specific Construction Noise Reduction Measures (#61), SCA NOI-5, Construction Noise Complaints (#62), SCA NOI-6, Exposure to Community Noise (#63), and SCA NOI-7, Operational Noise (#64).

11. POPULATION AND HOUSING

	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
Would the project:			
a. Induce substantial population growth in a manner not contemplated in the General Plan, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extensions of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element; or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The CARP EIR found less than significant impacts for all population growth and displacement of housing and people. Implementation of the CARP would create approximately 5,000 net new jobs and add between 590 and 1,900 people to Oakland's population. The population increase attributed to the CARP would represent less than 1 percent of the city's total population. The increase in population would be a less than significant impact.

The LUTE EIR found less than significant impacts on population growth in a manner not contemplated in the General Plan.

PROJECT ANALYSIS AND CONCLUSION

Threshold b is not applicable to the Project, as the Project would redevelop an existing site and would not result in the displacement of existing housing.

Population Growth (Criterion a)

The Project would renovate existing buildings on-site and construct a new classroom building. It would not construct any housing. The Project would employ a minimal number of construction workers and minimally increase the number of full-time employees at the site. The Project would not construct any homes and would not involve the extension or construction of roadways.

Conclusion

Based on the project-specific analysis and the findings and conclusions in the Program EIRs, the Project would not substantially increase the impacts related to population and housing. The Project would not induce substantial population growth and would not increase the impacts analyzed in the Program EIRs.

12. PUBLIC SERVICES

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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 following public services: <ul style="list-style-type: none"> • Fire protection; • Police protection; • Schools; or • Other public facilities? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRS FINDINGS

The CARP EIR found that increased resident and employee populations would incrementally increase demand for police services. The CARP EIR determined that this impact would be less than significant.

The CARP EIR also concluded that increased resident and employee populations would incrementally increase demand for fire services. The CARP EIR determined that this impact would be less than significant.

In addition, the CARP EIR determined that new residential development would increase the population demands on the Oakland Unified School District. The CARP EIR determined that this impact would be less than significant.

The LUTE EIR found that development consistent with the LUTE would result in higher levels of population in areas where firefighting and evacuation constraints presently exist. These constraints include narrow street widths, insufficient turning radii, steep slopes, distant fire stations, and an emergency water supply that is vulnerable to disruption in the event of an earthquake or power failure. The LUTE EIR determined that this would be a significant unavoidable impact.

In addition, the LUTE EIR concluded that development consistent with the LUTE would result in higher levels of population and employment, thereby increasing the demand for police services. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR also found that development consistent with the LUTE would result in higher levels of population and employment, thereby increasing the demand for fire protection and emergency medical services. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

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The LUTE EIR determined that development consistent with the LUTE could increase the number of students served by the Oakland Unified School District. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR concluded that the LUTE could result in an increased number of patrons at the main and branch libraries. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR includes 28 mitigation measures for public services. The mitigation measures call for and specify parameters for the review and development of additional services. These mitigation measures are not applicable to the Project.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

Police Protection

The Oakland Police Department provides preventive patrol and emergency response services in the city from the Police Administrative Building at 455 7th Street. The Oakland Police Department Strategic Plan (2016) determined that the department is understaffed. Approved sworn staffing was budgeted to increase to 777 in July 2016. The strategic plan reports that the department should have 855 sworn personnel based on population and 1,805 officers based on the city's violent crime rate.

Fire Protection

The Oakland Fire Department's administrative offices are located at 150 Frank H. Ogawa Plaza, Suite 3354. The department consists of 25 stations and includes 500 uniformed personnel.

Public Services (Criterion a)

The Project would increase the number of students at the Project site by approximately 550. The Project would incorporate safety features, like nighttime lighting, and any other campus control measures as needed to minimize potential crime, thus reducing the need for police services. Additionally, the Project would comply with the California Building Code and City of Oakland fire codes to reduce the need for fire services. Any increases in the need for police protection, fire protection, schools, or other public facilities that the Project would generate would be mitigated by adherence to General Plan Policies N.12.1, N.12.2, and N.12.5, FI-1, Action FI-1, and Action FI-2 (Oakland 1998).

Conclusion

Consistent with the findings of the Program EIRs, the proposed project would not result in any significant impacts related to public services, parks, and recreation. Further, based on an examination of the Program EIRs, implementation of the proposed project would not substantially increase the severity of impacts previously identified, nor would it result in new significant impacts related to public services, parks, and recreation that were not previously identified in the Program EIRs.

13. RECREATION

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have a substantial adverse physical effect on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRS FINDINGS

The Program EIRs found that increased resident and employee populations would incrementally increase the demand on local park facilities. The CARP EIR determined that this impact would be less than significant.

The LUTE EIR concluded that development consistent with the LUTE would increase the demand for park services. The LUTE EIR determined that this impact would be less than significant.

Existing Setting

Oakland Parks, Recreation & Youth Development operates and maintains 2,500 acres of open space, 140 parks, 66 ball fields, 44 tennis courts, 38 recreation facilities, 14 rental venues, 17 community garden locations, 5 dog play areas, 3 golf courses, and 3 skate parks.

Recreational Facilities (Criteria a and b)

The Project would include a playground and playfields and would not require the expansion of recreational facilities because it would provide such facilities on-site.

Conclusion

Based on the project-specific analysis and the findings and conclusions of the Program EIRs, the Project would not substantially increase the severity of significant recreation impacts identified, nor would it result in new significant impacts related to recreation that were not identified in the Program EIRs.

The Project would implement applicable General Plan policies, Municipal Code regulations, and standard conditions of approval found in **Appendix SCA**. For reference, they are as follows: SCA HAZ-2, Hazardous Materials Related to Construction (#39) and SCA-HAZ-3, Hazardous Building Materials and Site Contamination (#40). These actions would reduce the potential impacts on recreation to less than significant levels.

7.0 ENVIRONMENTAL CHECKLIST

14. TRANSPORTATION

Would the project:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Conflict with a plan, ordinance, or policy addressing the safety or performance of the circulation system, including transit, roadways, bicycle and pedestrian facilities (except for automobile level of service or other measures of vehicle delay)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause substantial additional vehicle miles traveled (per capita, per service population, or other appropriate efficiency measure)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially induce additional automobile travel by increasing physical roadway capacity in congested areas or by adding new roadways to the network?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The Program EIRs determined that no significant traffic impacts would occur as a result of CARP implementation.

The LUTE EIR determined that LUTE implementation would result in a significant unavoidable impact due to the degradation of the level of service on several roadway segments.

The LUTE EIR includes Mitigation Measure B.1, which calls for implementation of roadway and transit improvements to reduce congestion on arterial roadways. City conditions of approval SCA TRANS-1, SCA TRANS-2, and SCA TRANS-3 require applicants to implement the recommended transportation-related improvements contained in the Transportation Impact Study required for each project. These improvements include both automobile and bicycle transportation improvements. With the implementation of these conditions of approval, the relevant roadway and transit improvements for the Project would be implemented.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

The project site is located on 105th Avenue in Oakland and has two existing vehicular access points: a full-access (entry/exit, all-movement) driveway on 105th Avenue and a gated exit-only (right- and left-out) driveway on Edes Avenue. The existing curb cuts for the 105th Avenue and Edes Avenue driveways are 33 feet and 26 feet wide, respectively.

Regional access to the project site is provided from Interstate 880 via the 98th Avenue interchange. Local access to the project site is available from 105th Avenue, Edes Avenue, and 98th Avenue.

Consistency with Applicable Plans (Criterion a)

General Plan. The General Plan contains many policies, which may in some cases address different goals; thus, some policies may conflict. The Planning Commission and City Council, in

deciding whether to approve the proposed Project, must decide whether, on balance, the Project is consistent (i.e., in general harmony) with the General Plan.

Land Use and Transportation Element. The Project is generally consistent with the development parameters established for the CIX-2/S-19 zoning.

Pedestrian Master Plan. The Project is generally consistent with the Pedestrian Master Plan, as it incorporates features that would enhance and facilitate pedestrian access to and within the project site.

Bicycle Master Plan. The proposed Project is generally consistent with the Bicycle Master Plan. Bicycle parking facilities would be provided on-site. The Project would not conflict with any of the bike facilities proposed in the Bicycle Master Plan.

Oakland Department of Transportation Strategic Plan. The proposed Project is generally consistent with the Strategic Plan.

Transit First Ordinance. The Project is generally consistent with Transit First Ordinance and would encourage and promote the use of public transit and bicycle and pedestrian travel through implementation of various strategies as outlined in the Transportation Demand Management (TDM) plan.

Complete Streets Policy. The proposed Project is generally consistent with the Complete Streets Policy and would design, construct, operate, and maintain appropriate facilities for pedestrians, bicyclists, and transit users.

Planning Code. The Project would be generally consistent with the CIX-2/S-19 zoning and would meet the property development standards and code requirements for vehicle parking, commercial loading, driveway width, and pedestrian walkways.

Project Trip Generation (Criterion b)

Travel Demand

The travel demand estimate accounts for new vehicle, transit, pedestrian, and other trips generated by the Project. The transportation analysis accounts for the displacement of the existing use which currently operates on the project site, and it accounts for the vehicle trip reductions (VTRs) that would result from implementation of the TDM plan, as outlined in **Appendix TRA**.

Vehicle trip generation for the Project was estimated using trip generation rates published in the current Institute of Transportation Engineers (2012) Trip Generation Manual (9th Edition). The average rates for elementary school, middle school, and high school land uses were used to estimate daily, weekday AM peak-hour, and weekday PM peak-hour vehicle trips generated by the Project. These rates account for trips made by both students and staff members. With the trip credit for existing trips, as discussed below, the Project is estimated to produce 884 net new daily vehicle trips, 212 net new weekday AM peak-hour vehicle trips, and 68 net new weekday PM peak-hour vehicle trips.

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Vehicle Miles Traveled

The City of Oakland recently adopted new thresholds of significance and Transportation Impact Study Guidelines related to transportation impacts “in order to implement the directive from California Senate Bill 743 to modify local environmental review processes by removing automobile delay, as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion, as a significant impact on the environment pursuant to CEQA” (Oakland 2016b). The new thresholds replace LOS with criteria for vehicle miles traveled (VMT) to determine whether a project causes a significant impact on the environment related to transportation.

The City provides screening criteria for land use development projects, based on project size, project location in a low-VMT area, and project location near transit stations, to apply as an initial step in assessing the potential significance of impacts from VMT. If a project meets any one of the screening criteria, its impacts on transportation are presumed to be less than significant and detailed VMT analysis is not required. As shown in **Appendix TRA**, the Project does not meet any of the screening criteria and thus a VMT analysis is required.

The following are thresholds of significance related to substantial additional VMT per capita:

- For residential projects, a project would cause substantial VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.
- For retail projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.

The Oakland Planning and Building Department provided screening criteria and thresholds of significance to determine if land uses similar in function to residential, office, and retail would result in significant impacts as it relates to VMT.

Under this expanded screening criteria, the Project’s proposed land use (K–12 school) should be treated as an office project. The average daily VMT per worker in transportation analysis zone (TAZ) 877 is 25.5 miles. The regional average daily VMT per worker is 23.2 miles, and the regional threshold (15 percent below the regional average) is 19.7 miles. Daily VMT per worker in TAZ 877 is 9 percent above the regional average and 22.8 percent above the regional threshold. Since the Project is located in a high-VMT area and would exceed the established VMT threshold without application of proposed TDM measures, the Project would not meet the established map-based screening criteria for a project in a low-VMT area. Therefore, the Project must include a TDM plan.

Project must reduce VMT by 22.8 percent to reduce vehicle miles traveled to the regional threshold (15 percent below the regional average). This percentage corresponds to the overall VTR required for the Project through the TDM plan (63 fewer AM peak-hour trips, 20 fewer PM peak-hour trips). The VTR rates developed by the California Air Pollution Control Officers Association (CAPCOA) pertain to peak-hour vehicle trips. These rates were applied to the AM peak-hour and PM peak-hour vehicle trips to develop the total AM peak-hour and total PM peak-hour VTRs.

Transportation Demand Management Plan

Per the City’s standard conditions of approval, all land use projects that generate more than 50 net new AM or PM peak-hour vehicle trips must prepare a TDM plan. As shown in Table 10, Section

4.6.2 of **Appendix TRA**, the Project is expected to generate more than 50 net vehicle trips during both peak hours. Per the TDM plan goals included in the City's Transportation Impact Review Guidelines, the TDM plan should:

- Reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable, consistent with the potential traffic and parking impacts of the project.
- Achieve 20 percent vehicle trip reductions (VTRs).
- Incorporate location-dependent TDM features per Table 4 of the City of Oakland Transportation Impact Review Guidelines.
- Increase pedestrian, bicycle, transit, and carpool modes of travel.
- Enhance the City's transportation system.

A TDM plan was developed for the Project in accordance with SCA TRANS-4 (#71) and SCA TRANS-5 (#73), and it includes the following measures, as described in more detail in **Appendix TRA**:

- Include bike parking on-site
- Provide pedestrian network improvement
- Implement school program
- Provide transit subsidies

The TDM plan has been incorporated into the Project.

As shown in Table 11, Section 4.6.2 of **Appendix TRA**, the combination of TDM measures would reduce AM peak-hour vehicle trips by 65 trips and PM peak-hour trips by 21 trips, complying with the VMT threshold criteria.

Site Analysis (Criterion c)

The Project would not add any new roadways in the area. Additionally, as discussed above, the Project would comply with the City's established VMT threshold criteria and the project specific TDM program. Therefore, the Project would not substantially induce additional vehicle travel in the project area.

Conclusion

Based on the project-specific analysis, the findings and conclusions of the Program EIRs, and application of the City's new thresholds of significance, the Project would not substantially increase the severity of significant traffic impacts, nor would it result in new significant traffic impacts related to transportation and circulation that were not identified in the Program EIRs. The Project would be required to implement SCAs related to City review and approval of all improvements proposed in the public right-of-way, and related to construction traffic and parking management, as identified in **Appendix SCA**. For reference, they are as follows: (SCA TRANS-1, Construction Activity in the Public Right-of-Way; SCA TRANS-2, Bicycle Parking (#69); and SCA TRANS-3, Transportation Improvements (#70); SCA TRANS-4 (#71)and SCA TRANS-5 (#73).

15. TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIRs	New Significant Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIRs FINDINGS

The CARP EIR concluded that CARP implementation would have a significant impact on archaeological sites located within the plan area, including human remains and potential tribal resources. As such, it required the implementation of Mitigation Measure 4.11-1, which established measures for handling of archaeological resources upon discovery and consultation with the California Native American Heritage Commission. It also included Mitigation Measure 4.11-2, which establishes procedures for discovery of unknown archaeological resources.

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

The project site is approximately 3.9 acres. The site is currently being used as the School of Urban Missions Bible College and Theological Seminary, which serves 300 students, 70 of whom live on-site. There are currently three buildings on the site. The project site also includes an asphalt paved parking lot, a sports field, and landscaped areas. The project site is bordered by active train tracks to the north and east. Industrial uses are located to the south across 105th Avenue and to the east of the railroad tracks. Commercial uses are located to the west across Edes Avenue. Residential uses are located in the greater surrounding area to the west, north, and east.

Tribal Cultural Resources

The site would be excavated to remove contaminated soils as described in subsection 7, Hazards and Hazardous Materials. Although there have been several excavations on the site since 1988, no finds were reported. Conservatively, SCA CUL-2 would apply. This standard condition of approval requires preparation of a construction "ALERT" sheet developed by a qualified archaeologist for review and approval by the City prior to soil-disturbing activities occurring on the project site. The ALERT sheet shall contain, at a minimum, visuals that depict each type of artifact that could be encountered on the project site. Additionally, SAC CUL-3 would apply, which establishes stop work procedures in case of the discovery of human remains.

Conclusion

Based on the project-specific analysis and the findings and conclusions in the Program EIRs, the Project would not substantially increase the severity of significant cultural resource impacts identified, nor would it result in new significant impacts related to cultural resources that were not identified in the Program EIRs. The Project would be required to implement SCAs related to the discovery of archaeological and paleontological resources and the discovery of human remains during construction, as identified in **Appendix SCA** (SCA CUL-1, Archaeological and Paleontological Resources—Discovery During Construction; SCA CUL-2, Archaeologically Sensitive Areas—Pre-construction Measures; and SCA CUL-3, Human Remains—Discovery During Construction).

7.0 ENVIRONMENTAL CHECKLIST

16. UTILITIES AND SERVICE SYSTEMS

Would the project	Equal or Less Severity of Impact Previously Identified in Program EIRs	Substantial Increase in Severity of Previously Identified Significant Impact in Program EIR	New Significant Impact
a. Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Exceed water supplies available to serve the project from existing entitlements and resources, and require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Violate applicable federal, state, and local statutes and regulations related to solid waste;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Violate applicable federal, state, and local statutes and regulations relating to energy standards;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Result in a determination by the energy provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROGRAM EIR CONCLUSIONS

The CARP EIR determined that new construction due to implementation of the CARP would require 2,861.4 billion British Thermal Units of energy, a less than significant with mitigation incorporated impact.

The CARP EIR found that CARP implementation would incrementally increase water demand and could require upgrading local service lines to meet expanded commercial and industrial demand and fire flow requirements. The CARP EIR determined that this impact would be less than significant.

The CARP EIR also found that CARP implementation would incrementally increase generation of wastewater, which could require upgrades to pump stations and collection pipes, and would exceed subbasin projections in some areas. The CARP EIR determined that this impact would be less than significant.

The CARP EIR determined that CARP implementation would incrementally increase the amounts of solid waste generated within the service area of Waste Management of Alameda County. The CARP EIR determined that this impact would be less than significant.

The CARP EIR includes eight mitigation measures for energy utilities: Mitigation Measures 1, 2, 3, 4, 5, 6, 7, and 8. These mitigation measures have since been adopted as the City's Standard Conditions of Approval and green building ordinance as well as the California Green Building Code.

The LUTE EIR found that increased water demand would require localized improvements to the water delivery system and could require the addition of new infrastructure. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR determined that increased sanitary sewer flows would require localized improvements to the sewage collection system. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR concluded that the LUTE would allow continued building of hill area subdivisions and additional development of vacant land in the Oakland Hills, an area with acknowledged drainage problems. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR also found that new development consistent with the LUTE would increase the demand for solid waste services. The LUTE EIR determined that this impact would be significant but mitigatable to less than significant.

The LUTE EIR concluded that development consistent with the LUTE would result in an increase in water demand. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR determined that development consistent with the LUTE would result in an increase in flows to the regional wastewater treatment plant. The LUTE EIR determined that this impact would be less than significant.

The LUTE EIR found that increased water demand and sanitary sewer flows would require localized improvements to the water delivery system and sewage collection systems. These increases could require the addition of new infrastructure. The LUTE EIR determined that these impacts would be less than significant with mitigation incorporated.

The LUTE EIR also found that new development consistent with the LUTE would increase the demand for solid waste services. The LUTE EIR determined that this impact would be less than significant with mitigation incorporated.

The LUTE EIR includes nine mitigation measures for utilities: Mitigation Measures (MM) D.1-2, D.2-2, D.3-2a, D.3-2b, D.3-2c, D.3-2d, D.4-1a, D.4-1b, and D.4-1c.

7.0 ENVIRONMENTAL CHECKLIST

PROJECT ANALYSIS AND CONCLUSION

Existing Setting

Water and Wastewater

The Project site is served by the East Bay Municipal Utility District (EBMUD). EBMUD's primary water supply is from the Mokelumne River (EBMUD 2013). Oakland's waste water collection system is owned and maintained by the City. It conveys wastewater from to the EBMUD treatment plant in Oakland.

Storm Water Drainage

The City of Oakland Public Works Storm Drain Section maintains and repairs the storm drainage system in public areas and along City roadways. Storm drains flow directly to the San Francisco Bay. Alameda County Flood Control and Water Control District (ACFCWCD) constructs, operates, and maintains major trunk lines and flood control facilities in Oakland. The Project site is currently developed and contains adequate stormwater infrastructure.

Solid Waste

Waste Management of Alameda County (WMAC) provides trash collection services in Oakland. Solid waste from Oakland is brought to five landfills: the Altamont Landfill in Alameda County, Forward Landfill in San Joaquin County, the Keller Canyon Landfill in Contra Costa County, Potrero Hills Landfill in Solano County, and the Vasco Road Landfill in Alameda County.

Energy

Pacific Gas and Electric Company (PG&E) supplies electricity to Oakland. PG&E's 2015 power mix primarily consisted of natural gas (25 percent), nuclear (23 percent), unspecified (17 percent), solar (11 percent), wind (8 percent), large hydroelectric (6 percent), geothermal (5 percent), and biomass (4 percent) (PG&E 2016).

Threshold 16b is not relevant to the Project, as the total amount of impervious surface on the site would only increase incrementally and **SCA HYD-45** requires site design measures to reduce stormwater runoff.

Water Treatment (Criterion a and d)

EBMUD has planned for improvements to the water treatment system to improve system reliability and accommodate projected growth in its regional service area. These improvements are being conducted over 10 years at more than 20 projects. EBMUD has determined that with the implementation of its planned improvements, it would have adequate facilities to meet peak use periods for project water demand increases (EBMUD 2017). As outlined above, the CARP EIR found that CARP implementation would incrementally increase water demand, which may require upgrades to pump stations and collection pipes. The Project would comply with the applicable land use policies outlined in the CARP EIR and is not anticipated to require water treatment facilities beyond existing and planned facilities.

With respect to wastewater, the CARP EIR concluded that development pursuant to the CARP would not have a significant impact on wastewater treatment facilities, as implementation of the CARP would occur incrementally; thus, allowing for the City and EBMUD to implement wastewater

collection system upgrades. Additionally, the Project would incorporate as needed SCA-UTL-5 and SCA-UTL-6.

Water Supply (Criterion c)

The CARP EIR found that EBMUD expects to meet demand within the Coliseum Redevelopment Area without expanding major water lines or pumping stations and reservoirs. EBMUD reviews Association of Bay Area Governments (ABAG) projections in determining future water demand. The Project site is not being developed for housing and would irrigate landscaping with recycled water. Additionally, because the Project would renovate more than 25,000 square feet of existing, non-residential buildings, it would be subject to compliance with CALGreen Title 24 mandatory measures pursuant to SCA UTL-77. These measures include water efficiency and conservation for indoor and outdoor water use.

Solid Waste (Criterion e and f)

The CARP EIR concluded that development pursuant to the CARP would not impact solid waste disposal facilities. The Project would comply with the applicable land use policies outlines in the CARP EIR. Existing landfills utilized by the City have permitted capacity to accommodate the incremental solid waste disposal needs for the Project. Additionally, demolition activities would be subject to City of Oakland SCA UTL-1, *Waste Reduction and Recycling*, and Oakland Municipal Code Chapter 15.34 (which requires implementation of a Recycling and Waste Reduction Plan for construction and demolition activities).

Energy (Criterion g and h)

The CARP EIR concluded that development pursuant to the CARP would increase energy consumption but this impact would be less than significant. The Project would comply with the applicable land use policies outlines in the CARP EIR. Additionally, because the Project would renovate more than 25,000 square feet of existing, non-residential buildings, it would be subject to compliance with CALGreen Title 24 mandatory measures pursuant to SCA UTL-2. These measures include requirements for heating and air conditioning system design and insulation.

Conclusion

Based on the Project-specific analysis, and the findings and conclusions of the Program EIRs, Project implementation would not substantially increase the severity of significant utility and service system impacts identified, nor would it result in new significant impacts related to utility and service system that were not identified in the Program EIRs. No new mitigation measures would be required for the Project. In addition, City standard conditions of approval discussed above would further reduce the severity of these impacts. They are found in **Appendix SCA**. For reference, they are as follows: UTL-1, *Waste Reduction and Recycling* (#74) and UTL-2, *Green Building Requirements* (#77); SCA UTL-5 (#79), SCA UTL -6 (#80).

7.0 ENVIRONMENTAL CHECKLIST

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ATTACHMENT A

Standard Conditions of Approval and Mitigation and Monitoring Reporting Plan

This Standard Conditions of Approval and Mitigation and Monitoring Reporting Plan (SCAMMRP) is based on the CEQA Analysis prepared for the Lighthouse Academy Project.

The City of Oakland's Uniformly Applied Development Standards, adopted as Standard Conditions of Approval (Standard Conditions of Approval, or SCAs), were originally adopted by the City in 2008 (Ordinance No. 12899 C.M.S.) pursuant to Public Resources Code section 21083.3) and have been incrementally updated over time. The SCAs incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Water Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, Green Building Ordinance, historic/Landmark status, California Building Code, and Uniform Fire Code, among others), which have been found to substantially mitigate environmental effects. These SCAs are incorporated into Projects as conditions of approval, regardless of the determination of a Project's environmental impacts. As applicable, the SCAs are adopted as requirements of an individual Project when it is approved by the City, and are designed to, and will, avoid or substantially reduce a Project's environmental effects.

In reviewing Project applications, the City determines which SCAs apply based upon the zoning district, community plan, and the type of permits/approvals required for the Project. Depending on the specific characteristics of the Project type and/or Project site, the City will determine which SCAs apply to a specific Project. Because these SCAs are mandatory City requirements imposed on a city-wide basis, environmental analyses assume that these SCAs will be imposed and implemented by the Project, and are not imposed as mitigation measures under CEQA.

All SCAs identified in the CEQA Analysis—which are consistent with the measures and conditions presented in the City of Oakland General Plan, Land Use and Transportation EIR (LUTE EIR, 1998)—are included herein. To the extent that any SCA identified in the CEQA Analysis was inadvertently omitted, it is automatically incorporated herein by reference.

- The first column identifies the SCA applicable to that topic in the CEQA Analysis.
- The second column identifies the monitoring schedule or timing applicable to the Project.
- The third column names the party responsible for monitoring the required action for the Project.

In addition to the SCAs identified and discussed in the CEQA Analysis, other SCAs that are applicable to the Project are included herein.

The Project sponsor is responsible for compliance with any recommendations in approved technical reports and with all SCAs set forth herein at its sole cost and expense, unless otherwise expressly provided in a specific SCA, and subject to the review and approval of the City of Oakland. Overall monitoring and compliance with the SCAs will be the responsibility of the Planning and Zoning Division. Prior to the issuance of a demolition, grading, and/or construction permit, the Project sponsor shall pay the applicable mitigation and monitoring fee to the City in accordance with the City's Master Fee Schedule. Note that the SCAs included in this document are referred to using an abbreviation for the environmental topic area and are numbered sequentially for each topic area—i.e., SCA-AIR-1, SCA-AIR-2, etc. The SCA title and the SCA number that corresponds to the City's master SCA list are also provided in the Appendix listing—i.e., SCA-AIR-1: Construction-Related Air Pollution (Dust and Equipment Emissions) (#19).

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
Aesthetics, Shadow, and Wind			
SCA AES-1 (Standard Condition of Approval 16): <i>Graffiti Control</i> a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation: <ul style="list-style-type: none"> i. Installation and maintenance of landscaping to discourage defacement of and/or protect likely graffiti-attracting surfaces. ii. Installation and maintenance of lighting to protect likely graffiti-attracting surfaces. iii. Use of paint with anti-graffiti coating. iv. Incorporation of architectural or design elements or features to discourage graffiti defacement in accordance with the principles of Crime Prevention Through Environmental Design (CPTED). b. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following: <ul style="list-style-type: none"> i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system. ii. Covering with new paint to match the color of the surrounding surface. iii. Replacing with new surfacing (with City permits if required). 	Ongoing.	N/A	City of Oakland Bureau of Building Services Division, Zoning Inspections
SCA AES-2 (Standard Condition of Approval 17): <i>Landscape Plan</i> a. Landscape Plan Required The project applicant shall submit a final Landscape Plan for City review and approval that is consistent with the approved Landscape Plan. The Landscape Plan shall be included with the set of drawings submitted for the construction-related permit and shall comply with the landscape requirements of chapter 17.124 of the Planning Code. b. Landscape Installation The project applicant shall implement the approved Landscape Plan unless a bond, cash deposit, letter of credit, or other equivalent instrument acceptable to the Director of City Planning, is provided. The financial instrument shall equal the greater of \$2,500 or the estimated	a. Prior to approval of construction-related permit. b. Prior to building permit final. c. Ongoing	a. City of Oakland Bureau of Planning and Building b. City of Oakland Bureau of Planning and Building c. N/A	a. N/A b. City of Oakland Bureau of Building Services Division, Zoning Inspections c. City of Oakland Bureau of Building Services Division, Zoning Inspections

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
<p>cost of implementing the Landscape Plan based on a licensed contractor's bid.</p> <p>c. Landscape Maintenance</p> <p>All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. The property owner shall be responsible for maintaining planting in adjacent public rights-of-way. All required fences, walls, and irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.</p>			
<p>SCA AES-3 (Standard Condition of Approval 18): <i>Lighting</i></p> <p>Proposed new exterior lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties.</p>	Prior to building permit final.	N/A	City of Oakland Bureau of Building Services Division, Zoning Inspections
Air Quality			
<p>SCA AIR-1 (Standard Condition of Approval 19): <i>Construction-Related Air Pollution Controls (Dust and Equipment Emissions)</i></p> <p>The project applicant shall implement all of the following applicable air pollution control measures during construction of the project:</p> <p>a. Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible.</p> <p>b. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).</p> <p>c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</p> <p>d. Pave all roadways, driveways, sidewalks, etc., as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.</p> <p>e. Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).</p> <p>f. Limit vehicle speeds on unpaved roads to 15 miles per hour.</p>	During construction.	N/A	City of Oakland Bureau of Building Services Division, Zoning Inspections

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
<p>g. Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points.</p> <p>h. Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations").</p> <p>i. All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</p> <p>j. Portable equipment shall be powered by electricity if available. If electricity is not available, propane or natural gas shall be used if feasible. Diesel engines shall only be used if electricity is not available and it is not feasible to use propane or natural gas.</p> <p>k. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.</p> <p>l. All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph.</p> <p>m. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.</p> <p>n. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).</p> <p>o. Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.</p> <p>p. Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.</p>			

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
<p>q. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</p> <p>r. Activities such as excavation, grading, and other ground-disturbing construction activities shall be phased to minimize the amount of disturbed surface area at any one time.</p> <p>s. All trucks and equipment, including tires, shall be washed off prior to leaving the site.</p> <p>t. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.</p> <p>u. All equipment to be used on the construction site and subject to the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") must meet emissions and performance requirements one year in advance of any fleet deadlines. Upon request by the City, the project applicant shall provide written documentation that fleet requirements have been met.</p> <p>v. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).</p> <p>w. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.</p> <p>x. Off-road heavy diesel engines shall meet the California Air Resources Board's most recent certification standard.</p> <p>y. Post a publicly-visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours.</p>			
<p>SCA AIR-2 (Standard Condition of Approval 20): <i>Exposure to Air Pollution (Toxic Air Contaminants)</i></p> <p>a. Health Risk Reduction Measures <u>Requirement:</u> The project applicant shall incorporate appropriate measures into the project design in order to reduce the potential health risk due to exposure to toxic air contaminants. The project applicant shall choose <u>one</u> of the following methods:</p>	<p>a. Prior to approval of construction-related permit.</p> <p>b. Ongoing</p>	<p>a. City of Oakland Bureau of Planning and Building;</p> <p>b. N/A</p>	<p>a. City of Oakland Bureau of Building Services Division, Zoning Inspections</p> <p>b. City of Oakland Bureau of Building</p>

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
<p>i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk of exposure of project residents/occupants/users to air pollutants. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes that the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City.</p> <p>- or -</p> <p>ii. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:</p> <ul style="list-style-type: none"> • Installation of air filtration to reduce cancer risks and Particulate Matter (PM) exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated MERV-13 or higher. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required. • Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph). • Phasing of residential developments when proposed within 500 feet of freeways such that homes nearest the freeway are built last, if feasible. • The project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible. If near a 			Services Division, Zoning Inspections

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
<p>distribution center, residents shall be located as far away as feasible from a loading dock or where trucks concentrate to deliver goods.</p> <ul style="list-style-type: none"> • Sensitive receptors shall be located on the upper floors of buildings, if feasible. • Planting trees and/or vegetation between sensitive receptors and pollution source, if feasible. Trees that are best suited to trapping PM shall be planted, including one or more of the following: Pine (<i>Pinus nigra</i> var. <i>maritima</i>), Cypress (<i>X Cupressocyparis leylandii</i>), Hybrid poplar (<i>Populus deltoids X trichocarpa</i>), and Redwood (<i>Sequoia sempervirens</i>). • Sensitive receptors shall be located as far away from truck activity areas, such as loading docks and delivery areas, as feasible. • Existing and new diesel generators shall meet CARB's Tier 4 emission standards, if feasible. • Emissions from diesel trucks shall be reduced through implementing the following measures, if feasible: <ul style="list-style-type: none"> – Installing electrical hook-ups for diesel trucks at loading docks. – Requiring trucks to use Transportation Refrigeration Units (TRU) that meet Tier 4 emission standards. – Requiring truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels. – Prohibiting trucks from idling for more than two minutes. – Establishing truck routes to avoid sensitive receptors in the project. A truck route program, along with truck calming, parking, and delivery restrictions, shall be implemented. <p>b. Maintenance of Health Risk Reduction Measures</p> <p><u>Requirement:</u> The project applicant shall maintain, repair, and/or replace installed health risk reduction measures, including but not limited to the HVAC system (if applicable), on an ongoing and as-needed basis. Prior to occupancy, the project applicant shall prepare and then distribute to the building manager/operator an operation and</p>			

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
maintenance manual for the HVAC system and filter including the maintenance and replacement schedule for the filter.			
<p>SCA AIR-3 (Standard Condition of Approval 21) <i>Stationary Sources of Air Pollution (Toxic Air Contaminants)</i></p> <p>The Project applicant shall incorporate appropriate measures into the Project design in order to reduce the potential health risk due to on-site stationary sources of toxic air contaminants. The project applicant shall choose one of the following methods:</p> <p style="padding-left: 40px;">a. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk associated with proposed stationary sources of pollution in the project. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City.</p> <p style="text-align: center;">or</p> <p style="padding-left: 40px;">b. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:</p> <p style="padding-left: 80px;">i. Installation of non-diesel fueled generators, if feasible, or;</p> <p style="padding-left: 80px;">ii. Installation of diesel generators with an EPA-certified Tier 4 engine or engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy, if feasible.</p>	Prior to approval of Construction-related permit	City of Oakland Bureau of Building Services Division.	City of Oakland Bureau of Building Services Division, Zoning Inspections
<p>SCA AIR-4 (Standard Condition of Approval 23): <i>Asbestos in Structures</i></p> <p><u>Requirement:</u> The project applicant shall comply with all applicable laws and regulations regarding demolition and renovation of Asbestos Containing Materials (ACM), including but not limited to California Code of Regulations, Title 8; California Business and Professions Code, Division 3; California Health and Safety Code sections 25915-25919.7; and</p>	Prior to approval of construction-related permit	City of Oakland Bureau of Building Services Division BAAQMD	City of Oakland Bureau of Building Services Division, Zoning Inspections BAAQMD

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended. Evidence of compliance shall be submitted to the City upon request.			
<p>SCA GEN-1 (Standard Condition of Approval 13): <i>Construction Management Plan</i></p> <p>Prior to the issuance of the first construction-related permit, the project applicant and his/her general contractor shall submit a Construction Management Plan (CMP) for review and approval by the Bureau of Planning, Bureau of Building, and other relevant City departments such as the Fire Department and the Public Works Department as directed. The CMP shall contain measures to minimize potential construction impacts including measures to comply with all construction-related Conditions of Approval (and mitigation measures if applicable) such as dust control, construction emissions, hazardous materials, construction days/hours, construction traffic control, waste reduction and recycling, stormwater pollution prevention, noise control, complaint management, and cultural resource management (see applicable Conditions below). The CMP shall provide project-specific information including descriptive procedures, approval documentation, and drawings (such as a site logistics plan, fire safety plan, construction phasing plan, proposed truck routes, traffic control plan, complaint management plan, construction worker parking plan, and litter/debris clean-up plan) that specify how potential construction impacts will be minimized and how each construction-related requirement will be satisfied throughout construction of the project.</p>	Prior to issuance of construction related permit	City of Oakland Bureau of Building Services Division	City of Oakland Bureau of Building Services Division, Zoning Inspections
Biological Resources			
<p>SCA BIO-1 (Standard Condition of Approval 26): <i>Tree Removal During Bird Nesting Season</i></p> <p>To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of birds shall not occur during the bird breeding season of February 1 to August 15 (or during December 15 to August 15 for trees located in or near marsh, wetland, or aquatic habitats). If tree removal must occur during the bird breeding season, all trees to be removed shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. Pre-removal surveys shall be conducted within 15 days prior to the start of work and shall be submitted to the City for review and approval. If the survey indicates the potential presence of nesting raptors or other birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the California Department of Fish and</p>	Prior to removal of trees.	City of Oakland Bureau of Building Services Division	City of Oakland Bureau of Building Services Division, Zoning Inspections

ATTACHMENT A. STANDARD CONDITIONS OF APPROVAL

Standard Condition of Approval	Implementation/Monitoring		
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Wildlife, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 200 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest			
<p>SCA BIO-2 (Standard Condition of Approval 27): <i>Tree Permit</i></p> <p>a. Tree Permit Required</p> <p>Pursuant to the City's Tree Protection Ordinance (OMC chapter 12.36), the project applicant shall obtain a tree permit and abide by the conditions of that permit.</p> <p>b. Tree Protection During Construction</p> <p><u>Requirement:</u> Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:</p> <ul style="list-style-type: none"> i. Before the start of any clearing, excavation, construction, or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the project's consulting arborist. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree. ii. Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the project's consulting arborist from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree. iii. No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the project's consulting arborist from the base of any protected trees, or any other location on the site from which such substances might enter 	<ul style="list-style-type: none"> a. Prior to approval of construction-related permit b. During construction. c. Prior to building permit final. 	<ul style="list-style-type: none"> a. City of Oakland Public Works Department, Tree Division; Bureau of Buildings b. City of Oakland Public Works Department, Tree Division c. Public Works Department, Tree Division 	<ul style="list-style-type: none"> a. City of Oakland Bureau of Building Services Division, Zoning Inspections b. City of Oakland Bureau of Building Services Division, Zoning Inspections c. City of Oakland Bureau of Building Services Division, Zoning Inspections

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<p>the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the project's consulting arborist. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.</p> <p>iv. Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.</p>			
<p>v. If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Department and the project's consulting arborist shall make a recommendation to the City Tree Reviewer as to whether the damaged tree can be preserved.</p> <p>If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.</p> <p>vi. All debris created as a result of any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.</p> <p>c. Tree Replacement Plantings</p> <p><u>Requirement:</u> Replacement plantings shall be required for tree removals for the purposes of erosion control, groundwater replenishment, visual screening, wildlife habitat, and preventing excessive loss of shade, in accordance with the following criteria:</p> <p>i. No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered.</p> <p>ii. Replacement tree species shall consist of <i>Sequoia sempervirens</i> (Coast Redwood), <i>Quercus agrifolia</i> (Coast Live Oak), <i>Arbutus</i></p>			

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<p>menziesii (Madrone), Aesculus californica (California Buckeye), Umbellularia californica (California Bay Laurel), or other tree species acceptable to the Tree Division.</p> <p>iii. Replacement trees shall be at least twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.</p> <p>iv. Minimum planting areas must be available on site as follows:</p> <ul style="list-style-type: none"> For Sequoia sempervirens, three hundred fifteen (315) square feet per tree; For other species listed, seven hundred (700) square feet per tree. <p>v. In the event that replacement trees are required but cannot be planted due to site constraints, and in lieu fee in accordance with the City's Master Fee Schedule may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians.</p> <p>vi. The project applicant shall install the plantings and maintain the plantings until established. The Tree Reviewer of the Tree Division of the Public Works Department may require a landscape plan showing the replacement plantings and the method of irrigation. Any replacement plantings which fail to become established within one year of planting shall be replanted at the project applicant's expense.</p>			
Cultural Resources			
<p>SCA CUL-1 (Standard Condition of Approval 29): <i>Archaeological and Paleontological Resources – Discovery During Construction</i></p> <p><u>Requirement:</u> Pursuant to CEQA Guidelines section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find. In the case of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with consideration of</p>	During construction.	N/A	City of Oakland Bureau of Building Services Division

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<p>factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented.</p> <p>In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods. Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense.</p> <p>In the event of excavation of paleontological resources, the project applicant shall submit an excavation plan prepared by a qualified paleontologist to the City for review and approval. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards and at the expense of the project applicant.</p>			
<p>SCA CUL-2 (Standard Condition of Approval SCA 30): Archaeologically Sensitive Areas—Pre-Construction Measures</p> <p>Requirement: The project applicant shall implement either Provision A (Intensive Pre-Construction Study) or Provision B (Construction ALERT Sheet) concerning archaeological resources.</p> <p>Provision A: Intensive Pre-Construction Study.</p> <p>The project applicant shall retain a qualified archaeologist to conduct a site-specific, intensive archaeological resources study for review and approval by the City prior to soil-disturbing activities occurring on the project site. The purpose of the site-specific, intensive archaeological resources study is to identify early the potential presence of history-period</p>	<p>Prior to approval of Construction-related permit; during construction</p>	<p>City of Oakland Bureau of Building Services Division</p>	<p>City of Oakland Bureau of Building Services Division</p>

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<p>archaeological resources on the project site. At a minimum, the study shall include:</p> <ol style="list-style-type: none"> Subsurface presence/absence studies of the project site. Field studies may include, but are not limited to, auguring and other common methods used to identify the presence of archaeological resources. A report disseminating the results of this research. Recommendations for any additional measures that could be necessary to mitigate any adverse impacts to recorded and/or inadvertently discovered cultural resources. <p>If the results of the study indicate a high potential presence of historic-period archaeological resources on the project site, or a potential resource is discovered, the project applicant shall hire a qualified archaeologist to monitor any ground disturbing activities on the project site during construction and prepare an ALERT sheet pursuant to Provision B below that details what could potentially be found at the project site. Archaeological monitoring would include briefing construction personnel about the type of artifacts that may be present (as referenced in the ALERT sheet, required per Provision B below) and the procedures to follow if any artifacts are encountered, field recording and sampling in accordance with the Secretary of Interior's Standards and Guidelines for Archaeological Documentation, notifying the appropriate officials if human remains or cultural resources are discovered, and preparing a report to document negative findings after construction is completed if no archaeological resources are discovered during construction.</p> <p>Provision B: Construction ALERT Sheet.</p> <p>The project applicant shall prepare a construction "ALERT" sheet developed by a qualified archaeologist for review and approval by the City prior to soil disturbing activities occurring on the project site. The ALERT sheet shall contain, at a minimum, visuals that depict each type of artifact that could be encountered on the project site. Training by the qualified archaeologist shall be provided to the project's prime contractor, any project subcontractor firms (including demolition, excavation, grading, foundation, and pile driving), and utility firms involved in soil-disturbing activities within the project site.</p> <p>The ALERT sheet shall state, in addition to the basic archaeological resource protection measures contained in other standard conditions of approval, all work must stop and the City's Environmental Review Officer contacted in the event of discovery of the following cultural materials: concentrations of shellfish remains; evidence of fire (ashes, charcoal, burnt earth, firecracked rocks); concentrations of bones; recognizable Native American artifacts</p>			

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(arrowheads, shell beads, stone mortars [bowls], humanly shaped rock); building foundation remains; trash pits, privies (outhouse holes); floor remains; wells; concentrations of bottles, broken dishes, shoes, buttons, cut animal bones, hardware, household items, barrels, etc.; thick layers of burned building debris (charcoal, nails, fused glass, burned plaster, burned dishes); wood structural remains (building, ship, wharf); clay roof/floor tiles; stone walls or footings; or gravestones. Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, and supervisory personnel. The ALERT sheet shall also be posted invisible location at the project site.			
SCA CUL-3 (Standard Condition of Approval SCA 31): Human Remains – Discovery During Construction Requirement: Pursuant to CEQA Guidelines section 15064.5(e)(1), in the event that human skeletal remains are uncovered at the project site during construction activities, all work shall immediately halt and the project applicant shall notify the City and the Alameda County Coroner. If the County Coroner determines that an investigation of the cause of death is required or that the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made. In the event that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of section 7050.5 of the California Health and Safety Code. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously and at the expense of the project applicant.	During construction.	N/A	City of Oakland Bureau of Building Services Division, Zoning Inspections
Geology and Soils			
SCA GEO-1 (Standard Condition of Approval 33): Construction-Related Permit(s) Requirement: The project applicant shall obtain all required construction-related permits/approvals from the City. The project shall comply with all standards, requirements and conditions contained in construction-related codes, including but not limited to the Oakland Building Code and the Oakland Grading Regulations, to ensure structural integrity and safe construction.	Prior to approval of construction-related permit.	City of Oakland Bureau of Building Services Division, Zoning Inspections	City of Oakland Bureau of Building Services Division, Zoning Inspections
SCA GEO-2 (Standard Condition of Approval 34): Soils Report Requirement: The project applicant shall submit a soils report prepared by a registered geotechnical engineer for City review and approval. The soils	Prior to approval of construction-related permit.	City of Oakland Bureau of Building Services Division, Zoning Inspections	City of Oakland Bureau of Building Services Division, Zoning Inspections

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report shall contain, at a minimum, field test results and observations regarding the nature, distribution and strength of existing soils, and recommendations for appropriate grading practices and project design. The project applicant shall implement the recommendations contained in the approved report during project design and construction.			
Greenhouse Gas Emissions/Global Climate Change			
Also refer to SCA-TRANS-1: Transportation and Parking Demand Management (#71) and SCA-UTIL-3: Construction and Demolition Waste Reduction and Recycling (#74) for additional Greenhouse Gas Conditions of Approval that apply to this project			
Hazards and Hazardous Materials			
<p>SCA HAZ-1 (Standard Condition of Approval 39): <i>Hazards Materials Related to Construction</i></p> <p><u>Requirement:</u> The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential negative effects on groundwater, soils, and human health. These shall include, at a minimum, the following:</p> <ul style="list-style-type: none"> a. Follow manufacture's recommendations for use, storage, and disposal of chemical products used in construction; b. Avoid overtopping construction equipment fuel gas tanks; c. During routine maintenance of construction equipment, properly contain and remove grease and oils; d. Properly dispose of discarded containers of fuels and other chemicals; e. Implement lead-safe work practices and comply with all local, regional, state, and federal requirements concerning lead (for more information refer to the Alameda County Lead Poisoning Prevention Program); and f. If soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the project applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notifying the City and applicable regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the 	During construction.	N/A	City of Oakland Bureau of Building Services Division, Zoning Inspections

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measures have been implemented under the oversight of the City or regulatory agency, as appropriate.			
<p>SCA HAZ-2 (Standard Condition of Approval 40): <i>Hazardous Building Materials and Site Contamination</i></p> <p>a. Hazardous Building Materials Assessment <u>Requirement:</u> The project applicant shall submit a comprehensive assessment report to the Bureau of Building, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACMs), lead-based paint, polychlorinated biphenyls (PCBs), and any other building materials or stored materials classified as hazardous materials by State or federal law. If lead-based paint, ACMs, PCBs, or any other building materials or stored materials classified as hazardous materials are present, the project applicant shall submit specifications prepared and signed by a qualified environmental professional, for the stabilization and/or removal of the identified hazardous materials in accordance with all applicable laws and regulations. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.</p>	<p>a. Prior to approval of demolition, grading or building permits</p> <p>b. Prior to approval of construction-related permit</p> <p>c. Prior to approval of construction-related permit</p> <p>d. During Construction</p>	<p>a. City of Oakland Bureau of Building Services Division</p> <p>b. Applicable regulatory agency with jurisdiction</p> <p>c. City of Oakland Bureau of Building Services Division</p> <p>d. N/A</p>	<p>a. City of Oakland Bureau of Building Services Division, Zoning Inspections</p> <p>b. Applicable regulatory agency with jurisdiction</p> <p>c. City of Oakland Bureau of Building Services Division, Zoning Inspections</p> <p>d. City of Oakland Bureau of Building Services Division, Zoning Inspections</p>
<p>b. Environmental Site Assessment Required <u>Requirement:</u> The project applicant shall submit a Phase I Environmental Site Assessment report, and Phase II Environmental Site Assessment report if warranted by the Phase I report, for the project site for review and approval by the City. The report(s) shall be prepared by a qualified environmental assessment professional and include recommendations for remedial action, as appropriate, for hazardous materials. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.</p>			
<p>c. Health and Safety Plan Required <u>Requirement:</u> The project applicant shall submit a Health and Safety Plan for the review and approval by the City in order to protect project construction workers from risks associated with hazardous materials. The project applicant shall implement the approved Plan.</p>			
<p>d. Best Management Practices (BMPs) Required for Contaminated Sites</p>			

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<p><u>Requirement:</u> The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential soil and groundwater hazards. These shall include the following:</p> <ul style="list-style-type: none"> i. Soil generated by construction activities shall be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state, and federal requirements. ii. Groundwater pumped from the subsurface shall be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building. 			
See SCA AIR-4, Asbestos in Structures . See <i>Air Quality</i> , above for actions to address Hazardous Materials impacts.			
Hydrology and Water Quality			
<p>SCA HYD-1 (Standard Condition of Approval 45): <i>Erosion and Sedimentation Control Plan for Construction</i></p> <p>a. Erosion and Sedimentation Control Plan Required</p> <p><u>Requirement:</u> The project applicant shall submit an Erosion and Sedimentation Control Plan to the City for review and approval. The Erosion and Sedimentation Control Plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading and/or construction operations. The Plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains,</p>	<ul style="list-style-type: none"> a. Prior to approval of construction-related permit. b. During construction. 	<ul style="list-style-type: none"> a. City of Oakland Bureau of Building Services Division b. N/A 	<ul style="list-style-type: none"> a. N/A b. City of Oakland Bureau of Building Services Division, Zoning Inspections
dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project			

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<p>applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the City. The Plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.</p> <p>b. Erosion and Sedimentation Control During Construction</p> <p><u>Requirement:</u> The project applicant shall implement the approved Erosion and Sedimentation Control Plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Bureau of Building.</p>			
Noise			
<p>SCA NOI-1 (Standard Condition of Approval 58): <i>Construction Days/Hours</i></p> <p><u>Requirement:</u> The project applicant shall comply with the following restrictions concerning construction days and hours:</p> <p>a. Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m.</p> <p>b. Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday.</p> <p>c. No construction is allowed on Sunday or federal holidays.</p> <p>Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non- enclosed area.</p> <p>Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby residents'/occupants' preferences. The project applicant shall notify property</p>	During construction.	N/A	City of Oakland Bureau of Building Services Division, Zoning Inspections

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owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.			
<p>SCA NOI-2 (Standard Condition of Approval 59): <i>Construction Noise</i></p> <p><u>Requirement:</u> The project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following:</p> <ol style="list-style-type: none"> Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. Applicant shall use temporary power poles instead of generators where feasible. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented. 	During construction.	N/As	City of Oakland Bureau of Building Services Division, Zoning Inspections
<p>SCA NOI-3 (Standard Condition of Approval 60): <i>Extreme Construction Noise</i></p> <p>a. Construction Noise Management Plan Required</p>	a. Prior to approval of construction-	City of Oakland Bureau of Building Services Division	City of Oakland Bureau of Building Services Division,

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<p><u>Requirement:</u> Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The project applicant shall implement the approved Plan during construction. Potential attenuation measures include, but are not limited to, the following:</p> <ul style="list-style-type: none"> i. Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings; ii. Implement “quiet” pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; iii. Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site; iv. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and v. Monitor the effectiveness of noise attenuation measures by taking noise measurements. <p>b. Public Notification Required</p> <p><u>Requirement:</u> The project applicant shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the project applicant shall submit to the City for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise generating activities and describe noise attenuation measures to be implemented.</p>	<p>related permit.</p> <p>b. During construction.</p>		<p>Zoning Inspections</p>
<p>SCA NOI-4 (Standard Condition of Approval 61): <i>Project-Specific Construction Noise Reduction Measures</i></p> <p><u>Requirement:</u> Requirement: The project applicant shall submit a Construction Noise Management Plan</p>	<p>Prior to approval of construction-related permit</p>	<p>City of Oakland Bureau of Building Services Division</p>	<p>City of Oakland Bureau of Building Services Division, Zoning Inspections</p>

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prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction noise impacts. The project applicant shall implement the approved Plan during construction.			
<p>SCA NOI-5 (Standard Condition of Approval 62): <i>Construction Noise Complaints</i></p> <p><u>Requirement:</u> The project applicant shall submit to the City for review and approval a set of procedures for responding to and tracking complaints received pertaining to construction noise, and shall implement the procedures during construction. At a minimum, the procedures shall include:</p> <ol style="list-style-type: none"> Designation of an on-site construction complaint and enforcement manager for the project; A large on-site sign near the public right-of-way containing permitted construction days/hours, complaint procedures, and phone numbers for the project complaint manager and City Code Enforcement unit; Protocols for receiving, responding to, and tracking received complaints; and Maintenance of a complaint log that records received complaints and how complaints were addressed, which shall be submitted to the City for review upon the City's request. 	Prior to approval of construction-related permit.	City of Oakland Bureau of Building Services Division	City of Oakland Bureau of Building Services Division, Zoning Inspections
<p>SCA NOI-6 (Standard Condition of Approval 63) <i>Exposure to Community Noise</i></p> <p><u>Requirement:</u> The project applicant shall submit a Noise Reduction Plan prepared by a qualified acoustical engineer for City review and approval that contains noise reduction measures (e.g., sound-rated window, wall, and door assemblies) to achieve an acceptable interior noise level in accordance with the land use compatibility guidelines of the Noise Element of the Oakland General Plan. The applicant shall implement the approved Plan during construction. To the maximum extent practicable, interior noise levels shall not exceed the following:</p> <ol style="list-style-type: none"> 45 dBA: Residential activities, civic activities, hotels 50 dBA: Administrative offices; group assembly activities 55 dBA: Commercial activities 65 dBA: Industrial activities 	Prior to approval of construction-related permit.	City of Oakland Bureau of Building Services Division	City of Oakland Bureau of Building Services Division, Zoning Inspections
<p>SCA NOI-7 (Standard Condition of Approval 64): <i>Operational Noise</i></p> <p><u>Requirement:</u> Noise levels from the project site after completion of the project (i.e., during project operation) shall comply with the performance standards of chapter 17.120 of the Oakland Planning</p>	Ongoing.	City of Oakland Bureau of Building Services Division,	City of Oakland Bureau of Building Services Division, Zoning Inspections

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Code and chapter 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the City.			
Recreation			
Refer to SCA HAZ-2 Hazardous Materials Related to Construction (#39) and SCA-HAZ-3 Hazardous Building Materials and Site Contamination (#40) to address potential recreation impacts			
Transportation and Circulation			
<p>SCA TRA-1 (Standard Condition of Approval 68): <i>Construction Activity in the Public Right-of-Way</i></p> <p>a. Obstruction Permit Required <u>Requirement:</u> The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets and sidewalks.</p> <p>b. Traffic Control Plan Required <u>Requirement:</u> In the event of obstructions to vehicle or bicycle travel lanes, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian detours, including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The project applicant shall implement the approved Plan during construction.</p> <p>c. Repair of City Streets <u>Requirement:</u> The project applicant shall repair any damage to the public right-of way, including streets and sidewalks caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.</p>	<p>a. Prior to approval of construction-related permit.</p> <p>b. Prior to approval of construction-related permit.</p> <p>c. Prior to building permit final.</p>	<p>a. City of Oakland Bureau of Building Services Division</p> <p>b. Public Works Department, Transportation Services Division</p> <p>c. N/A</p>	<p>a. City of Oakland Bureau of Building Services Division, Zoning Inspections</p> <p>b. City of Oakland Bureau of Building Services Division, Zoning Inspections</p> <p>c. City of Oakland Bureau of Building Services Division, Zoning Inspections</p>
<p>SCA TRA-2 (Standard Condition of Approval 69): <i>Bicycle Parking</i></p> <p><u>Requirement:</u> The project applicant shall comply with the City of Oakland Bicycle Parking Requirements (chapter 17.118 of the Oakland</p>	Prior to approval of construction-related permit.	City of Oakland Bureau of Planning and Building	City of Oakland Bureau of Building Services Division, Zoning Inspections

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
Planning Code). The project drawings submitted for construction-related permits shall demonstrate compliance with the requirements.			
<p>SCA TRA-3 (Standard Condition of Approval 70): <i>Transportation Improvements.</i></p> <p>The project applicant shall implement the recommended on- and off-site transportation-related improvements contained within the Transportation Impact Study for the project (e.g., signal timing adjustments, restriping, signalization, traffic control devices, roadway reconfigurations, and pedestrian and bicyclist amenities). The project applicant is responsible for funding and installing the improvements, and shall obtain all necessary permits and approvals from the City and/or other applicable regulatory agencies such as, but not limited to, Caltrans (for improvements related to Caltrans facilities) and the California Public Utilities Commission (for improvements related to railroad crossings), prior to installing the improvements. To implement this measure for intersection modifications, the project applicant shall submit Plans, Specifications, and Estimates (PS&E) to the City for review and approval. All elements shall be designed to applicable City standards in effect at the time of construction and all new or upgraded signals shall include these enhancements as required by the City. All other facilities supporting vehicle travel and alternative modes through the intersection shall be brought up to both City standards and ADA standards (according to Federal and State Access Board guidelines) at the time of construction. Current City Standards call for, among other items, the elements listed below:</p> <ol style="list-style-type: none"> 2070L Type Controller with cabinet accessory GPS communication (clock) Accessible pedestrian crosswalks according to Federal and State Access Board guidelines with signals (audible and tactile) Countdown pedestrian head module switch out City Standard ADA wheelchair ramps Video detection on existing (or new, if required) Mast arm poles, full activation (where applicable) Polara Push buttons (full activation) Bicycle detection (full activation) Pull boxes Signal interconnect and communication with trenching (where applicable), or through existing conduit (where applicable), 600 feet maximum Conduit replacement contingency Fiber switch PTZ camera (where applicable) 	Prior to building permit final or as otherwise specified	Bureau of Building; Public Works Department, Transportation Services Division	City of Oakland Bureau of Building Services Division, Zoning Inspections

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<p>o. Transit Signal Priority (TSP) equipment consistent with other signals along corridor</p> <p>p. Signal timing plans for the signals in the coordination group</p>			
<p>SCA TRA-4 (Standard Condition of Approval 71): <i>Transportation and Parking Management Plan</i></p> <p>a. Transportation and Parking Demand Management (TDM) Plan Required</p> <p><u>Requirement:</u> The project applicant shall submit a Transportation and Parking Demand Management (TDM) Plan for review and approval by the City.</p> <p>i. The goals of the TDM Plan shall be the following:</p> <ul style="list-style-type: none"> • Reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable, consistent with the potential traffic and parking impacts of the project. • Achieve the following project vehicle trip reductions (VTR): <ul style="list-style-type: none"> – Projects generating 50-99 net new a.m. or p.m. peak hour vehicle trips: 10 percent VTR <p>Projects generating 100 or more net new a.m. or p.m. peak hour vehicle trips: 20 percent VTR</p> <ul style="list-style-type: none"> • Increase pedestrian, bicycle, transit, and carpool/vanpool modes of travel. All four modes of travel shall be considered, as appropriate. • Enhance the City's transportation system, consistent with City policies and programs. <p>ii. TDM strategies to consider include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Inclusion of additional long-term and short-term bicycle parking that meets the design standards set forth in chapter five of the Bicycle Master Plan and the Bicycle Parking Ordinance (chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement. • Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority bikeways, on-site signage and bike lane striping. • Installation of safety elements per the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.) to 	<p>Prior to building permit final or as otherwise specified</p>	<p>Bureau of Building; Public Works Department, Transportation Services Division</p>	<p>City of Oakland Bureau of Building Services Division, Zoning Inspections</p>

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
<p>encourage convenient and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project.</p> <ul style="list-style-type: none"> • Installation of amenities such as lighting, street trees, and trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan. • Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements. • Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency). <p>Provision of a transit subsidy to employees or residents, determined by the project applicant and subject to review by the City, if employees or residents use transit or commute by other alternative modes.</p> <ul style="list-style-type: none"> • Provision of an ongoing contribution to transit service to the area between the project and nearest mass transit station prioritized as follows: 1) Contribution to AC Transit bus service; 2) Contribution to an existing area shuttle service; and 3) Establishment of new shuttle service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario 3). • Guaranteed ride home program for employees, either through 511.org or through separate program. • Pre-tax commuter benefits (commuter checks) for employees. • Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants. • On-site carpooling and/or vanpool program that includes preferential (discounted or free) parking for carpools and vanpools. • Distribution of information concerning alternative transportation options. • Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive 			

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	When Required	Initial Approval	Monitoring Inspection
<p>or transit pass alternative to a free parking space in commercial properties.</p> <ul style="list-style-type: none"> • Parking management strategies including attendant/valet parking and shared parking spaces. • Requiring tenants to provide opportunities and the ability to work off-site. • Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week). • Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours. <p>The TDM Plan shall indicate the estimated VTR for each strategy, based on published research or guidelines where feasible. For TDM Plans containing ongoing operational VTR strategies, the Plan shall include an ongoing monitoring and enforcement program to ensure the Plan is implemented on an ongoing basis during project operation. If an annual compliance report is required, as explained below, the TDM Plan shall also specify the topics to be addressed in the annual report.</p> <p>b. TDM Implementation – Physical Improvements <u>Requirement:</u> For VTR strategies involving physical improvements, the project applicant shall obtain the necessary permits/approvals from the City and install the improvements prior to the completion of the project.</p> <p>c. TDM Implementation – Operational Strategies <u>Requirement:</u> For projects that generate 100 or more net new a.m. or p.m. peak hour vehicle trips and contain ongoing operational VTR strategies, the project applicant shall submit an annual compliance report for the first five years following completion of the project (or completion of each phase for phased projects) for review and approval by the City. The annual report shall document the status and effectiveness of the TDM program, including the actual VTR achieved by the project during operation. If deemed necessary, the City may elect to have a peer review consultant, paid for by the project applicant, review the annual report. If timely reports</p>			

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
are not submitted and/or the annual reports indicate that the project applicant has failed to implement the TDM Plan, the project will be considered in violation of the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval. The project shall not be considered in violation of this Condition if the TDM Plan is implemented but the VTR goal is not achieved.			
<p>SCA TRA-5 (Standard Condition of Approval 73): <i>Railroad Crossings</i></p> <p><u>Requirement:</u> The project applicant shall submit for City review and approval a Diagnostic Review to evaluate potential impacts to at-grade railroad crossings resulting from project-related traffic. In general, the major types of impacts to consider are collisions between trains and vehicles, trains and pedestrians, and trains and bicyclists. The Diagnostic Review shall include specific traffic elements, such as roadway and rail description, accident history, traffic volumes (all modes, including pedestrian and bicyclist crossing movements), train volumes, vehicular speeds, train speeds, and existing rail and traffic control.</p> <p>Where the Diagnostic Review identifies potentially substantially dangerous crossing conditions at at-grade railroad crossings caused by the project, measures relative to the project's traffic contribution to the crossings shall be applied through project redesign and/or incorporation of the appropriate measures to reduce potential adverse impacts at the crossings. These measures may include, without limitation, the following:</p> <ol style="list-style-type: none"> Installation of grade separations at crossings, i.e., physically separating roads and railroad tracks by constructing overpasses or underpasses Improvements to warning devices at existing highway rail crossings that are impacted by project traffic Installation of additional warning signage Improvements to traffic signaling at intersections adjacent to crossings, e.g., signal preemption Installation of median separation to prevent vehicles from driving around railroad crossing gates Where sound walls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains Construction of pull-out lanes for buses and vehicles transporting hazardous materials 	Prior to approval of construction-related permit	Bureau of Building; Public Works Department, Transportation Services Division	City of Oakland Bureau of Building Services Division, Zoning Inspections

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<p>i. Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way</p> <p>j. Elimination of driveways near crossings</p> <p>k. Increased enforcement of traffic laws at crossings</p> <p>1. Rail safety awareness programs to educate the public about the hazards of highway-rail grade crossings</p> <p>Any proposed improvements must be coordinated with California Public Utility Commission (CPUC) and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings). The project applicant shall implement the approved measures during construction of the project.</p>			
Tribal Cultural Resources			
Refer to SCA CUL-1 <i>Archaeological and Paleontological Resources—Discovery During Construction</i> (#29); SCA CUL-2 <i>Archaeologically Sensitive Areas—Pre-construction Measures</i> (#30); and SCA CUL-3 , <i>Human Remains—Discovery During Construction</i> (#31) for actions to address potential impacts to Tribal Cultural Resources			
Utilities and Services			
<p>SCA UTL-1 (Standard Condition of Approval 74) <i>Construction and Demolition Waste Reduction and Recycling</i></p> <p><u>Requirement:</u> The project applicant shall comply with the City of Oakland Construction and Demolition Waste Reduction and Recycling Ordinance (chapter 15.34 of the Oakland Municipal Code) by submitting a Construction and Demolition Waste Reduction and Recycling Plan (WRRP) for City review and approval, and shall implement the approved WRRP. Projects subject to these requirements include all new construction, renovations/alterations/modifications with construction values of \$50,000 or more (except R-3 type construction), and all demolition (including soft demolition) except demolition of type R-3 construction. The WRRP must specify the methods by which the project will divert construction and demolition debris waste from landfill disposal in accordance with current City requirements. The WRRP may be submitted electronically at www.greenhalosystems.com or manually at the City's Green Building Resource Center. Current standards, FAQs, and forms are available on the City's website and in the Green Building Resource Center.</p>	Prior to approval of construction-related permit	City of Oakland Public Works Department, Environmental Services Division	City of Oakland Public Works Department, Environmental Services Division
<p>SCA UTL-2 (Standard Condition of Approval 77) <i>Green Building Requirements</i></p> <p>a. <i>Compliance with Green Building Requirements During Plan-Check</i></p>	a. Prior to approval of construction-related permit.	a. City of Oakland Bureau of Building	a. N/A b. City of Oakland Bureau of Building

Standard Condition of Approval	Implementation/Monitoring		
	When Required	Initial Approval	Monitoring Inspection
<p><u>Requirement:</u> The project applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the City of Oakland Green Building Ordinance (chapter 18.02 of the Oakland Municipal Code).</p> <p>i. The following information shall be submitted to the City for review and approval with the application for a building permit:</p> <ul style="list-style-type: none"> Documentation showing compliance with Title 24 of the current version of the California Building Energy Efficiency Standards. Completed copy of the final green building checklist approved during the review of the Planning and Zoning permit. Copy of the Unreasonable Hardship Exemption, if granted, during the review of the Planning and Zoning permit. Permit plans that show, in general notes, detailed design drawings, and specifications as necessary, compliance with the items listed in subsection (ii) below. Copy of the signed statement by the Green Building Certifier approved during the review of the Planning and Zoning permit that the project complied with the requirements of the Green Building Ordinance. Signed statement by the Green Building Certifier that the project still complies with the requirements of the Green Building Ordinance, unless an Unreasonable Hardship Exemption was granted during the review of the Planning and Zoning permit. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance. <p>ii. The set of plans in subsection (i) shall demonstrate compliance with the following:</p> <ul style="list-style-type: none"> CALGreen mandatory measures. All pre-requisites per the green building checklist approved during the review of the Planning and Zoning permit, or, if applicable, all the green building measures approved as part of the Unreasonable Hardship Exemption granted during the review of the Planning and Zoning permit. 	<p>b. During construction.</p> <p>c. Prior to final approval.</p>	<p>Services Division</p> <p>b. N/A</p> <p>c. City of Oakland Bureau of Planning and Building</p>	<p>Services Division, Zoning Inspections</p> <p>c. City of Oakland Bureau of Building Services Division, Zoning Inspections</p>

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<ul style="list-style-type: none"> LEED Silver (minimum 50 points) (except the cool roof requirement) per the appropriate checklist approved during the Planning entitlement process. CALGreen mandatory measures for non-residential construction Green Building Certification (Green Building Certification Institution and City staff for CALGreen) 			
<ul style="list-style-type: none"> All green building points identified on the checklist approved during review of the Planning and Zoning permit, unless a Request for Revision Plan-check application is submitted and approved by the Bureau of Planning that shows the previously approved points that will be eliminated or substituted. The required green building point minimums in the appropriate credit categories. <p>b. Compliance with Green Building Requirements During Construction</p> <p><u>Requirement:</u> The project applicant shall comply with the applicable requirements of CALGreen and the Oakland Green Building Ordinance during construction of the project.</p> <p>The following information shall be submitted to the City for review and approval:</p> <ol style="list-style-type: none"> Completed copies of the green building checklists approved during the review of the Planning and Zoning permit and during the review of the building permit. Signed statement(s) by the Green Building Certifier during all relevant phases of construction that the project complies with the requirements of the Green Building Ordinance. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance. <p>c. Compliance with Green Building Requirements After Construction</p> <p><u>Requirement:</u> Prior to the finaling of the building permit, the Green Building Certifier shall submit the appropriate documentation to City staff and attain the minimum required point level.</p>			
<p>SCA UTL-5 (Standard Condition of Approval 79) <i>Sanitary Sewer System</i></p> <p><u>Requirement:</u> The project applicant shall prepare and submit a Sanitary Sewer Impact Analysis to the City for review and approval in accordance with the City</p>	Prior to approval of construction-related permit.	City of Oakland Public Works Department, Department of	N/A

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of Oakland Sanitary Sewer Design Guidelines. The Impact Analysis shall include an estimate of pre-project and post-project wastewater flow from the project site. In the event that the Impact Analysis indicates that the net increase in project wastewater flow exceeds City-projected increases in wastewater flow in the sanitary sewer system, the project applicant shall pay the Sanitary Sewer Impact Fee in accordance with the City's Master Fee Schedule for funding improvements to the sanitary sewer system.		Engineering and Construction	
SCA UTL-6 (Standard Condition of Approval 80) <i>Storm Drain System</i> <u>Requirement:</u> The project storm drainage system shall be designed in accordance with the City of Oakland's Storm Drainage Design Guidelines. To the maximum extent practicable, peak stormwater runoff from the project site shall be reduced by at least 25 percent compared to the pre-project condition.	Prior to approval of construction-related permit.	City of Oakland Bureau of Building Services Division	City of Oakland Bureau of Building Services Division, Zoning Inspections

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ATTACHMENT B: PROJECT CONSISTENCY WITH COMMUNITY PLANS OR ZONING, PER CEQA GUIDELINES SECTION 15183

The purpose of this document is to determine whether the Lighthouse Academy Project (Project) is consistent with the City of Oakland's General Plan land use designations and zoning ordinances. Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183 allow streamlined environmental review for projects that are "consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project-specific significant effects that are peculiar to the project or its site." This document accompanies the analyses found in the Environmental Impact Reports (EIRs) for Oakland's Coliseum Area Redevelopment Plan (CARP) and Land Use and Transportation Element (LUTE), as they are applicable to the Project, and provide the basis for use of the community plan consistency provisions of CEQA.

PROJECT OVERVIEW

The Project would establish a kindergarten through twelfth grade (K-12) charter school on an existing developed site. The project site is currently used as a bible study school and seminary. The project site is located at 701-735 105th Avenue, at the intersection of 105th Avenue and Edes Avenue (Assessor's Parcel Number [APN] 045-5268-004-00.). There are currently three buildings on the site: an educational building, an administrative building, and a smaller restroom/concession stand.

The Project would be developed in two phases. Phase 1 would renovate the existing educational and administrative/dormitory buildings on the site. Improvements to the existing administrative/dormitory building include conversion of spaces into classrooms and offices for the charter school use. Building square footage would not change. The existing parking lot would be maintained during Phase 1 and would allow ingress and egress from 105th Avenue, and egress only onto Edes Avenue.¹ Grading permits would be required for Phase 1 construction activities, which would include conversion of a portion of the existing playfields to a parking lot. The relocated parking lot would include an integrated student pickup and drop-off area. Parking lot ingress and egress would be at two separate driveways on Edes Avenue. Phase 2 would include construction of an approximately 23,600-square-foot K-12 educational classroom facility and conversion of the existing parking lot to a playground.

PROJECT CONSISTENCY

The City of Oakland completed an update of the General Plan LUTE in March 1998. The LUTE includes the City's current Land Use and Transportation Diagram as well as strategies, policies, and priorities to guide Oakland's development and enhancement in the coming decades. The EIR certified for the LUTE is a tool the City uses to simplify the task of preparing environmental documents on subsequent projects in the planning area. Cumulative environmental effects identified in the LUTE's EIR as (a) significant and unavoidable or (b) significant but can be reduced to less than significant through mitigation, were limited to the following topics: aesthetics/winds, cultural resources, hazards and hazardous materials, land use and planning, transportation/circulation, population and housing, and public services.

¹ Kittelson & Associates, Inc. 2017. Lighthouse School Transportation Impact Analysis Final Report. Prepared for the City of Oakland, California.

The following analysis provides substantial evidence to support a conclusion that the Project qualifies for an exemption under CEQA Guidelines Section 15183 as “a project consistent with the allowed uses established by existing zoning, community plan, or general plan policies for which an EIR was certified.”

CRITERION SECTION 15183 (A): GENERAL PLAN, COMMUNITY PLAN, AND ZONING CONSISTENCY

Yes No

☒ ☐ The Project is consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified.

General Plan Land Use Designations and Zoning

The General Plan land use designation for the project site and surrounding area is Business Mix. The City considers the Business Mix designation to be a flexible “economic development zone,” which strives to accommodate older industries and anticipate new technologies. These planning areas contain a wide range of business and business-serving activities. Pursuant to the General Plan goals for the Business Mix designation, development within the project area should create, preserve, and enhance areas of the city that are appropriate for a wide variety of businesses and related commercial and industrial establishments. The Project would meet this intent by preserving an existing community education land use.

There is no comparable zoning for the Project under the 1980 General Plan. While the 1980 General plan stratified industrial and transportation uses into two separate categories, the LUTE EIR combines General Industrial and Transportation uses in a single category and separates lighter industrial and other business uses into a new category called Business Mix.

The Project’s zoning is Commercial Industrial Mix-2 (CIX-2)/Health and Safety Protection Overlay (S-19). The intent of the CIX-2 zone is to create, preserve, and enhance areas for industrial uses; community education uses are permitted in the zone.

The S-19 overlay is intended to promote public health, safety, and welfare by regulating handling and of toxic substances, hazardous materials, hazardous waste, or explosives. S-19 zoning reduces threats to the environment or to public health, particularly to residents living adjacent to industrial areas where these materials are commonly used, produced, or found.

1. The Project is aligned with land use policies set forth in the CARP and LUTE EIRs and adopted in the current General Plan as listed below.
 - **Objective I/C—Minimize land use compatibility conflicts** in commercial and industrial areas through achieving a balance between economic development values and community values.
 - **Policy I/C4.1—Protecting Existing Activities:** Existing industrial, residential, and commercial activities and areas which are consistent with long-term land use plans for the city should be protected from the intrusion of potentially incompatible land uses. The policy encourages adequate civic, institutional, and educational facilities located within Oakland, appropriately designed and sited to serve the community.
 - **Objective N2—Encourages adequate civic, institutional, and educational facilities located within Oakland,** appropriately designed and sited to serve the community.

Commercial development in neighborhoods should be concentrated in areas that are economically viable and provide opportunities for smaller-scale, neighborhood-oriented retail.

- **Policy N2.2—Providing Distributed Services.** Provision of government and institutional services should be distributed and coordinated to meet the needs of city residents.
- **Policy N 2.4—Locating Services along Major Streets.** New large-scale community, government, and institutional uses should be located outside of areas that are predominantly residential. Preferably, they should be located along major thoroughfares with easy access to freeways and public transit or in the downtown.
- **Standard Conditions of Approval.** Oakland's adopted standard conditions of approval (Ordinance No. 12899 C.M.S.), pursuant to Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183.3, incorporate development policies and standards from various adopted plans, policies, and ordinances that have been found to substantially mitigate environmental effects.

The Project is consistent with the above General Plan policies for the following reasons:

- The Project encourages adequate civic, institutional, and educational facilities designed to serve the Oakland community. The proposed charter school development and recreational facilities are consistent with the current use as an educational institution. The school would serve up to 850 students in grades K-12 and is expected to provide employment opportunities in academics, administration, and services. The Project's educational and recreational facilities would serve the needs of the surrounding community.
- The Project complies with CARP EIR Section 408, Permitted Land Uses, which oversees the permitting process for "the maintenance, establishment or enlargement of public, semipublic, institutional or nonprofit uses, including park and recreational facilities, libraries, educational, fraternal, employee, philanthropic, religious and charitable institutions, utilities, railroad rights-of-way and facilities of other similar associations or organizations." The Project is in a major urban hub regionally accessible from Interstate 880 and is in close proximity to the Oakland Coliseum BART station.
- Project-related standard conditions of approval would reduce or mitigate significant impacts on noise, population and housing, hazards, and traffic and circulation.

The Project would also be consistent with City zoning and standard conditions of approval required for project construction and building permits as well as additional permits for grading, encroachment, and other related on- and off-site work permits.

The Project would comply with applicable land use policies outlined in the LUTE EIR, CARP EIR, City zoning regulations, and standard conditions of approval. Therefore, the Project would be consistent with General Plan land use policies.

2. The Project would be consistent with General Plan and LUTE adopted plans and policies that shape the transportation analysis framework. The following programs support an effective, sustainable, multimodal transportation system consistent with CIX-2 and S-19 infrastructure.

- **Oakland Department of Transportation Strategic Plan.** The Oakland Department of Transportation Strategic Plan was published in October 2016. The plan supports initiatives promoting community safety and a vibrant, sustainable infrastructure.
- **Transit First Ordinance (Resolution No. 73036 C.M.S.).** Adopted in October 1996, the ordinance declares that it shall be the official City policy to encourage and promote the use of public transit and bicycle and pedestrian travel in Oakland.
- **Complete Streets Policy (Resolution No. 84204 C.M.S.).** Adopted in February 2013, this policy recognizes the necessity of providing safe and convenient pedestrian, bicycle, and public transportation travel options. As such, the City will plan, design, construct, operate, and maintain appropriate facilities for pedestrians, bicyclists, transit users of all abilities, children, the elderly, and people with disabilities as a routine component of new construction, reconstruction, retrofit, and maintenance projects (subject to some exceptions). The City's Bicycle Master Plan and Pedestrian Master Plan provide strategies and actions in compliance with the complete streets policy resolution.
- **Transportation and Parking Demand Management.** Per the City's standard conditions of approval, all land use projects that generate more than 50 net new AM or PM peak-hour vehicle trips must prepare a transportation and parking demand management plan. The plan must include actions to reduce traffic and parking demand and increase carpooling and pedestrian and bike travel. The Project would comply with City requirements to reduce vehicle miles traveled (VMT) by 22.8 percent to reduce VMT to the regional threshold (15 percent below the regional average). This percentage corresponds to the overall Vehicle Trip Reductions (VTR) required for the Project through the transportation and parking demand management plan.

The Project would be consistent with the CIX-2/S-19 zoning and would meet the property development standards and code requirements for vehicle parking, commercial loading, driveway width, and pedestrian walkways. The Project is consistent with transportation demand management strategies, with pedestrian walkway improvements, ridesharing programs, bicycle parking facilities, and transit discounts for students.

The Project includes bicycle infrastructure improvements through the Installation of a Class III bikeway on Edes/Jones/Cairo/Hegenberger Loop/Edgewater between 105th Avenue and the Bay Trail. The Project will also include long- and short-term parking for bicycles. City Planning Code Section 17.116.070, Off-street parking—Civic Activities, C. Community Education: high schools, states that the Director of City Planning must prescribe the number of parking spaces for this type of facility. The Project will include 82 parking spaces in the existing parking lot for Phase 1 (78 standard spaces and 4 ADA [Americans with Disabilities Act] spaces). The amount of parking provided for the building construction phase (Phase 2) has yet to be determined.

- **Standard Conditions of Approval.** Construction activity in a public right-of-way requires an obstruction permit from the City. The contractor must submit a Traffic Control Plan (TCP) with a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian detours, including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.

3. The Project otherwise conforms to existing CIX-2/S-19 zoning policies (Oakland Planning Code).

- Section 17.73.020, Permitted and conditionally permitted activities and facilities
- Chapter 17.100A, S-19 Health and Safety Protection Combining Zone Regulations
- Chapter 17.110, Buffering Regulations (including loading and storage)
- Chapter 17.114, Nonconforming Uses
- Chapter 17.116, Off-Street Parking and Loading Requirements
- Chapter 17.124, Landscaping and Screening Standards
- Section 17.154.060, Application of regulations to lots divided by zone boundaries

Therefore, the Project adheres to the criteria of CEQA Guidelines Section 15183(a) as being consistent with both the development density established in the General Plan and applicable zoning regulations for the site.

The Project is consistent with LUTE EIR development assumptions for the site and is within the overall range of development for the Business Mix land use designation. It is therefore assumed that the Project's potential contribution to cumulatively significant effects has already been addressed in the LUTE and CARP EIRs. Further, the Project is consistent with CEQA Guidelines Section 15183, which allows for streamlined environmental review. Subsequently, this document need only consider whether there are project-specific effects peculiar to the Project or its site and will not reconsider the Project's cumulative effects per CEQA Guidelines Section 15183.

The Project is eligible for consideration of an exemption under California Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183.

Further, as outlined in Section 4.0, Purpose and Summary, the analysis in Attachments B and C provides substantial evidence to support the use of the:

- Qualified Infill Exemption; and/or
- Program EIRs and Redevelopment Projects.

The Project would be consistent with the General Plan, the zoning for the site, the Planning Code requirements of Section 17, and applicable land use plans and policies adopted to avoid or mitigate significant environmental effects.

Based on an examination of the analysis, findings, and conclusions of the CARP and LUTE EIRs, implementation of the Project would not substantially increase the severity of significant land use and planning impacts identified, nor would it result in new significant impacts related to land use and planning that were not identified in the CARP and LUTE EIRs.

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ATTACHMENT C: STREAMLINING FOR INFILL PROJECTS, SECTION 15183.3

Based on CEQA Guidelines Section 15183.3(d)(1), the lead agency must examine an eligible infill project in light of the prior EIR to determine whether the infill project will cause any effects that require additional review under CEQA. This evaluation will:

- A. Document whether the infill project satisfies the applicable performance standards in **Appendix M** (Performance Standards for Infill Projects Eligible for Streamlined Review) of the CEQA Guidelines.
- B. Explain whether the effects of the infill project were analyzed in a prior EIR.
- C. Explain whether the infill project will cause new specific effects (defined as “an effect that was not addressed in the prior EIR and that is specific to the infill project or the infill project site”).
- D. Explain whether substantial new information shows that the adverse environmental effects of the infill project are more significant (defined as “substantially more severe”) than described in the prior EIR.

If the infill project will cause new specific effects or more significant effects, the evaluation should indicate whether uniformly applicable development policies or standards will substantially mitigate those effects.

The following information demonstrates that the Project is eligible for permit streamlining pursuant to CEQA Guidelines Section 15183.3 as a qualified infill project and that it fulfills the review requirements of the section’s provisions.

A. APPENDIX M PERFORMANCE STANDARDS

The following analysis demonstrates that the Project is located in an urban area on a site that has been previously developed, satisfies the performance standards provided in CEQA Guidelines Appendix M, and is consistent with the General Plan land use designation, density, building intensity, and applicable policies. As such, this environmental review is limited to an assessment of whether the Project may cause any project-specific effects, and relies on uniformly applicable development policies or standards to substantially mitigate cumulative effects.

PROJECT INFILL ELIGIBILITY		
CEQA Eligibility Criteria		Eligible?/Notes for Project
1.	Be located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least 75 percent of the site's perimeter. For the purpose of this subdivision, "adjoin" means the infill project is immediately adjacent to qualified urban uses, or is only separated from such uses by an improved right-of-way. (CEQA Guidelines Section 15183.3[b][1])	Yes. The project site is currently developed as a bible college and theological seminary, and adjoins existing urban uses, as described in the Project Description.
2.	Satisfy the performance standards provided in Appendix M. (CEQA Guidelines Section 15183.3[b][2]) as presented in 2a and 2b below)	—
	<i>2a. Performance Standards Related to Project Design.</i> All projects must implement all of the following:	—
	Renewable Energy. <i>Nonresidential Projects.</i> All nonresidential projects shall include on-site renewable power generation, such as solar photovoltaic, solar thermal, and wind power generation, or clean backup power supplies, where feasible. <i>Residential Projects.</i> Residential projects are also encouraged to include such on-site renewable power generation.	Yes. Lighthouse Lodestar will incorporate renewable solar energy into its Phase 2 either as rooftop solar on the new building or as parking lot solar canopies.
	Soil and Water Remediation. If the project site is included on any list compiled pursuant to Section 65962.5 of the Government Code, the project shall document how it has remediated the site, if remediation is completed. Alternatively, the project shall implement the recommendations provided in a preliminary endangerment assessment or comparable document that identifies remediation appropriate for the site.	Yes. The project site is located on the State Water Resources Control Board's GeoTracker list, which is one of the lists included under Government Code Section 65962.5 (Site Cleanup Program Case No. RO0003175 and GeoTracker Global ID T10000007707). The applicant has prepared a Soil Management Plan (SMP), which has been conditionally approved by the Department of Toxic Substances Control. The SMP addresses precautions that will be taken to mitigate risks to human health and the environment from identified chemicals during future redevelopment and/or intrusive activities at the site, such as soil grading, excavation, recompaction, trenching and backfilling activities, and utility repair. The applicant will implement the recommendations in the SMP.
	Residential Units Near High-Volume Roadways and Stationary Sources. If a project includes residential units located within 500 feet, or other distance determined to be appropriate by the local agency or air district based on local conditions, of a high-volume roadway or other significant sources of air pollution, the Project shall comply with any policies and standards identified in the local general plan, specific plan, zoning code, or community risk reduction plan for the protection of public health from such sources of air pollution. If the local government has not adopted such plans or policies, the Project shall include measures, such as enhanced air filtration and project design, that the lead agency finds, based on substantial evidence, will promote the protection of public health from	Not applicable.

PROJECT INFILL ELIGIBILITY		
CEQA Eligibility Criteria		Eligible?/Notes for Project
	sources of air pollution. Those measures may include, among others, the recommendations of the California Air Resources Board, air districts, and the California Air Pollution Control Officers Association.	
	2b. <i>Additional Performance Standards by Project Type.</i> In addition to implementing all the features described in criterion 2a above, the project must meet eligibility requirements provided below by project type.	—
	<p>Residential. A residential project must meet one of the following:</p> <p>A. <i>Projects achieving below average regional per capita vehicle miles traveled.</i> A residential project is eligible if it is located in a “low vehicle travel area” within the region;</p> <p>B. <i>Projects located within ½ mile of an existing major transit stop or high quality transit corridor.</i> A residential project is eligible if it is located within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor (A major transit stop is defined as “a site containing...the intersection of two or more major bus routes with frequencies of service intervals of 15 minutes or less during the morning and afternoon peak commute periods”).</p> <p>C. <i>Low-Income Housing.</i> A residential or mixed-use project consisting of 300 or fewer residential units all of which are affordable to low income households is eligible if the developer of the development project provides sufficient legal commitments to the lead agency to ensure the continued availability and use of the housing units for lower income households, as defined in Section 50079.5 of the Health and Safety Code, for a period of at least 30 years, at monthly housing costs, as determined pursuant to Section 50053 of the Health and Safety Code.</p>	Not applicable.
	<p>Commercial/Retail. A commercial/retail project must meet one of the following:</p> <p>A. <i>Regional Location.</i> A commercial project with no single-building floor-plate greater than 50,000 square feet is eligible if it locates in a “low vehicle travel area.”</p> <p>B. <i>Proximity to Households.</i> A project with no single-building floor-plate greater than 50,000 square feet located within ½ mile of 1,800 households is eligible.</p>	Not applicable.

PROJECT INFILL ELIGIBILITY	
CEQA Eligibility Criteria	Eligible?/Notes for Project
<p>Office Building. An office building project must meet one of the following:</p> <p>A. <i>Regional Location.</i> Office buildings, both commercial and public, are eligible if they locate in a low vehicle travel area.</p> <p>B. <i>Proximity to a Major Transit Stop.</i> Office buildings, both commercial and public, within ½ mile of an existing major transit stop, or ¼ mile of an existing stop along a high-quality transit corridor, are eligible.</p>	Not applicable.
<p>Schools. Elementary schools within 1 mile of 50 percent of the projected student population are eligible. Middle schools and high schools within 2 miles of 50 percent of the projected student population are eligible. Alternatively, any school within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor is eligible.</p> <p>Additionally, to be eligible, all schools shall provide parking and storage for bicycles and scooters, and shall comply with the requirements of Sections 17213, 17213.1, and 17213.2 of the California Education Code.</p>	<p>Yes.</p> <p>Since Oakland is an urban area with the bay serving as a physical barrier, it is assumed that most of the students live within a 1-mile radius of the school with an average trip length of 0.8 mile.</p> <p>The Project will provide bike parking and storage on-site and will comply with the requirements of Sections 17213, 17213.1, and 17213.2 of the California Education Code, as cited in Attachment B, Consistency Memo.</p>
<p>Transit. Transit stations, as defined in Section 15183.3(e)(1), are eligible.</p>	Not applicable.
<p>Small Walkable Community Projects. Small walkable community projects, as defined in Section 15183.3, subdivision (f)(5), that implement the project features in 2a above are eligible.</p>	Not applicable.
<p>3. Be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, except as provided in CEQA Guidelines Sections 15183.3(b)(3)(A) or (b)(3)(B). (CEQA Guidelines Section 15183.3[b][3])</p>	<p>Yes.</p> <p>The adopted Plan Bay Area (2013)¹ serves as the sustainable communities strategy for the Bay Area, per Senate Bill 375. Plan Bay Area identified Priority Development Areas (PDAs), where new development will support the needs of residents and workers in a pedestrian-friendly environment served by transit. As identified in the Oakland Housing Element 2015–2023, the project site is not within an Oakland Potential Priority Development Area.</p> <p>The General Plan land use designation for the site is Business Mix. The intent of the Business Mix designation is to create, preserve, and enhance areas of the city that are appropriate for a wide variety of business and related commercial and industrial establishments. The Project would be consistent with this designation.</p>

¹ Metropolitan Transportation Commission and Association of Bay Area Governments. 2013. Plan Bay Area, Strategy for a Sustainable Region. Adopted July 18, 2013.

B. EFFECTS ANALYZED IN PRIOR EIR

The Project would be consistent with the CARP and LUTE EIRs, and no substantial increases in severity of previously identified impacts or new significant impacts would occur. Thus, the impacts of the Project were analyzed in the Program EIRs.

C. NEW SPECIFIC EFFECTS

Section 7.0 Environmental Checklist explains how the Project would not cause new specific effects that were not addressed in the Program EIRs. The summary analysis of the Project in Section 6.0 concludes that there would be no impacts that were not analyzed in the Program EIRs.

The Project would not substantially increase the severity of the significant impacts identified, nor would it result in new significant impacts related to population and housing that were not identified in the Program EIRs.

D. SUBSTANTIAL NEW INFORMATION

As stated in Section 7.0, there is no new information that was not known at the time the CARP and LUTE EIRs were certified which would cause more severe adverse impacts than discussed in the Program EIRs. There have been no significant changes in the underlying development assumptions or in the applicability or feasibility of mitigation measures or standard conditions of approval (SCAs) included in the Program EIRs.

E. STANDARD CONDITIONS OF APPROVAL

Standard conditions of approval incorporate policies and standards from various adopted plans, policies, and ordinances that have been found to substantially mitigate environmental effects. The SCAs are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects. SCAs that apply to the Project are included in **Appendix SCA**.

Consistent with CEQA Guidelines Section 15183.3(a), this environmental document is limited to topics applicable to project-level review where the effects of infill development have been addressed in other planning-level decisions of the General Plan Land Use and Transportation Element and LUTE EIR (1998) or the CARP EIR, or by uniformly applicable development policies (standard conditions of approval) which mitigate such impacts.

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APPENDIX AES – SHADOW LENGTH CALCULATIONS

Computation path of the sun for:

Sobrante Park, Oakland, CA, USA

20.Mar.2017 08:56 UTC-7 >|<

Solar data for the selected location

Dawn: 06:45:33
Sunrise: 07:11:23
Culmination: 13:16:01
Sunset: 19:21:17
Dusk: 19:47:10
Daylight duration: 12h9m54s
Distance [km]: 148.996.748
Altitude: 19.61°
Azimuth: 105.84°
Shadow length [m]: 25.65
at an object level [m]: 9.14

Geodata for the selected location

Height: 9m Set Lat/Lon
Latitude: N 37°44'2.17" 37.73394°
Longitude: W 122°10'43.93" -122.17887°
TZ: America/Los_Angeles DST PDT

- Print
- Contact
- Help & API
- The same for the Moon
- Legal Disclosure

G+ Gefällt mir 108 Teilen

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sonnenverlauf.de



Computation path of the sun for:

Sobranite Park, Oakland, CA, USA

22.Sep.2017 08:55 UTC-7 >|<

Solar data for the selected location

Dawn: 06:30:37
Sunrise: 06:56:30
Culmination: 13:01:14
Sunset: 19:05:22
Dusk: 19:31:12
Daylight duration: 12h8m52s
Distance [km]: 150.137.400
Altitude: 22.20°
Azimuth: 108.27°
Shadow length [m]: 22.40
at an object level [m]: 9.14

Geodata for the selected location

Height: 9m Set Lat/Lon
Latitude: N 37°44'2.17" 37.73394°
Longitude: W 122°10'43.93" -122.17887°
TZ: America/Los_Angeles DST PDT

Print

Contact

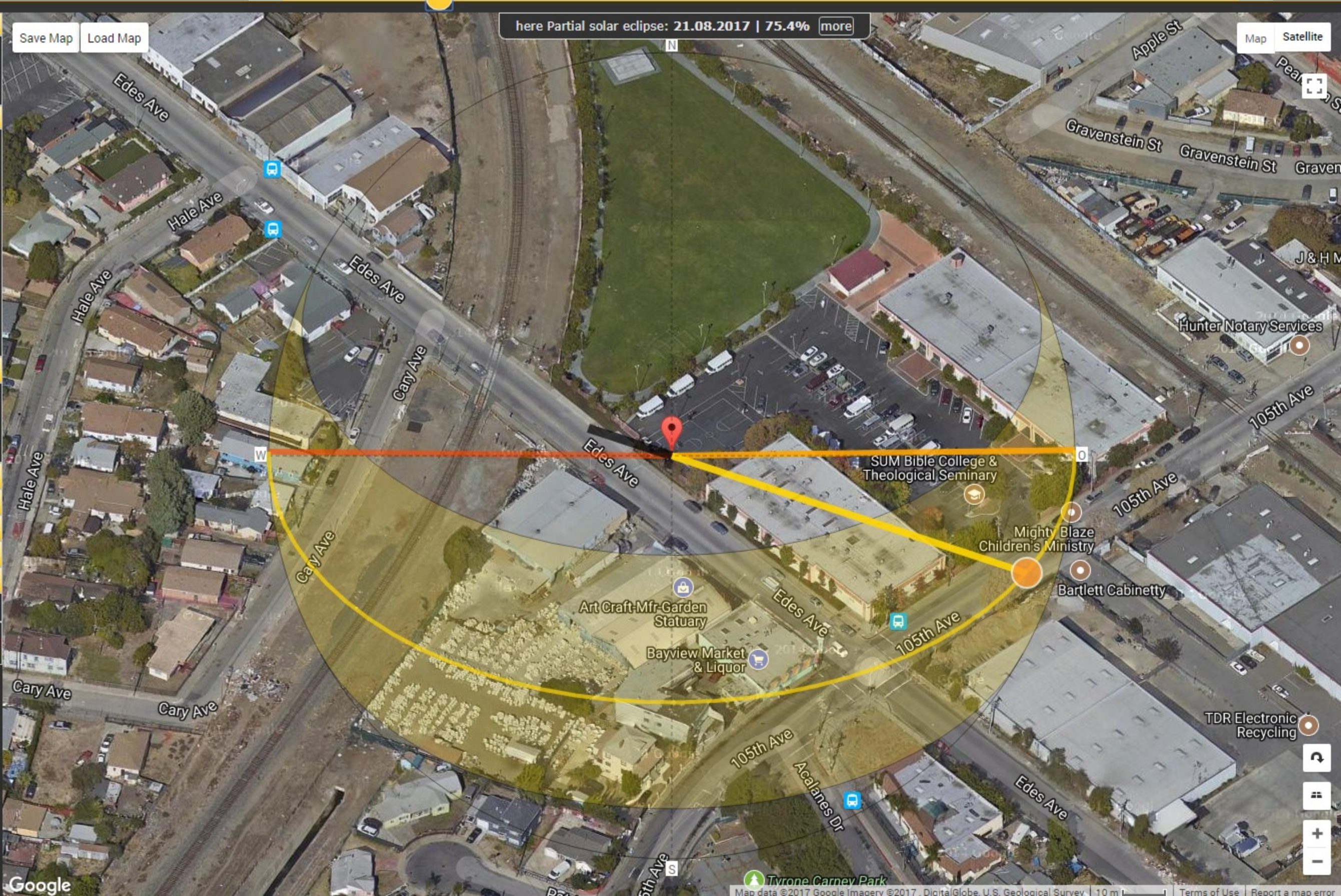
Help & API

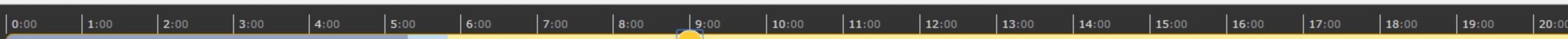
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Computation path of the sun for:

Sobrante Park, Oakland, CA, USA

21.Jun.2017 08:56 UTC-7 >|<

Solar data for the selected location

Dawn: 05:15:58
Sunrise: 05:46:56
Culmination: 13:10:38
Sunset: 20:34:19
Dusk: 21:05:17
Daylight duration: 14h47m23s
Distance [km]: 152.032.680
Altitude: 34.46°
Azimuth: 85.46°
Shadow length [m]: 13.32
at an object level [m]: 9.14

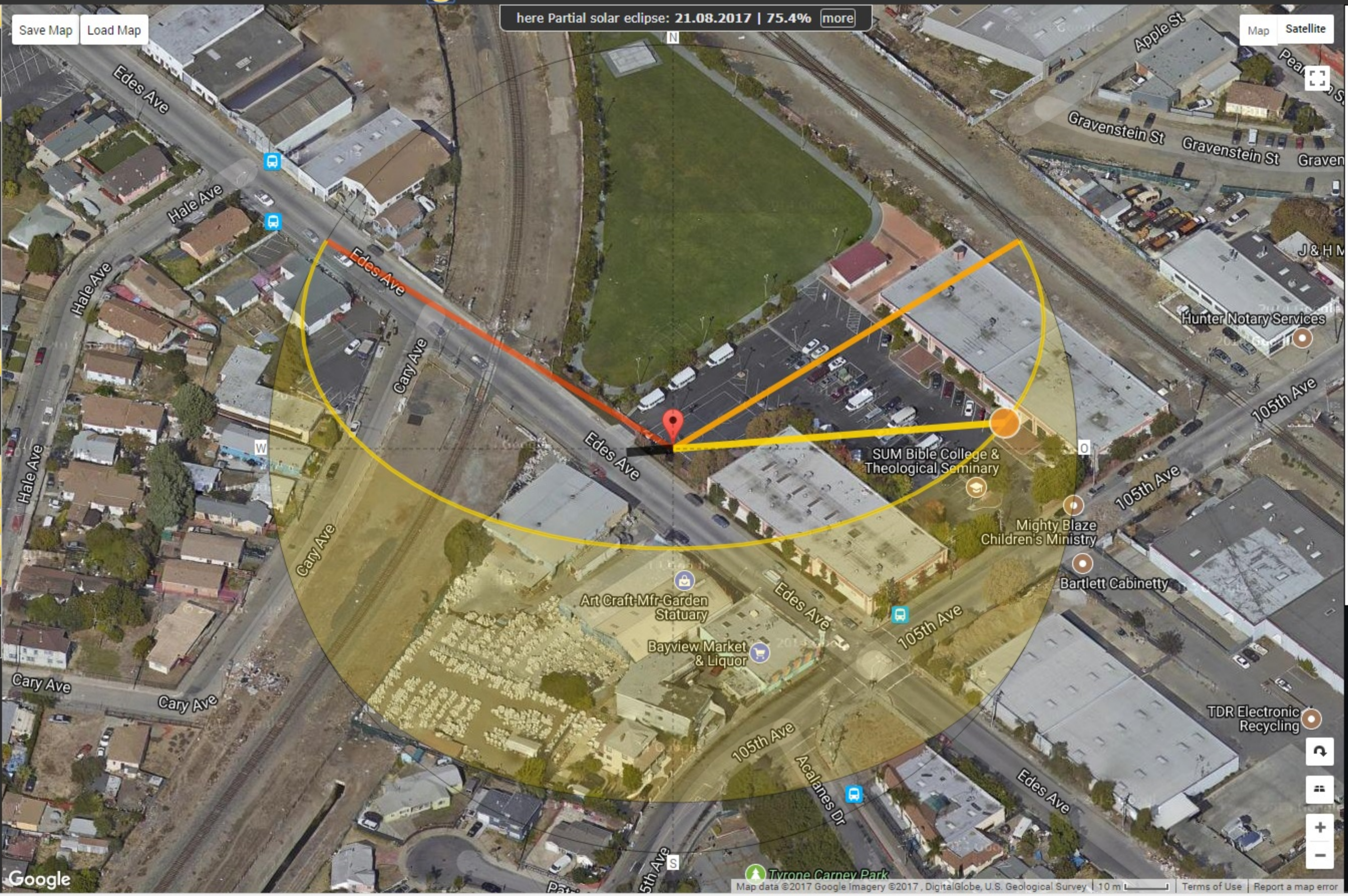
Geodata for the selected location

Height: 9m Set Lat/Lon
Latitude: N 37°44'2.17" 37.73394°
Longitude: W 122°10'43.93" -122.17887°
TZ: America/Los_Angeles DST PDT

- Print
- Contact
- Help & API
- The same for the Moon
- Legal Disclosure

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Computation path of the sun for:

Sobranate Park, Oakland, CA, USA

21.Dec.2017 08:56 UTC-8 >|<

Solar data for the selected location

Dawn: 06:51:04
Sunrise: 07:20:08
Culmination: 12:07:03
Sunset: 16:53:58
Dusk: 17:23:02
Daylight duration: 9h33m50s
Distance [km]: 147.163.635
Altitude: 14.22°
Azimuth: 135.54°
Shadow length [m]: 36.08
at an object level [m]: 9.14

Geodata for the selected location

Height: 9m Set Lat/Lon
Latitude: N 37°44'2.17" 37.73394°
Longitude: W 122°10'43.93" -122.17887°
TZ: America/Los_Angeles PST

Print

Contact

Help & API

The same for the Moon

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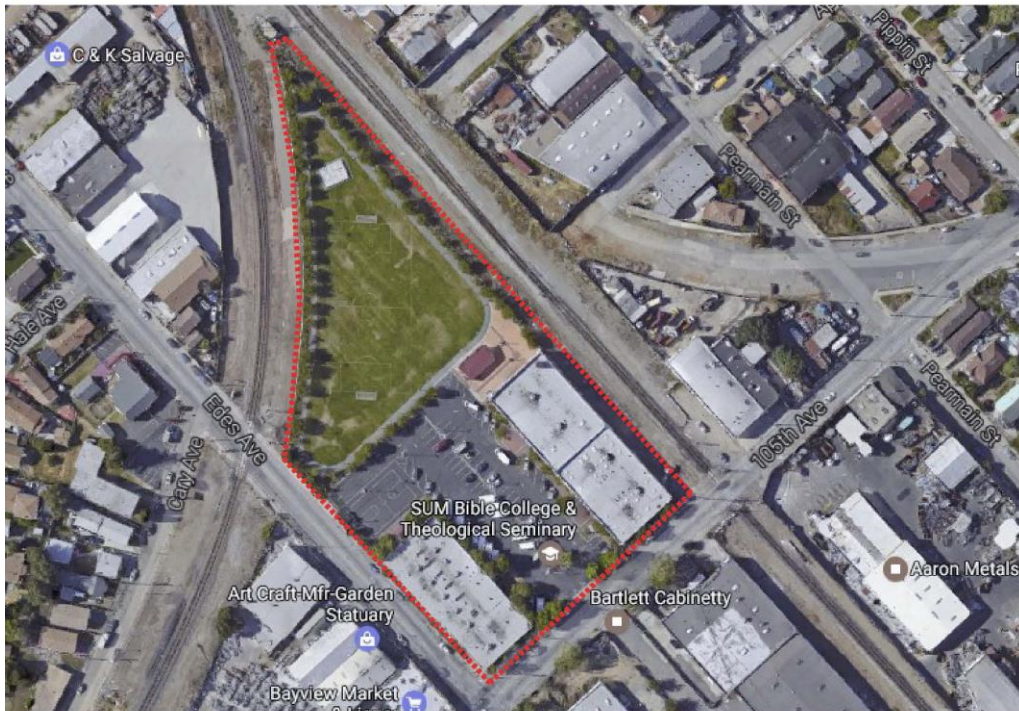
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**APPENDIX HAZ – PHASE I AND II
ENVIRONMENTAL SITE ASSESSMENTS; ASBESTOS
& LEAD PAINT SURVEY REPORT**

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
701-735 105TH AVENUE
OAKLAND, CA 94603**



Prepared For:

**Lighthouse Community Public Schools
444 Hegenberger Road
Oakland, CA 94621**

Prepared By:



ENVIRONMENTAL, INC.

**650 Delancey Street, #222
San Francisco, CA 94097
TEL: (415) 882-1675
FAX: (415) 962-0736**

Certifications

This Phase I Environmental Site Assessment is subject to limitations as described in Section 10.0. We declare that, to the best of our professional knowledge and beliefs, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR §312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

All work performed for this Phase I was performed under the direct supervision of the environmental professionals listed below.



Christina Codemo, CHMM, REPA, CAC
Senior Project Manager
REPA 953197 exp 4/30/21



Chuck Siu, CIH, PE, CSP, CAC, CDPH
President
PE C59672 exp 12/31/17

PROJECT PERSONNEL

Lighthouse Community Public Schools

Jenna Stauffer.....CEO

SCA Environmental, Inc.

Christina M. Codemo, CHMM, REPA, CAC.....Principal and Project Consultant

Tucker Kalman, CAC, CDPH.....Environmental Scientist

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Appendix G	Building Permit Report

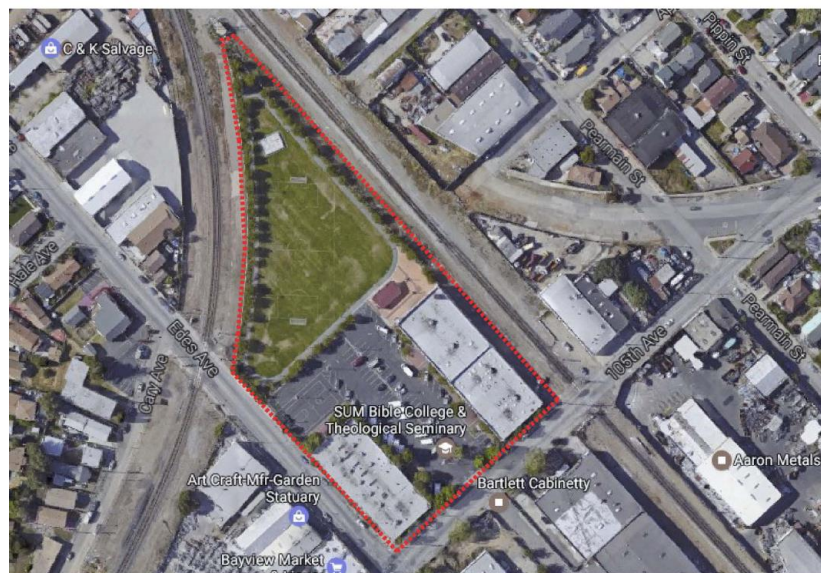
1.0 EXECUTIVE SUMMARY

1.1 SITE SUMMARY

SCA Environmental, Inc. (SCA) conducted a *Phase I Environmental Site Assessment* for the Lighthouse Community Public Schools for the following property, hereafter referred to as the "Target Property," Figures 1 and 2: 701-735 10th Avenue, Oakland, CA 94603 APN: 045-526-801-800.

The *assessment* was performed in accordance with the scope and limitations of American Society of Testing and Materials (ASTM) Practice E1527-13. Any limitations to, or deletions from, this practice are described in Section 2.4. ASTM-defined terms are italicized in this report.

The Target Property is currently an approximately 3.9 acre property in Oakland, CA. The buildings at the Target Property encompass approximately 35,000 square feet. The Target Property was developed as early as 1926 by the Best Steel Casting Company as an iron foundry with multiple structures including mechanical shops, steels ovens, and large foundry buildings. The General Metal Corporation-Steel Division took over the property in approximately 1943 and operated the facility as an iron foundry until between 1955-1958, after which the buildings on site were demolished, with several of the slabs being left in place. The Target Property then remained vacant until approximately 1982, when building permits were issued to construct warehouses and convert one to an assembly church in 1991. In 1993 aerial photos, two large structures and a parking lot were visible on site. The School of Urban Missionaries has been listed as the site occupant since 2000, the year a building permit was issued to convert the other warehouse into a private school. The property has existed in its current configuration since 2003 when the auxiliary restroom/ concession stand was constructed and the dormitories were constructed inside of the eastern building. Current site features are depicted in Figure 2. The Target Property is depicted below:



1.2 FINDINGS

SCA has performed this Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 for the Target Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. The assessment evidence of *recognized environmental conditions* in connection with the property. These conditions are summarized below:

1. The site was historically used for iron foundry activities. Although no violations are noted at the Target Property, this activity was suspended in the 1950s. These activities potentially could have resulted in shallow soil contamination of heavy metals.
2. The Target Property is listed on the CA CHMIRS database as End of Apple Off Pearman. This database documents accidental releases of hazardous materials. The completion date for the incident was April 6, 1989, the same day the incident took place. The database has no other information pertaining to the incident. Being that the resolution to this release of hazardous material not being documented, it is considered to have the potential to have affected the subsurface conditions at the Target Property.
3. The presence of various sites in the vicinity of the Target Property with open cases or lack of environmental data pertaining to leaking underground storage tanks and other contamination that could adversely affect the subsurface conditions at the Target Property. These sites include:
 - **750 107th Ave, Oakland, CA** - Site is located southeast, at a higher elevation, and approximately 0.155 mile away from the Target Property. Chrome plating activities previously took place at the site. A series of ESA's between 1991-1997 found detectable levels of chromium and arsenic in soil and groundwater above the MCLs. Groundwater flow direction at this site has been measured as being variable, but towards the northwest towards the Target Property in 2016 sampling. In addition, the closest monitoring well location in the direction of the Target Property had measurable levels of Antimony, Chromium, Cadmium, and Nickel. This site possibly could have impacted subsurface conditions at the Target Property.
 - **9999 San Leandro Street, Oakland, CA** - Site is located to the northeast, at a lower elevation, and approximately 0.205 mile from the Target Property. A gasoline UST leak was reported in 1989 and the case was closed in 1991. No analytical data or case files are available on Geotracker for this site, but nearby sites have measured groundwater flow direction towards the southwest, towards the Target Property. This site possibly could have impacted subsurface conditions at the Target Property.
 - **10300 Gravenstein Street, Oakland, CA** - Site is located to the east, at a higher elevation, and approximately 0.002 mile from the Target

Property. Site is currently listed as "Needs Evaluation" on the Envirostor database due to auto repair activities and storage of hazardous waste outdoors in the unpaved backyard. This site possibly could have impacted subsurface conditions at the Target Property.

The following items were noted, but are not recognized environmental conditions as defined by ASTM methodology, and may be of some significance in future redevelopment activities at the site:

1. Presence of suspect asbestos containing materials
2. Presence of assumed lead containing coatings
3. Presence of assumed PCB containing ballasts
4. Presence of mercury containing fluorescent lights
5. Presence of CFC containing refrigeration and HVAC equipment

Section 8 of this report contains a summary and discussion of the findings and related recommendations.

2.0 INTRODUCTION

2.1 PURPOSE

This *Phase I environmental site assessment (Phase I ESA)* was performed by SCA under contract to Lighthouse Community Public Schools. The purpose of the Phase I ESA is to identify recognized environmental concerns associated with the past and/or present use, generation, storage, or disposal of hazardous materials and/or wastes at the Target Property, and at nearby properties judged to have a potential to affect the Target Property.

The *Phase I ESA* was performed in accordance with the ASTM standard E1527-13 which defines good commercial and customary practice in the United States for conducting a *Phase I* of a parcel of commercial real estate with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum hydrocarbons. As such, ASTM E 1527-13 is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner defense to CERCLA liability: that is, the practices that constitute “*all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice*” as defined in 42 USC [section] 9610(35)(B).

2.2 SCOPE OF SERVICES

The *Phase I ESA* was performed in accordance with the American Society of Testing and Materials (ASTM) standard E1527-13. SCA's work included the review of reasonably ascertainable standard historical sources and a site reconnaissance.

2.3 ASSUMPTIONS

In preparing this report, SCA has assumed that all information received from interviewed parties is true and accurate. In addition, SCA has assumed that all records obtained from Others, such as regulatory databases, maps, aerial photos, etc. are accurate and complete. SCA has not independently verified the accuracy or completeness of any data received.

2.4 LIMITATIONS & EXCEPTIONS

Information regarding the Target Property and nearby properties was gathered from a site visit, interviews, historical background data and environmental database files. ASTM Standard 1527-13 defines a *Key Site Manager* as the owner or person identified by the owner of a property as having good knowledge of the uses and physical characteristics of the property. SCA interviewed the *Key Site Managers* for the Target Property, Mr. George Neil, Chancellor of the School of Urban Ministries, through the completion of an interview questionnaire.

Note that ASTM E1527-13 requires that the property's use be identified at intervals of five years or less, beginning from the first developed use, or 1940, whichever is earlier. SCA was unable to locate information regarding the property during the following intervals: 1899-1915, 1915-1926, 1926-1939, and 1974-1980. Given the site history and SCA's review of available data, the

absence of documentation during these time periods is not considered a significant data gap.

2.5 SPECIAL
TERMS AND
CONDITIONS

The methodology used was that detailed in the ASTM document E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Site-specific details of this methodology (for example, specific records sources used) are explained in the pertinent sections of this report.

2.6 USER
RELIANCE

SCA prepared this *Phase I ESA* specifically for Lighthouse Community Public Schools. No other entity may use or rely on this report without written approval signed by a Principal of SCA Environmental, Inc.

3.0 TARGET PROPERTY DESCRIPTION

3.1 TARGET PROPERTY DESCRIPTION

The Target Property is located in the City of Oakland, Alameda County, California. The following table presents the address and legal description of the Target Property, as well as its use. This information was obtained from the site reconnaissance, record reviews, and interviews.

Assessor's Parcel No. (APN) & Address	701-735 105th Avenue, Oakland, CA 94603 APN 045-526-801-800
Location	Oakland, Alameda County, California
Topographic Map	San Leandro, 7.5-minute Quadrangle
Gross Area	3.9 acres
Use	Bible college with onsite dormitories and sport field

3.2 SITE FEATURES

Information regarding the current site features and site utilities obtained from the site reconnaissance, records review, and interviews is included in the table on the following page. A site diagram is included in Figure 2.

Building Descriptions, Site Features, Roads, etc.	The Target Property is currently being operated as the School of Urban Missions. The Target Property has two large structures on site, as well as a smaller restroom/concession stand. All three structures are of concrete masonry unit construction with exterior stucco and largely drywall interior finishes. The two large structures are operated with office spaces, dormitories, classrooms, and a chapel. The smaller structure is an auxiliary restroom/concession stand. A large asphalt paved parking lot is in the center of the site, between the two large structures. Drains are present in the middle of this parking lot, which slopes inwards towards these drains. There is a basketball court present on the western border of the parking lot and a large grassy recreation area with a soccer field, gravel track, and small stage in the northern portion of the site. See Photo Plates 1-7
Source of Potable Water	Municipal
Sewage Disposal System	Municipal
Solid Waste Disposal	Municipal

3.3 SITE SETTING

The area surrounding the Target Property consists primarily of mixed residential housing with commercial/industrial properties. The Target Property is located north of 105th Avenue at the corner of Edes Avenue. Mixed residential, commercial properties, and industrial properties border the site on all sides.

3.3.1 *Geology and Topography*

The Target Property is located in Oakland, Alameda County, with an elevation of approximately 31 feet above mean sea level. In the vicinity of the

3.3.2
Hydrology

site, topography gently slopes towards the south to southwest.

According to the Geologic Map of the San Leandro Quadrangle¹, the site is mapped as Cenozoic aged Quaternary soil (Q) which is comprised of poorly drained clay.

According to the Department of Water Resources, the Target Property is located within the Santa Clara Valley Groundwater Basin, East Bay Plain subbasin. The water bearing formations of the East Bay Plain Subbasin are comprised of four groups: the Santa Clara Formation of Plio-Pleistocene age, Alameda Formation of late Pleistocene, Temescal Formation of early Holocene, and Artificial Fill. The Santa Clara Formation is composed of gravel, sand, silt and clay with various mixtures of grain sizes. The Alameda Formation includes a sequence of alluvial fan deposits with mud deposits on top and bottom of the formation. The Temescal Formation is an alluvial deposit consisting of silts, clays, and some gravels. The Artificial Fill is mainly along the bay and is derived from quarries, demolition debris, and municipal waste. The thickest formation is the Santa Clara Formation, which can be up to 600 feet thick. The nearest surface water body is San Leandro Bay, located approximately 1.89-miles northwest of the Target Property.

No standing water bodies or flowing surface water was present on the Target Property at the time of SCA's site reconnaissance. Based on our review of the EDR reports, no private water wells were identified within 1.0-mile of the Target Property. According to information obtained from California's Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR), no oil, gas, or geothermal wells are located within 1,500-feet of the Target Property.

SCA reviewed the State Water Resources Control Board's (SWRCB) GeoTracker and the Department of Toxic Substances Control's (DTSC) Envirostor websites to identify sites within 1.0-mile of the Target Property where groundwater depth and/or flow are identified. According to the GeoTracker website, properties immediately adjacent to the Target Property (less than 1/4 of a mile) to the north, east, and west tend to have groundwater flow to the southwest. Sites located greater than 1/4 of a mile from the Target Property to the north tend to have groundwater flow towards the north. Properties immediately to the south of the Target Property have very variant groundwater flow, with direction measured towards the north during 2016 sampling at the 750 107th Avenue Property. Depth to groundwater was found to be 18 feet bgs at the 555 98th Ave site in 2016, located approximately 0.25 miles north of the Target Property. Depth to groundwater was also approximately 18 feet bgs in 2016 sampling at the 750 107th Ave site, located approximately 0.155 miles southeast of the Target Property. It is typical for local groundwater gradients and directions to vary substantially, due to subsurface soil and rock density, and due to offsite dewatering activities, agricultural / tidal fluctuations, aquifer recharge, etc.

¹ DIBBLE, E.W., and MUMCK, J.R., 2005, *Geologic Map of San Leandro Quadrangles, Contra Costa and Alameda Counties, California*. DIBBLE Foundation Map DF-160. Available at http://ngmdb.usgs.gov/Prodesc/Prodesc_73798.htm

3.4 ADJACENT PROPERTY USES

Adjoining Direction	Name	Use
North (across railway tracks)	Residential, C&K Salvage Yard, and Abandoned Iron Working Facility 10250 Edes Ave, 718 Douglas Ave, 796 Douglas Ave (See Photo Plates 25, 27)	Residential, Salvage Yard, and Abandoned Iron Works
South (across 105th Ave)	TDR Electronic Recycling and Aaron Metals 738 105th Ave and 750 105th Ave (See Photo Plates 22 and 28)	Electronic Recycling/ Metal Recycling
West (across Edes Ave)	Art Craft Statuary and Scotty's Liquor 10441 and 10447 Edes Ave (See Photo Plates 23 and 24)	Statuary and Liquor Store
East	J&H Motors and Abandoned Notary Services 751 and 773 105th Ave (See Photo Plate 26)	Auto Mechanic and Abandoned Notary Company

4.0 USER PROVIDED INFORMATION

4.1 <u>TITLE RECORDS</u>	Historical title records for the parcels were not researched as part of this Phase I.
4.2 <u>LIENS OR USE LIMITATIONS</u>	SCA did not discover evidence of any existing Environmental Liens or Activity and Land Use Limitations based on the EDR Lien Search Report (Appendix C).
4.3 <u>SPECIALIZED KNOWLEDGE</u>	The Client has not reported any specialized knowledge or experience pertaining to environmental issues at the Target Property.
4.4 <u>VALUATION REDUCTION</u>	SCA is not aware of any instance where the Target Property's commercial real estate value was decreased resulting in a purchase price significantly less than that of comparable properties.
4.5 <u>INFORMATION PROVIDED BY KEY SITE MANAGER</u>	SCA interviewed the <i>Key Site Managers</i> for the Target Property, Mr. George Neil, Chancellor of the School of Urban Ministries, through the completion of an interview questionnaire. Information obtained from the <i>Key Site Managers</i> is incorporated by reference. Completed questionnaires are included in Appendix B.
4.6 <u>REASON FOR PERFORMING PHASE I</u>	SCA's client has notified SCA that the Phase I Environmental Site Assessment is being performed as part of due diligence investigations.
4.7 <u>OTHER</u>	No other information has been provided to SCA at this time, other than that detailed in this report.

5.0 RECORDS REVIEW

5.1 RECORDS SOURCES

The following databases were accessed from the Environmental Data Resources (EDR) report:

5.1.1 *Federal Records*

- United States Environmental Protection Agency (USEPA) "Superfund" National Priority List (NPL);
- USEPA Proposed NPL sites;
- USEPA Delisted NPL sites;
- USEPA NPL Recovery sites;
- USEPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS);
- USEPA No Further Remedial Action Planned Sites (NFRAP);
- USEPA Corrective Action Report (CORRACTS);
- USEPA Resource Conservation and Recovery Information System - Treatment, Storage, and Disposal Facilities (RCRIS -TSD);
- USEPA Resource Conservation and Recovery Information System - Large Quantity Generators and Small Quantity Generators (RCRIS LG and SG);
- USEPA Emergency Response Notification System (ERNS);
- US Department of Transportation Hazardous Information Reporting System (HMIRS);
- USEPA Engineering Controls Sites List (US ENG CONTROLS);
- USEPA Institutional Controls Sites List (US INST CONTROL);
- USEPA Department of Defense sites (DOD);
- US Army Corps of Engineers (USACE) Formerly Used Defense Sites (FUDS);
- USEPA Brownfields sites (US BROWNFIELDS);
- USEPA Superfund (CERCLA) Consent Decrees (CONSENT);
- USEPA Records Of Decision (ROD);
- Department of Energy (DOE) Uranium Mill Tailings Sites (UMTRA);
- USEPA Open Dump Inventory (ODI);
- USEPA/NTIS Toxic Chemical Release Inventory System (TRIS);
- USEPA /NTIS Toxic Substances Control Act (TSCA);
- FIFRA/TSCA Tracing System (FTTS);
- USEPA Section 7 Tracking System (SSTS);
- USEPA Integrated Compliance Information System (ICIS);
- Drug Enforcement Agency (DEA) Clandestine Drug Labs (CDL);
- Department of the Navy Land Use Control Information System (LUCIS);
- USEPA Radiation Information Database (RADINFO);
- USEPA PCB Activity Database System (PADS);
- US Nuclear Regulatory Commission Material Licensing Tracking System (MLTS);
- Mine Safety & Health Administration (MSHA) Mines Master Index File (MINES);
- USEPA Corrective Facility Index System (FINDS);
- USEPA RCRA Administrative Action Tracking System (RAATS).
- USGS Water Wells;
- Department of Health Services Drinking Water Quality Database.

5.1.2

State Records

- Historical Calsites Database (HIST CAL-SITES)
- California Department of Health Services Bond Expenditure Plan (BEP);
- School Property Evaluation Program (SCH);
- State Water Resources Control Board Toxic Pits (TOXIC PITS);
- California State Landfill Listings (STATE LANDFILL)
- State Water Resources Control Board Waste Discharge System (WDS);
- California Regional Water Quality Control Board San Francisco Bay Region (2) (WMUDS/SWAT);
- Cal/EPA/Office of Emergency Information Cortese (CORTESE);
- California Recycler Database (SWRCY)
- State Water Resources Control Board Leaking Underground Storage Tank Information System (LUST);
- Cal/EPA Facility Database Inventory (CA FID);
- North and South Bay SLIC Report (SLIC);
- State Water Resources Control Board Hazardous Substance Storage Container Database (UST);
- Historical UST Registered Database (HIST UST);
- State Water Resources Control Board Aboveground Storage Tank Facilities (AST);
- State Water Resources Control Board Statewide Environmental Evaluation and Planning System (SWEEPS UST)
- Office of Emergency Services California Hazardous Material Incident Report System (CHMIRS);
- State Water Resources Control Board Proposition 65 (NOTIFY 65);
- Deed Restriction Listing (DEED);
- Voluntary Cleanup Program Properties (VCP);
- Cal EPA Listed Drycleaners (DRYCLEANERS);
- Well Investigation Program Case List (WIP);
- Clandestine Drug Labs (CDL);
- State Response Sites (RESPONSE);
- Hazardous Waste Facility and Manifest Data (HAZNET);
- Emissions Inventory Data (EMI);
- EnviroStor Database (ENVIROSTOR).

5.1.3
Findings from
Regulatory Databases

The following table summarizes findings from the EDR report:

Database	Radius of Search in Miles	Site on list?	Number of Off-Site Facilities on List	Number of Off-Site facilities Which Are at a equal or higher elevation
USEPA NPL	1.000	No	0	0
USEPA PROPOSED NPL	1.000	No	0	0
USEPA DELISTED NPL	1.000	No	0	0
USEPA NPL LIENS	TP*	No	NR	NR
USEPA SEMS (CERCLIS)	0.500	No	0	0
USEPA SEMS-ARCHIVE (CERCLIS-NFRAP)	0.500	No	11	7
USEPA CORRACTS	1.000	No	1	0
USEPA RCRA TSDF	0.500	No	0	0
USEPA RCRA-LQG	0.250	No	1	1
USEPA RCRA-SQG	0.250	Yes	4	2
USEPA RCRA-CESQG	0.250	No	0	0
USEPA RCRA-NonGen	0.250	No	7	4
USEPA ERNS	TP*	No	NR	NR
USEPA HMIRS	TP*	No	NR	NR
USEPA US ENG CONTROLS	0.500	No	0	0
USEPA INST CONTROL	0.500	No	0	0
USACE FUDS	1.000	No	1	0
US BROWNFIELDS	0.500	No	2	2
USEPA CONSENT	1.000	No	0	0
USEPA FINDS	TP*	No	NR	NR
STATE HIST CAL-SITES	1.000	No	5	3
STATE BROWNFIELDS	0.500	No	1	0
STATE BEP	1.000	No	0	0
STATE SCH	0.250	No	0	0
STATE TOXIC PITS	1.000	No	0	0
STATE SWF/LF	0.500	No	0	0
STATE WMUDS/SWAT	0.500	No	0	0
STATE CORTESE	0.500	No	2	1
STATE HIST CORTESE	0.500	No	23	4
STATE SWRCY	0.500	No	1	1
STATE LUST	0.500	No	24	3
STATE FID UST	0.250	No	4	1
STATE SLIC	0.500	No	7	3
STATE UST	0.250	No	0	0
STATE HIST UST	0.250	No	2	0
STATE AST	0.250	No	1	0
STATE SWEEPS UST	0.250	No	4	1
STATE CHMIRS	TP*	Yes	NR	NR
CUPA LISTINGS	0.250	No	0	0
STATE NOTIFY 65	1.000	No	11	3
STATE DEED	0.500	No	3	1
STATE VCP	0.500	No	1	1
STATE DRYCLEANERS	0.250	No	0	0
STATE HAZNET	TP*	No	NR	NR
STATE EMI	TP*	No	NR	NR
STATE WDS	TP*	No	NR	NR
STATE RESPONSE	1.000	No	8	3
STATE ENVIROSTOR	1.000	No	30	17
STATE INDIAN VCP	0.500	No	0	0
STATE INDIAN UST	0.250	No	0	0
STATE INDIAN LUST	0.500	No	0	0
STATE RGA LUST	TP*	No	NR	NR

EDR HIST AUTO	0.125	No	6	2
EDR HIST CLEANER	0.125	No	0	0
CA ALAMEDA COUNTY CS	0.500	No	21	4
CA BOND EXP. PLAN	1.000	No	0	0
HWP	1.000	No	1	0
CA HWT	0.250	No	1	1
EDR MGP	1.000	No	0	0
SEMS-ARCHIVE	0.500	No	0	0
ECHO	TP*	No	NR	NR
DOD	1.000	No	0	0
FUSRAP:DOE	0.500	No	0	0
CA PROC	0.500	No	1	1
NY MANIFEST	0.250	No	1	0
US MINES	0.250	No	1	0

TP* = Only Target Property Researched

NR = Not Researched

The Target Property is listed on the CHMIRS and RCRA-SQG databases for the 701 105th Avenue address. The site is listed on the RCRA-RQG database as the Eden Industrial Park for generating more than 100 and less than 1000 kg of hazardous materials per year. No violations were noted for the Target Property. The Target Property is listed on the CA CHMIRS database as End of Apple Off Pearman. This database documents accidental releases of hazardous materials. The completion date for the incident was April 6, 1989, the same day the incident took place. The database has no other information pertaining to the incident.

SCA researched sites within 0.3 mile of the Target Property with documented leaking USTs, releases, and documented subsurface contamination. SCA also used the EDR VEC App to research impacts to the Target Property from these sites. SCA's findings are summarized below:

Address	Type & contamination	Orientation & Distance to TP	Site Summary
750 107th Ave, Oakland, CA	Chromium and Arsenic in soil and ground water	ESE 0.155 mile Equal/ Higher Elevation than TP	Site is located to the southeast and at a higher elevation than the Target property. Chrome plating operations previously took place at the site. A series of ESAs between 1991-1997 found detectable levels of chromium and arsenic in both soil and groundwater above MCLs. Groundwater flow direction at this site has been measured towards both the south and the northwest, towards the Target Property. In addition, 2016 samples at the MW-11 sample location, which is the closest to the Target Property, had elevated levels of Antimony, Chromium, Cadmium, and Nickel. Due to the groundwater flow being variant in this area and the site being located at a higher elevation than the Target Property, there is a possible threat to the Target Property from this site.

9999 San Leandro St, Oakland, CA	TPHg in undisclosed media	N 0.181 mile Lower Elevation than TP	Site is located to the north and at a lower elevation than the Target Property. A leak was discovered in 1989 and the case was closed in 1991. No analytical data or case files are available on the Geotracker database. Groundwater flow at adjacent sites have been shown to be towards the southwest, towards the Target Property. Due to variable groundwater flow near this site and the lack of site files, there is a possible threat to the Target Property from this site.
10300 Gravenstein Street, Oakland, CA	Under Evaluation	E 0.002 mile Equal/ Higher Elevation than TP	Site is located to the east and at a higher elevation than the Target Property. Site is currently listed as Needs Evaluation on the Envirostor database due to auto repair activities and storage of hazardous waste in backyard. Possible threat to the Target Property due to the ongoing evaluation of the site and proximity to the Target Property.
10306 Pearmain St, Oakland, CA	Metals and Cyanide in soil only	NNE 0.050 mile Equal/ Higher Elevation than TP	Site is located to the northeast and at a higher elevation than the Target Property. The site is listed under 10319 & 10323 Pearmain Street on the Envirostor database as being operated by K&L Plating. Between 1992-1997, multiple hazardous waste storage violations were noted. The company was shut down by court order and in 1997 the US EPA collected surface soil samples, all of which were below the US EPA Region 9's Residential Soil Preliminary Remediation Goals. A no further action letter was issued in 2006 after the original building was removed. Threat to the Target Property from this site is considered minimal.
670 98th Ave, Oakland, CA	TPHg in soil and ground water	WNW 0.205 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. A 76 Gasoline station was removed in 1983, including two 10,000 gallon gasoline USTs. TPHg contamination has been found in the soil and groundwater and the site is currently open for assessment and remedial actions. The Third Quarter 2016 groundwater monitoring report indicates ground water flow being towards the northwest, away from the Target Property. Threat to the Target Property from this site is considered minimal.
816 98th Ave, Oakland, CA	TPHg in soil and ground water	NNW 0.206 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. A leak was discovered in 1989 and the case is closed as of 1993. Groundwater flow in the area of this site is towards the northwest away from the Target Property. Threat to the

			Target Property from this site is considered minimal.
801 98th Ave, Oakland, CA	TPHd in soil and ground water	NNW 0.221 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. A leak was discovered in 1992 and the case is closed as of 1996. Groundwater flow in the area of this site is towards the northwest away from the Target Property. Threat to the Target Property from this site is considered minimal.
9801 San Leandro Blvd, Oakland, CA	TPHg in soil and ground water	NNW 0.239 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. A leak was discovered in 1987 and the case is closed as of 1997. Groundwater flow in the area of this site is towards the northwest away from the Target Property. Threat to the Target Property from this site is considered minimal.
528 98th Ave, Oakland, CA	TPHg in soil and ground water	WNW 0.262 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. A leak was discovered in 1993 and the case is closed as of 1997. Groundwater flow in the area of this site is towards the north, away from the Target Property. Threat to the Target Property from this site is considered minimal.
555 98th Ave, Oakland, CA	TPHg in soil and ground water	WNW 0.256 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. A leak was reported in 2007 and a No Further Action Letter was issued in 2008. A site assessment in April 2008 found groundwater flow direction to be towards the north and depth to groundwater to be 18 feet bgs. In addition, TPHg in the soil and groundwater was below applicable ESLs. Threat to the Target Property from this site is considered minimal.
9757 San Leandro St, Oakland, CA	TPHg in soil and ground water	NNW 0.264 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. TPHg was found at elevated levels in the soil and groundwater in 1987 after a gasoline station and USTs were removed in the early 1980's. Quarterly groundwater monitoring reports in 2011 and 2016 have indicated that groundwater flow direction is towards the west to northwest, away from the Target Property. Threat to the Target Property from this site is considered minimal.
930 98th Ave, Oakland, CA	TPHd in soil and ground water	N 0.288 mile Lower Elevation than TP	Site is located to the northwest and at a lower elevation than the Target Property. Leak was reported in 1995 and case closed in 1996. No analytical or case files are available, but quarterly groundwater monitoring reports in 2011 and 2016 at an

			adjacent site have indicated that groundwater flow direction is towards the west to northwest, away from the Target Property. Threat to the Target Property from this site is considered minimal.
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Various other properties within a 0.3-mile radius of the Target Property are noted on databases including the RCRA-SQG, UST, CA FID UST, SWEEPS UST, HIST CORTESE, etc. These sites include sites with closed case files, sites where no violations were reported, and sites where no documented subsurface contamination was reported.

Six (6) sites appear on the EDR Hist Auto database, indicating previous use as an automobile station (gasoline station) within 0.3 miles of the Target Property:

- 10242 Edes Ave (0.03 WNW of Target Property)
- 773 105th Ave (0.047 ENE of Target Property)
- 10130 Edes Ave (0.061 WNW of Target Property)
- 10216 Pearmain Street (0.070 N of Target Property)
- 707 Douglas Street (0.088 NW of Target Property)
- 770 100th Avenue (0.101 NNW of Target Property)

These properties are not included in the EDR report or Geotracker database as having any documented leaks or subsurface contamination.

Although no violations, leaks, or subsurface contamination have been documented with the majority of the historical auto properties, the number and proximity of these properties to the Target Property is of possible environmental concern with respect to possible subsurface contamination at the Target Property. In addition, current, active and former sites with documented releases may have adversely affected subsurface conditions at the Target Property. Even sites with case closures have a potential to impact the Target Property and may contain subsurface contamination at concentrations exceeding applicable current regulatory screening levels.

(See "ASTM Findings" in Section 8.0)

5.1.4
Unmapped Sites in the EDR Report

Five (5) sites were listed as not mapped due to inadequate address information. SCA was able to locate all three sites and confirm they were all located at a distance greater than 0.35-miles from the Target Property.

Given the information reviewed in the EDR report and the distance of more than 0.35-miles from the Target Property, impacts to the Target Property from these facilities are minimal.

5.1.5

SCA conducted a visual inspection of neighboring properties within a 0.25-mile

*Other Sites within a
0.25 mile radius*

radius for landfill sites, gas stations, waste incinerators, hazardous waste disposal sites, etc. and visual evidence of possible contamination. Land use within a 0.25-mile radius of the Target Property is primarily residential, commercial, and light industrial. Various gas stations, auto body shops, recycling facilities, metal working facilities, and automotive repair centers exist within 0.25-miles of the Target Property. Several of these sites are on the GeoTracker database as once having leaking underground storage tanks. Refer to Section 5.1.3 for additional information on the active sites located within a 0.25-mile radius of the Target Property. All other facilities situated at higher elevations are closed cases or have never been under any regulatory oversight.

**5.3 PHYSICAL
SETTING
SOURCES**

The following records sources were used in preparing this report:

- United States Geological Survey (USGS) San Leandro, CA, 7.5-minute Quadrangle.
- Portions of EDR Report located in Appendices C through F.
- Regulatory reviews as listed in Section 7.

**5.4 HISTORICAL
DATA**

The following sources were researched for the site and adjacent property history information. See the Appendices of this report for memoranda and selected excerpts from these historical sources.

- Sanborn Maps –1926-1969
- Aerial photographs – 1939-2012
- City Directory –1920-2013
- Topographic Maps – 1897-2012
- Building Permit Report – 1968-2016

**5.4.1
*Historical Findings***

The historical data obtained from aerial photographs, city directories, and topographic maps for the Target Property and surrounding properties is summarized in the following table.

Date	Document	Notes
1897	Topo Map	Shows the overall area of the Target Property and the vicinity. Southern Pacific Railway is present to the east of the Target Property
1899	Topo Map	Shows the overall area of the Target Property and the vicinity. Southern Pacific Railway is present to the east of the Target Property
1915	Topo Map	Shows the overall area of the Target Property and the vicinity. Two structures are present on site and roads are surrounding the Target Property.
1926	Sanborn Map	Lists the Target Property as Best Steel Casting Co's Foundry. Multiple structures are on site, including mechanical shops, steel ovens, and a large foundry building along the eastern portion of the site. Surrounding properties are also metal foundries.
1939	Aerial Photo	The Target Property appears to be industrial with approximately eight structures present. Surrounding properties are all agricultural, industrial, and residential.

1943	City Directory	Lists the General Metal Corporation as the occupant of the Target Property at the 701 105th Ave address.
1945	City Directory	Lists the General Metal Corporation as the occupant of the Target Property at the 701 105th Ave address.
1946	Aerial Photo	The Target Property appears to be light industrial. There are approximately 10 structures present on the Target Property. Surrounding properties are more dense residential and industrial, with limited remaining agriculture.
1947	Topo Map	Shows the overall area of the Target Property and the vicinity. Large structures are depicted at the Target Property.
1948	Topo Map	Shows the overall area of the Target Property and the vicinity. Large structures are depicted at the Target Property.
1949	Topo Map	Shows the overall area of the Target Property and the vicinity. Large structures are depicted at the Target Property.
1950	City Directory	Lists the General Metal Corporation as the occupant of the Target Property at the 701 105th Ave address.
1950	Sanborn Map	Lists the Target Property as General Metals Corp- Iron Division Foundry. Multiple structures are on site, including mechanical shops and a large foundry building along the eastern portion of the site. Surrounding properties are also metal foundries.
1952	Sanborn Map	Lists the Target Property as General Metals Corp- Iron Division Foundry. Multiple structures are on site, including mechanical shops and a large foundry building along the eastern portion of the site. Surrounding properties are also metal foundries.
1955	City Directory	Lists the General Metal Corporation as the occupant of the Target Property at the 701 105th Ave address.
1958	Aerial Photo	The majority of the structures from the 1946 aerial photo have been removed from the Target Property and it appears to be vacant. Surrounding properties are dense residential and industrial, with roads in their approximate current configuration.
1959	Topo Map	Shows the overall area of the Target Property and the vicinity. No structures are present on the Target Property.
1959	Sanborn Map	Depicts the Target Property as vacant. Surrounding properties are metal foundries.
1960	Sanborn Map	Depicts the Target Property as vacant. Surrounding properties are metal foundries.
1961	Sanborn Map	Depicts the Target Property as vacant. Surrounding properties are metal foundries.
1963	Aerial Photo	No changes from the 1958 aerial photograph.
1965	Sanborn Map	Depicts the Target Property as vacant. Surrounding properties are metal foundries.
1968	Aerial Photo	No changes from the 1958 aerial photograph.
1968	Sanborn Map	Depicts the Target Property as vacant. Surrounding properties are metal foundries.
1968	Topo Map	Shows the overall area of the Target Property and the vicinity. No structures are present on the Target Property.

1969	Sanborn Map	Depicts the Target Property as vacant
1973	Topo Map	Shows the overall area of the Target Property and the vicinity. No structures are present on the Target Property.
1974	Aerial Photo	All structures have been removed from the site and it appears to be vacant. All structures have also been removed from the adjacent site to the south. Surrounding properties remain industrial and residential.
1980	Topo Map	Shows the overall area of the Target Property and the vicinity. No structures are present on the Target Property.
1982	Building Permit	Building Permit for construction of a new facility at the 701 105th Ave address
1982	Aerial Photo	No changes at the Target Property from the 1974 aerial photograph, but structures have been constructed at the adjacent property to the south. Surrounding properties remain industrial and residential.
1991	Building Permit	Building permit for conversion of warehouse to public assembly church at the 735 105th Ave address
1993	Aerial Photo	The two large structures currently on site have been constructed and a parking lot exists between them. Northern portion of Target Property is undeveloped. Surrounding properties remain industrial and residential.
1996	Topo Map	Shows the overall area of the Target Property and the vicinity. No structures are present on the Target Property.
1997	Topo Map	Shows the overall area of the Target Property and the vicinity. No structures are present on the Target Property.
1998	Aerial Photo	No changes from the 1993 aerial photograph.
2000	City Directory	Lists the occupant of the Target Property at the 735 105th Ave address as School of Urban Missions Oakland
2000	Building Permit	Building permit for conversion of warehouse to private school at the 735 105th Ave address
2002	Building Permit	Building permit for partial conversion of warehouse to dorms at the 735 105th Ave address
2002	Building Permit	Building permit for voluntary seismic upgrade at the 735 105th Ave address
2003	Building Permit	Building permit for the construction of the new restrooms and concession stand.
2003	Building Permit	Building permit for renovations associated with the offices, sanctuary, and a bookstore at the 735 105th Ave address
2005	Aerial Photo	The Target Property and surrounding properties exist in their current configuration. Three structures are present at the Target Property, in addition to the sports field in the northern portion of the site.
2006	City Directory	Lists the occupant of the Target Property at the 735 105th Ave address as School of Urban Missions Oakland
2009	Aerial Photo	The Target Property and surrounding properties exist in their current configuration.
2010	Building Permit	Building permit for removal and replacement of walls associated with the 735 10th Ave address

2010	Aerial Photo	The Target Property and surrounding properties exist in their current configuration.
2012	Aerial Photo	The Target Property and surrounding properties exist in their current configuration.
2012	Topo Map	Shows the overall area of the Target Property and the vicinity. No structures are present on the Target Property.
2013	City Directory	Lists the occupant of the Target Property at the 735 105th Ave address as School of Urban Missions
Jan 2016	Site Visit	

Based on our review of this and other available information, historical uses of the Target Property has been for metal processing and as a bible college. The Target Property was developed as early as 1926 by the Best Steel Casting Company as an iron foundry with multiple structures including mechanical shops, steels ovens, and large foundry buildings. The General Metal Corporation-Steel Division took over the property in approximately 1943 and operated the facility as a foundry until between 1955-1958, after which the buildings on site were demolished, with the slabs being left in place for the most part. The Target Property then remained vacant until approximately 1982, when building permits were issued to construct warehouses and convert one to an assembly church in 1991. In 1993 aerial photos, two large structures and a parking lot were visible on site. The School of Urban Missionaries has been listed as the site occupant since 2000, the year a building permit was issued to convert the other warehouse into a private school. The property has existed in its current configuration since 2003 when the auxiliary restroom/ concession stand was constructed and the dormitories were constructed inside of the eastern building.

5.5 HISTORICAL USE INFORMATION

Historically, sites in the immediate area have been agricultural, industrial, and residential. Surrounding properties were listed as metal foundries in sanborn maps as early as 1926 and appear to be industrial, residential, and agricultural in aerial photos as early as 1939. By 1946, properties surrounding the Target Property became more dense residential and industrial development, with limited remaining agricultural. By 1958, all surrounding properties were residential and industrial. Surrounding properties continued to be residential and industrial (largely metal foundries) until the 1990s. Currently, surrounding properties are largely industrial recycling facilities, metal plating facilities, residential properties, and vacant metal foundries.

6.0 SITE RECONNAISSANCE

6.1 LIMITATIONS/ METHODS

The Phase I site visit was conducted by Tucker Kalman, CAC, CDPH on January 18, 2017. SCA was not able to inspect the interior of every dormitory unit or the concession stand, but was able to access all other areas. Ground level photographs taken during the site reconnaissance are presented in Appendix A.

6.2 SITE SETTING

The area surrounding the Target Property consists primarily of residential, commercial, and light industrial properties in downtown East Oakland, CA.

6.3 OBSERVATIONS

All observations of site conditions including any identified or non-identified substances have been listed below in accordance with ASTM Practice E-1527-13.

6.3.1 *Hazardous Substances from Identified Property Uses*

No hazardous substances from identified property uses were noted to be stored on the Target Property, with the exception of the typical cleaning and maintenance products listed below:

- 3 gallons of motor oil
- 5 gallons of anti freeze
- 20 spare fluorescent bulbs
- 12 gallons of carpet cleaner
- 5 gallons of various degreasers
- 150 gallons of paint and primers
- 8 gallons of Citrus Cleaner
- 5 gallons of gasoline for a lawn mover

All of these items were stored inside of a locked maintenance room with a concrete floor. No staining was noted on the concrete floor and all containers appeared to be in good condition. See Photo Plates 12-15 for examples.

6.3.2 *Hazardous Substance and Unidentified Containers*

No unidentified substances or containers were noted at the Target Property during the site reconnaissance.

6.3.3 *Storage Tanks*

No aboveground or underground storage tanks were observed onsite at the time of our reconnaissance.

6.3.4 *Polychlorinated Biphenyls (PCBs)*

PCBs are regulated under Federal and State law. Byproducts of PCB combustion are known carcinogens and respiratory hazards. Consequently, specific handling and disposal of PCB-containing products is required. PCBs

	<p>are most commonly found in lighting ballasts, wet transformers, and in electrical equipment, which uses dielectric fluids. PCBs are also occasionally found as a contaminant in hydraulic fluids.</p> <p>No PCB-containing equipment was noted at the Target Property during the site reconnaissance, with the exception of assumed PCB containing ballasts inside of lighting fixture ballasts.</p>
<p>6.3.5 <i>Solid Waste Disposal</i></p>	<p>Solid waste disposal is handled by the solid waste management company under contract with the local municipality. Garbage collection containers and dumpsters are located in the northwest corner of the parking lot.</p>
<p>6.3.6 <i>Physical Setting Analysis (re: on-site or off-site migration of hazardous substances)</i></p>	<p>Based on our site reconnaissance and the findings listed in Section 5.1.3, it is SCA's opinion that adjacent properties have the potential to have impacted the soil, soil-vapor, or groundwater conditions at the Target Property.</p> <p>See "ASTM Findings" in Section 8.0</p>
<p>6.3.7 <i>Odors</i></p>	<p>No odors of an unknown nature were noted by SCA at the time of the site investigation.</p>
<p>6.3.8 <i>Pits, Ponds, Lagoons, or Pools of Liquid</i></p>	<p>No pits, ponds or lagoons of an environmental concern were noted during SCA's site visit.</p>
<p>6.3.9 <i>Stained or Corroded Concrete, Floors, etc.</i></p>	<p>No stains or discoloration was noted at the Target Property during the site reconnaissance.</p>
<p>6.3.10 <i>Stressed Vegetation</i></p>	<p>No stressed vegetation was observed on the Target Property.</p>
<p>6.3.11 <i>Wastewater and Stormwater Disposal</i></p>	<p>Stormwater follows the topographic gradient of the site. SCA noted the presence of drain inlets in the center of the parking lot. Stormwater is collected in these drain inlets, as well as in storm drains located along the street, and is transported to the stormwater system.</p>
<p>6.3.12 <i>Wells and Septic System</i></p>	<p>No evidence of wells or septic systems was noted on the Target Property during the site visit.</p>
<p>6.3.13 <i>Drains and Sumps</i></p>	<p>SCA noted two drains in the center of the parking lot. No other drains or sumps were identified during the site reconnaissance.</p>

6.3.14
*Asbestos-Containing
Materials*

Asbestos-containing materials (ACM) are those materials identified as containing >1.0% asbestos. Trace ACM are those materials identified as containing <1.0% but greater than 0.1% asbestos. These materials may exist as construction debris (in which case they fall under CERCLA regulatory requirements), as materials in intact buildings (in which case they fall under TSCA and NESHAPS requirements) or as geological deposits (in which case they are typically regulated by local air pollution control district standards).

SCA noted the following suspect asbestos containing materials in connection with the Target Property. Please note the buildings were relatively homogenous in construction and these materials are applicable to all three structures on site. See Photo Plates 10, 11, 18, and 19-20 for examples of these materials.

- Drywall walls and ceiling with texturing throughout interiors
- Ceramic wall tiles in restrooms
- Ceramic floor tiles in restrooms
- Assumed plaster walls behind ceramic tiles in restrooms
- Wrapping and tapes around fiberglass HVAC and piping insulation
- Rolled roofing and penetration mastics on the two large structures
- Baseboard mastic throughout
- Carpet mastic throughout
- Formica countertops in various areas of each building
- Exterior stucco on all structures
- Caulking around all windows and doors

(See “Asbestos-Containing Materials” in Section 8.0)

6.3.15
*Lead-Containing
Materials*

Lead is a suspect carcinogen and known teratogen, and neurotoxic in high doses, therefore lead-containing materials need to be identified prior to the onset of construction activities. Deteriorated or child-accessible lead-based paints (LBP) and lead-contaminated dust may be of particular concern in residential settings, even where no construction activities are planned.

LBP is defined differently by different agencies. The Consumer Product Safety Commission (CPSC) prohibits the use of more than 90 parts per million (ppm) of lead in new paint for residential use. HUD uses a cutoff of 0.5% lead by weight or 1.0 milligram/ square centimeter (mg/cm²). Lead paint waste disposal is regulated by California EPA, and uses a definition of 1000 ppm total lead by weight and 5 ppm of soluble lead (although intact LBP on a solid substrate is generally not regulated as a hazardous waste). Federal and California OSHA use a standard based upon airborne exposure to workers disturbing the painted surface, providing that, airborne lead should not exceed a permissible exposure limit of 50 micrograms per cubic meter.

All paint on the structures is assumed to contain greater than 600 ppm of

6.3.16
Lead in Water

lead.

Lead in drinking water is limited to a 15 parts per billion (ppb) standard under USEPA regulations. The potential sources of lead, and their applicability to the Target Property, are summarized in the following table:

Potential Source of Lead In Water	Applicability to Target Property	Follow-up Action
Older piping systems with "silver solder" connections.	SCA noted copper piping at the Target Property, typical of those that may have "silver solder" connections	If buildings are to remain, pre-flush and post flush sampling would be required to verify lead content
Specific brands of drinking fountain with lead-lined holding tanks.	Not applicable – no drinking fountains of these specific brands observed.	None
Water provided by local municipality	Applicable	None

See Photo Plates 16-17 for examples of the hot water systems and the copper pipes running off of these systems.

6.3.17
Mercury Lamps and Control Systems

Elemental mercury is a neurotoxin and bio-accumulative environmental hazard, which is relatively common in building electrical and control systems. Mercury containing fluorescent lamps were observed throughout the Target Property.

(See "Mercury-Containing Materials" in Section 8.0)

6.3.18
Urea Formaldehyde Foam Insulation

No urea-formaldehyde foam insulation was observed during SCA's visit.

6.3.19
Fiberglass Building Systems

Fiberglass insulation was noted on both the HVAC ducts and hot water pipes present throughout the Target Property.

6.3.20
Chlorofluorocarbons (CFCs)

Potentially CFC-containing equipment was noted at the Target Property in association with refrigerators inside of the kitchens and dormitory units, as well as with the 18 roof mounted HVAC units. See Photo Plates 19-21.

6.3.21
Radon

No specific information is available concerning radon levels at the Target Property. However, the EDR Report supplied results from radon testing in the zip code of the Target Property. This result was 0.600 pCi/l, below the US EPA's recommended action level of 4 pCi/l.

6.3.22
Electromagnetic Fields

Based on these survey results SCA does not anticipate radon exposures to exceed the US EPA recommended action level of 4 pCi/l.

The Target Property does not appear to be in a particularly high-risk location for electromagnetic field (EMF) or extremely low frequency (ELF) exposure. High voltage lines do not traverse the property. No step-down stations, microwave transmitters, or other typical sources of EMF/ELF were visible on the property or immediately surrounding properties.

6.3.23
Mold

No evidence of mold was identified during the site reconnaissance.

6.3.23
*Other Environmental
Issues*

No other environmental issues were noted.

7.0 INTERVIEWS

7.1 KEY SITE MANAGER INTERVIEW

SCA interviewed the *Key Site Managers* for the Target Property, Mr. George Neil, Chancellor of the School of Urban Ministries, through the completion of an interview questionnaire. Information obtained from this interview is incorporated by reference.

7.2 REGULATORY INTERVIEWS

SCA requested file reviews from the following agencies. A synopsis of agency responses and reviewed data is included below. Pertinent documents are included in Appendix B.

7.2.1 *California Regional Water Quality Control Board – San Francisco Bay Region*

This agency maintains files regarding sites with underground storage tank removals, stored hazardous materials, permits, violations, etc. dating back to circa 1980. SCA received a verbal confirmation from the SFRWQCB that no records related to the Target Property were on file with the Agency.

SCA also researched the State's GeoTracker website for information regarding LUFT, SLIC, Land Disposal Sites, DOD sites, Wells, and UST sites. The Target Property was not listed on any of the databases.

7.2.2 *Bay Area Air Quality Management District*

This agency maintains files that include sites with air quality violations, permits, etc. **The agency had no files related to the Target Property.**

7.2.3 *Alameda County Environmental Health Department*

This Agency maintains files including sites undergoing remediation, underground storage tank removal and installation, hazardous materials business plans (HMBP), permits, inventories, and notices of violations. The agency had no files related to the Target Property, but indicated that the site at 10306 Pearmain Street, north east of the Target Property was listed as a cleanup program site with an open site assessed. SCA assessed the threat of this site to the Target Property in Section 5.1.3.

7.2.4 *Oakland Fire Department*

This Agency maintains files including sites undergoing remediation, underground storage tank removal and installation, hazardous materials business plans (HMBP), permits, inventories, and notices of violations. **As of the date of this report, SCA has not received a response from the Oakland Fire Department.**

7.2.5 *Permits, Licenses, and Registrations, etc.*

No other registrations, environmentally related permits or licenses are existent or required for the Target Property under its current use.

7.2.6
*California Department
of Conservation,
Division of Oil, Gas
and Geothermal
Resources.*

No oil, gas, or geothermal wells are located within 1,500-feet of the Target Property.

7.3
*INTERVIEWS WITH
OTHERS*

The findings of SCA have not warranted any further interviews to be conducted at this time.

8.0 FINDINGS AND RECOMMENDATIONS

8.1 ASTM FINDINGS

The assessment revealed the evidence of *recognized environmental conditions* in connection with the property. These conditions are summarized below:

1. The site was historically used for iron foundry activities. Although no violations are noted at the Target Property, this activity was suspended in the 1950s. These activities potentially could have resulted in shallow soil contamination of heavy metals.
2. The Target Property is listed on the CA CHMIRS database as End of Apple Off Pearman. This database documents accidental releases of hazardous materials. The completion date for the incident was April 6, 1989, the same day the incident took place. The database has no other information pertaining to the incident. Being that the resolution to this release of hazardous material not being documented, it is considered to have the potential to have affected the subsurface conditions at the Target Property.
3. The presence of various sites in the vicinity of the Target Property with open cases or lack of environmental data pertaining to leaking underground storage tanks and other contamination that could adversely affect the subsurface conditions at the Target Property. These sites include:
 - **750 107th Ave, Oakland, CA** - Site is located southeast, at a higher elevation, and approximately 0.155 mile away from the Target Property. Chrome plating activities previously took place at the site. A series of ESA's between 1991-1997 found detectable levels of chromium and arsenic in soil and groundwater above the MCLs. Groundwater flow direction at this site has been measured as being variable, but towards the northwest towards the Target Property in 2016 sampling. In addition, the closest monitoring well location in the direction of the Target Property had measurable levels of Antimony, Chromium, Cadmium, and Nickel. This site possibly could have impacted subsurface conditions at the Target Property.
 - **9999 San Leandro Street, Oakland, CA** - Site is located to the northeast, at a lower elevation, and approximately 0.205 mile from the Target Property. A gasoline UST leak was reported in 1989 and the case was closed in 1991. No analytical data or case files are available on Geotracker for this site, but nearby sites have measured groundwater flow direction towards the southwest, towards the Target Property. This site possibly could have impacted subsurface conditions at the Target Property.
 - **10300 Gravenstein Street, Oakland, CA** - Site is located to the east, at a higher elevation, and approximately 0.002 mile from the Target Property. Site is currently listed as "Needs Evaluation" on the Envirostor database due to auto repair activities and storage of hazardous waste outdoors in the unpaved backyard. This site possibly could have impacted subsurface

conditions at the Target Property.

Recommendation: SCA proposes a Phase II Environmental Assessment at the site to sample soil, groundwater, and soil vapor in order to characterize subsurface conditions and to determine if there is any contamination in soil or groundwater at the Target Property due to previous site uses or offsite migration.

8.2 OTHER FINDINGS

The following items were noted, but are not *recognized environmental conditions* as defined by ASTM methodology. Although not recognized by ASTM, these items may be of some significance in future site operations.

8.2.1 Asbestos Containing Materials

SCA observed the following suspect asbestos containing materials associated with all structures on site:

- Drywall walls and ceiling with texturing throughout interiors
- Ceramic wall tiles in restrooms
- Ceramic floor tiles in restrooms
- Assumed plaster walls behind ceramic tiles in restrooms
- Wrapping and tapes around fiberglass HVAC and piping insulation
- Rolled roofing and penetration mastics on the two large structures
- Baseboard mastic throughout
- Carpet mastic throughout
- Formica countertops in various areas of each building
- Exterior stucco on all structures
- Caulking around all windows and doors

Recommendation: Before the demolition or renovation of any of the structures, all asbestos containing materials slated for disturbance should be sampled by a CalOSHA certified CAC or CSST to confirm asbestos content. If materials are found to contain asbestos, they should be removed by a CalOSHA certified abatement contractor prior to renovation or demolition.

8.2.2 Lead containing coatings

SCA noted painted surfaces throughout the Target Property and noted ceramic wall and floor tiles in the restrooms throughout the Target Property. These materials are suspect for containing measurable amounts of lead. All paint on the structures and ceramic tiles are assumed to contain greater than 600 ppm of lead.

Recommendation: If the structures are to be demolished or renovated, all paints should be treated as containing 600 ppm of lead. All loose and flaking paints should be stabilized by certified personnel. In addition, samples of all ceramic tiles slated for disturbance should be sampled by CDPH certified personnel in order to determine lead content for worker requirements and disposal.

8.2.3
Presence of
Assumed PCB
Containing
Ballasts

SCA identified possible PCB containing lighting ballasts during their site visit. These ballasts are associated with fluorescent lighting fixtures.

Recommendation: These lighting ballasts should be inspected prior to disposal to confirm presence of PCB. If there is no "NO PCBs" label on the ballasts, these materials should be properly disposed of according to EPA protocols.

8.2.4
Presence of
Mercury
Containing
Fluorescent
Lights

SCA identified fluorescent light bulbs during their site visit, which contain measurable amounts of mercury.

Recommendation: These fluorescent bulbs should be properly recycled of according to EPA protocols.

8.2.5
Presence of CFC
Containing
Refrigeration
Equipment

SCA identified refrigerators and roof mounted HVAC units at the Target Property .

Recommendation: The CFCs in these units should be properly disposed of according to EPA protocols, if they are to be removed.

9.0 CONCLUSIONS

SCA has performed this Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 for the Target Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. The assessment evidence of *recognized environmental conditions* in connection with the property. These conditions are summarized below:

1. The site was historically used for iron foundry activities. Although no violations are noted at the Target Property, this activity was suspended in the 1950s. These activities potentially could have resulted in shallow soil contamination of heavy metals.
2. The Target Property is listed on the CA CHMIRS database as End of Apple Off Pearman. This database documents accidental releases of hazardous materials. The completion date for the incident was April 6, 1989, the same day the incident took place. The database has no other information pertaining to the incident. Being that the resolution to this release of hazardous material not being documented, it is considered to have the potential to have affected the subsurface conditions at the Target Property.
3. The presence of various sites in the vicinity of the Target Property with open cases or lack of environmental data pertaining to leaking underground storage tanks and other contamination that could adversely affect the subsurface conditions at the Target Property. These sites include:
 - **750 107th Ave, Oakland, CA** - Site is located southeast, at a higher elevation, and approximately 0.155 mile away from the Target Property. Chrome plating activities previously took place at the site. A series of ESA's between 1991-1997 found detectable levels of chromium and arsenic in soil and groundwater above the MCLs. Groundwater flow direction at this site has been measured as being variable, but towards the northwest towards the Target Property in 2016 sampling. In addition, the closest monitoring well location in the direction of the Target Property had measurable levels of Antimony, Chromium, Cadmium, and Nickel. This site possibly could have impacted subsurface conditions at the Target Property.
 - **9999 San Leandro Street, Oakland, CA** - Site is located to the northeast, at a lower elevation, and approximately 0.205 mile from the Target Property. A gasoline UST leak was reported in 1989 and the case was closed in 1991. No analytical data or case files are available on Geotracker for this site, but nearby sites have measured groundwater flow direction towards the southwest, towards the Target Property. This site possibly could have impacted subsurface conditions at the Target

Property.

- **10300 Gravenstein Street, Oakland, CA** - Site is located to the east, at a higher elevation, and approximately 0.002 mile from the Target Property. Site is currently listed as "Needs Evaluation" on the Envirostor database due to auto repair activities and storage of hazardous waste outdoors in the unpaved backyard. This site possibly could have impacted subsurface conditions at the Target Property.

The following items were noted, but are not recognized environmental conditions as defined by ASTM methodology, and may be of some significance in future redevelopment activities at the site:

1. Presence of suspect asbestos containing materials
2. Presence of lead containing coatings
3. Presence of PCB containing ballasts
4. Presence of mercury containing fluorescent lights
5. Presence of CFC containing refrigeration and HVAC equipment

10.0 LIMITATIONS

The staff of SCA Environmental, Inc. has prepared this report for the Lighthouse Community Public Schools under the professional supervision of the principal and staff whose signatures appear hereon. Neither SCA Environmental, Inc., nor any staff member assigned to this investigation has any interest or contemplated interest, financial or otherwise, in the subject or surrounding properties or which may be responsible for environmental issues identified during the course of this investigation, and has no personal bias with respect to the parties involved.

The information contained in this report has received appropriate technical review and approval. The conclusions represent professional judgments and are founded upon the findings of the investigations identified in the report and the interpretation of such data based on our experience and expertise according to the existing standard of care. No other warranty or limitation exists, either express or implied.

The investigation was prepared in accordance with the most current (E-1527-13) American Society of Testing and Materials (ASTM) methods for environmental site assessments. The report is prepared solely for the use and benefit of Lighthouse Community Public Schools. No other party may use this report, for any purpose, without the written authorization of a Principal of SCA.

In preparing this report, SCA has relied upon information provided by others. SCA has not verified the accuracy or completeness of this information. Should information provided by others prove to be inaccurate or incomplete, SCA's findings, conclusions, and recommendations provided herein may not be valid.

Please note that relevant ASTM standards require re-preparation of Phase I assessments after six months if they are to be used for funding, development, or other decision-making purposes. This document is not to be used for zoning or planning purposes and does not address seismic, aesthetic or noise issues.

FIGURES

APPENDIX A

SITE PHOTOGRAPHS

APPENDIX B

MISCELLANEOUS CORRESPONDENCE AND INTERVIEWS

APPENDIX C

ENVIRONMENTAL LIEN SEARCH REPORT

APPENDIX D

CITY DIRECTORY

APPENDIX E

EDR DATABASE REPORT

APPENDIX F

AERIAL PHOTOGRAPHS, TOPOGRAPHIC MAPS, SANBORN FIRE INSURANCE MAPS

APPENDIX G
BUILDING PERMIT REPORT

Via Email

March 8, 2017

Jenna Stauffer
Chief Executive Officer
Lighthouse Community Public Schools
444 Hegenberger Road
Oakland, California 94621

**Re: Limited Phase II Environmental Site Assessment and Human Health Risk
Evaluation Letter Report
701-735 105th Avenue, Oakland, California**

Dear Ms. Stauffer:

At your request, RPS Iris Environmental performed a Limited Phase II Environmental Site Assessment and human health risk evaluation (Limited Phase II ESA) at the property located at 701-735 105th Avenue in Oakland, California (the “Site”, Figure 1). The Site is currently owned by the School of Urban Missions Bible College & Theological Seminary, but is being considered for acquisition and improvement into a K-12 charter school by Lighthouse Community Public Schools. Environmental investigation and human health risk evaluation activities were completed as described herein for due diligence purposes prior to potential Site acquisition.

SUBSURFACE INVESTIGATION

Subsurface investigation activities were conducted in accordance with the letter proposal presented to Lighthouse Community Public Schools, *Proposal for Limited Phase II Environmental Site Assessment and Human Health Risk Evaluation*, dated February 6, 2017. The implemented scope of work included soil and soil gas sample collection and analysis to assess current environmental conditions at the Site and evaluate how such conditions may impact proposed future Site use. Sample locations and analyses were selected for wide geographic Site coverage, and based on historical Site features present on the Sanborn insurance maps and recognized environmental conditions summarized in the SCA Environmental Inc. January 2017 *Phase I Environmental Site Assessment 701-735 105th Avenue Oakland, CA 94603* (Phase I ESA).

Pre-sampling Activities

RPS Iris Environmental conducted the following activities prior to the start of the Site subsurface investigation:

- Acquired the appropriate boring permits from the Alameda County Department of Public Works (ACDPW);
- Contracted Ground Penetrating Radar Systems, Inc., a private utility locating company, to ensure boring locations were clear of subsurface utilities;
- Marked proposed boring locations and notified the Underground Service Alert of Northern California at least 48 hours prior to drilling, as required by law;
- Prepared a project-specific Health and Safety Plan (HASP) addressing potential physical and chemical hazards associated with the proposed work. A copy of this plan was kept on-Site during all field activities.

Soil Investigation and Analytical Program

On February 16, 2017, RPS Iris Environmental retained Environmental Control Associates, Inc. (ECA), a C-57-licensed drilling firm from Aptos, California, to perform all drilling activities. Eight borings (SB-01 through SB-08) were advanced using direct push technology to a depth of approximately 5.5 feet below ground surface (bgs). The approximate boring locations are shown on Figure 2. Soil cores were collected from boreholes using a 4-foot long core barrel sampler with single-use disposable acetate liners. Prior to each use, drilling equipment and down-hole sampling equipment was washed in a solution of non-phosphate detergent, double-rinsed with potable water, and allowed to dry.

A sampling and analysis summary is provided in Table 1, which includes the environmental media (soil or soil gas) and depths sampled, and rationale for each boring location. In addition, one field duplicate soil gas sample was collected at boring SB-03 for quality assurance/quality control (QA/QC) purposes. An RPS Iris Environmental scientist under the supervision of a California licensed Professional Geologist logged soils consistent with the Unified Soil Classification System. Soils were also screened using a photoionization device (PID) and results were recorded on the boring logs. Copies of the boring logs are provided in Attachment A.

Upon retrieval, soil samples were transferred directly into appropriate sample containers provided by Curtis & Tompkins, Ltd. (C&T), sealed and labeled. The collected soil samples were stored in a pre-chilled ice chest and transported under standard chain-of-custody to C&T, a California-certified laboratory for analysis.

Soil Gas Sampling and Analytical Program

Following the boring completions described above, soil gas samples were collected from the eight borings to evaluate Site soil gas concentrations in general accordance with the *Advisory - Active Soil Gas Investigations* (Advisory) (July 2015) prepared by California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC), Los Angeles Regional Water Quality Control Board (LARWQCB), and San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

Soil gas sampling borings were completed by ECA to an approximate depth of 5.5 feet bgs. In accordance with the Advisory, each soil gas sampling probe was constructed with new, 1/4-inch-external diameter (3/16th inner diameter), thick-walled Teflon tubing connected to a stainless steel permeable filter tip. The sampling implant was installed at depth within the center of a 1-foot-thick layer of sand filter pack emplaced at the targeted sampling interval. Following installation of the sand pack, a 1-foot-thick lift of dry bentonite was backfilled into the borehole. Then the boring was backfilled to the surface with hydrated bentonite. A cap was fitted to the aboveground end of the sample line tubing to seal and protect it.

Prior to sample collection, the soil gas probes were allowed to stabilize for a minimum of two hours prior to soil gas purging and sample collection in accordance with the Advisory. Each soil gas sample was collected using a helium shroud system and Summa canisters. The helium shroud system was used as a “leak check”, to monitor for the intrusion of ambient air into samples through leaks in either the sample train or the annular space of the boring. Each shroud, provided by C&T, was constructed in general accordance with the principles illustrated in Appendix C of the Advisory. This shroud enclosed the entire above-ground portion of the sampling train. A separate laboratory-cleaned shroud and sampling train were used at each sample location.

Prior to purging, a vacuum shut-in test over approximately 20 minutes was performed to confirm that the sample lines were secure and that there were no obvious or significant leaks. After determining that the purge and sample lines were secured, the sample tubing was fitted to the sampling train inside the shroud, and the shroud was placed over the sampling point and then filled with helium (a tracer gas). Approximately three times the volume of the sum of the internal volume of tubing used the void space of the sand pack around the probe tip, and the void space of the dry bentonite pack. A calculated volume was removed from each probe using a 60 milliliter (mL) syringe. During purging, the purge syringe was connected to an in-line helium detector (also supplied by C&T) to monitor whether there were surface leaks into the subsurface, improper installation of the soil gas inlet probe, or leaks in the purge line. Helium was not detected above five percent (recommended DTSC allowance) during purging indicating that the seals and manifolds were intact and representative soil gas samples could be collected.

The helium concentration in the shroud was monitored using a diffusion cell helium sensor also supplied by C&T. The helium concentration was adjusted as needed to maintain an atmosphere of helium inside the shroud pursuant to the Advisory.

After purging, soil gas samples were collected at a flow rate between approximately 100 and 200 mL per minute into 1.4-liter batch-certified Summa canisters provided by C&T. The vacuum gauge reading was recorded prior to the start of sampling and at the end of sampling to confirm adequate sample collection. Upon collection, the soil gas samples were recorded on a chain-of-custody document that accompanied the samples from the point of collection to C&T for laboratory analysis.

Upon soil gas sampling completion, the soil vapor probe (sand pack, tubing, and bentonite seal) was removed from the bore hole using hand auger techniques and the bore holes were grouted from the bottom of the borehole to the surface with neat cement consistent ACDPW requirements.

Investigation-derived Waste

Investigation-derived waste (IDW) including soil cuttings and decontamination water was placed in a 55-gallon drum which was properly labeled, sampled, and stored temporarily on-Site pending characterization for appropriate off-Site disposal.

LITHOLOGIC/HYDROGEOLOGIC OBSERVATIONS

Soils observed during the investigation consisted of sand/gravel fill or top soil, underlain by clays and sand/gravelly sand. In the borings located on the (unpaved) athletic field (SB-01 to SB-03) clayey sand was observed from ground surface to 1.5 feet to 2.0 feet bgs, with well-graded sand with gravel, lean clay with sand, and sand observed to total depth (approximately 5.5 feet bgs). Based on the presence of brick fragments from approximately 3.5 to 4.5 feet bgs in borings SB-01 and SB-03, and distinct, well-graded black sand from approximately 4.0 to 5.5 feet bgs in boring SB-02, soils in the athletic field appear to consist of non-native fill. In the borings located on paved portions of the Site (SB-04 to SB-08), lithologies consisted of well-graded sand with gravel extending to 1.5 feet to 2.5 feet bgs (believed to be fill materials), underlain by lean clay and lean clay with sand. RPS Iris Environmental did not observe evidence of contaminated soil (e.g., discoloration, petroleum odors, elevated PID readings) during the investigation; however, a distinct, well-graded black sand was observed in boring SB-02 from 4.0 feet bgs to the total depth (approximately 5.5 feet bgs). Saturated soil conditions were not encountered in the borings. Boring logs summarizing lithological observations from the field sampling are presented in Attachment A.

ANALYTICAL RESULTS/HUMAN HEALTH RISK EVALUATION

The analytical results for the collected soil and soil gas samples are presented in Tables 2 through 5 and discussed below. The laboratory reports are provided as Attachment B. The sampling locations are shown on Figure 2. To assess potential human health risks to future populations at the Site under proposed Site use (i.e., students and school staff), analytical results were compared to regulatory screening criteria for residential land use, as recommended by the DTSC for preliminary evaluations of school sites.¹ For soil, the following screening criteria were used, as endorsed by the DTSC^{2,3}:

- United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) for residential soil,⁴
- DTSC-modified screening levels (DTSC-SLs) for residential soil,²

¹ California Environmental Protection Agency (Cal/EPA). 2017. *Evaluating and Cleaning Up School Sites – Three-Step Process*. Department of Toxic Substances Control (DTSC). Available at: <http://www.dtsc.ca.gov/Schools/Schools3Step.cfm>.

² Cal/EPA. 2016. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC). Human and Ecological Risk Office (HERO). January.

³ Cal/EPA. 2015. *Preliminary Endangerment Assessment Guidance Manual*. Department of Toxic Substances Control (DTSC). October.

⁴ United States Environmental Protection Agency (USEPA). 2016. *Regional Screening Levels for Chemical Contaminants*, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

- SFBRWQCB direct exposure Environmental Screening Levels (ESLs) for residential land use for total petroleum hydrocarbon (TPH) mixtures,⁵ and
- ambient-based screening levels for the carcinogenic polycyclic aromatic hydrocarbons (PAHs)⁶ and arsenic.⁷

For soil gas, screening levels were derived from USEPA RSLs for residential air, except where alternatives to RSLs (i.e., DTSC-SLs) were recommended by the DTSC.² Soil gas screening levels were derived from residential air RSLs or DTSC-SLs by dividing the RSLs/DTSC-SLs by the DTSC default soil gas-to-indoor air attenuation factor (α) for current residential buildings of 0.002.⁸

Total Petroleum Hydrocarbons in Soil (Table 2)

As presented in Table 2, TPH in the diesel range (TPH-diesel) and motor oil range (TPH-motor oil) were detected above laboratory reporting limits in the majority of the surface soil (0.5 feet bgs) and subsurface soil (4.0 feet bgs) samples collected. All detected concentrations of TPH-diesel and TPH-motor oil are below their respective residential site use screening levels.

Polycyclic Aromatic Hydrocarbons in Soil (Table 3)

As presented in Table 3, several PAHs were detected above laboratory reporting limits in the surface and subsurface soil samples collected. All concentrations of detected non-carcinogenic PAHs are below their respective residential site use screening levels. As ambient soil concentrations of carcinogenic PAHs commonly exceed residential risk-based screening criteria, including the USEPA RSLs for residential soil (e.g., the USEPA RSL for residential soil for benzo[a]pyrene of 0.016 milligrams per kilogram [mg/kg]), carcinogenic PAH concentrations in each of the surface and subsurface soil samples were converted to benzo(a)pyrene equivalent (BaPe) concentrations⁹ and compared to the 95th percentile value of BaPe from the ambient, carcinogenic PAH data set for Northern California, 0.92 mg/kg. Estimated BaPe concentrations for five of the eight surface soil samples collected, SB-01-0.5, SB-02-0.5, SB-03-0.5, SB-04-0.5, and SB-05-0.5, are above the ambient-based screening level, ranging from 1.2 mg/kg to 2.4 mg/kg. Estimated BaPe for one of the eight subsurface soil samples collected, 11 mg/kg at SB-02-4.0, is also above the ambient-based screening level.

⁵ San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2016. *Environmental Screening Levels*. February. Available at: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml.

⁶ Cal/EPA. 2009. *Use of the Northern and Southern California Polynuclear Aromatic Hydrocarbon (PAH) Studies in the Manufactured Gas Plant Site Cleanup Process*. Department of Toxic Substances Control (DTSC). July 1.

⁷ Duvergé, D.J. 2011. *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*.

Master's thesis, San Francisco State University. Available at http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/2011_Arsenic_Background_Duverge.pdf

⁸ Cal/EPA. 2016. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*. Department of Toxic Substances Control (DTSC). October.

⁹ Cal/EPA. 2011. *DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 4, Screening Level Human Health Risk Assessments*. Department of Toxic Substances Control (DTSC). June 9.

Inorganics in Soil (Table 4)

As presented in Table 4, inorganics were detected above laboratory reporting limits in the surface and subsurface soil samples collected. All detected concentrations of inorganics are below their respective residential site use screening levels with the following exceptions:

- Arsenic was detected in the majority of the surface and subsurface soil samples collected, at concentrations ranging from 2.4 to 13 mg/kg. As ambient soil concentrations of arsenic commonly exceed residential risk-based screening criteria, including the USEPA RSL for residential soil (0.67 mg/kg), the reported concentrations were compared to the ambient-based screening level of 11 mg/kg, a 99th percentile upper estimate of regional background concentrations of arsenic in undifferentiated urbanized flatland soils (Table 4). The maximum detected concentration of arsenic, 13 mg/kg in surface soil sample SB-04-0.5, slightly exceeds the ambient-based screening concentration.
- Lead was detected in all surface and subsurface soil samples collected, at concentrations ranging from 6.7 to 440 mg/kg. The detected concentrations of 440 mg/kg and 91 mg/kg in surface soil samples SB-04-0.5 and SB-05-0.5, respectively, exceed the DTSC-SL for residential soil of 80 mg/kg.

Volatile Organic Compounds in Soil Gas (Table 5)

As presented in Table 5, VOCs were detected above laboratory reporting limits in the soil gas samples collected. All detected concentrations of VOCs are below their respective residential site use screening levels except for 1,3-butadiene. 1,3-butadiene was detected at four of the eight sample locations (at SB-01, SB-03, SB-05, and SB-06) at concentrations ranging from 2.7 to 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The detected concentrations of 8.8 $\mu\text{g}/\text{m}^3$ and 10 $\mu\text{g}/\text{m}^3$ in soil gas samples SB-03-SG and SB-05-SG, respectively, slightly exceed the residential soil gas screening level of 8.5 $\mu\text{g}/\text{m}^3$.

CONCLUSIONS

Based on the analytical results from the soil and soil gas sampling, detected concentrations of TPH, PAHs, and inorganics in soil and VOCs in soil gas are within acceptable levels for residential land use, which are considered protective of other Site uses including school use, with the exception of:

- BaPe in surface soil at SB-01, SB-02, SB-03, SB-04, and SB-05, and in subsurface soil at SB-02;
- Arsenic in surface soil at SB-04;
- Lead in surface soil at SB-04 and SB-05; and
- 1,3-butadiene in soil gas at SB-03 and SB-05.

These results support that further investigation and/or evaluation may be necessary to better understand the extent of the identified impacts and the potential human health risks to

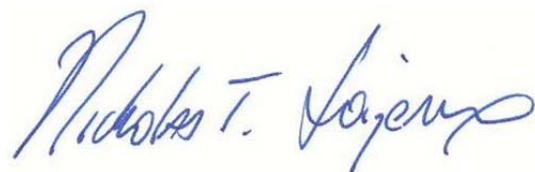
hypothetical future populations at the Site. In addition, following the completion of additional investigation and evaluation activities, remediation or other forms of risk management (e.g., institutional and/or engineering controls) may be warranted to mitigate delineated impacts. Please note the detected concentrations of inorganics at select locations may indicate soils are present above California or Federal hazardous waste thresholds (and in some cases may remain below human health risk concerns). If there were any substantial redevelopment activities, resulting in surplus soils, this might result in elevated soil disposal costs.

Sincerely,

RPS IRIS ENVIRONMENTAL



Todd C. Bernhardt
Principal



Nicholas T. Loizeaux, P.G
Principal

Enclosures

- Table 1: Summary of Proposed Sampling and Analysis
- Table 2: Analytical Data: Total Petroleum Hydrocarbons in Soil
- Table 3: Analytical Data: Polycyclic Aromatic Hydrocarbons in Soil
- Table 4: Analytical Data: Inorganics in Soil
- Table 5: Analytical Data: Volatile Organic Compounds in Soil Gas
- Figure 1: Site Location Map
- Figure 2: Site Layout with Soil/Soil Gas Sample Locations
- Attachment A: Boring Logs
- Attachment B: Analytical Laboratory Reports



ASBESTOS & LEAD-BASED PAINT SURVEY REPORT

Lodestar Campus

701 105th Avenue
Oakland, California 94603

February 22, 2017
Partner Project No.17-179703.2
Client Reference No. 179703



Prepared for:

Lighthouse Community Public Schools

444 Hegenberger Road
Oakland, California 94621

February 22, 2017

Brandon Paige
Lighthouse Community Public Schools
444 Hegenberger Road
Oakland, California 94621

Subject: Asbestos and Lead-Based Paint Survey Report
701 105th Avenue
Oakland, California 94603
Partner Project No.17-179703.2

Dear Brandon Paige:

Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the *Asbestos & Lead-Based Paint Survey* of the abovementioned address (the "subject property"). This survey was performed in general conformance with the scope and limitations as detailed in our fee proposal.

This survey included a site reconnaissance as well as sampling and analysis. An assessment was conducted, conclusions stated, and recommendations outlined, as necessary.

We appreciate the opportunity to provide environmental services to Lighthouse Community Public Schools. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at 310.615.4500.

Sincerely,

Partner Engineering and Science, Inc.



Mark Lambson
Principal

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Appendices

Appendix A	Laboratory Analysis and Chain-of-Custody
Appendix B	Sample Location Diagram
Appendix C	Certifications
Appendix D	Photographic Documentation

1.0 INTRODUCTION

1.1 Property Description

Address:	701 105th Avenue, Oakland, California
Nature of Use:	School
Number of Buildings:	Two
Number of Floors:	One
Surveyed By:	Freddy Torres, Inspector
Assessment Date/Time:	February 9, 2017 10:00am

1.2 Purpose and Scope

The purpose of this asbestos survey and lead-based paint inspection (survey) was to sample and analyze suspect asbestos-containing materials (ACM) and suspect lead-based paint (LBP) which could present an exposure risk during potential renovation activities. The suspect materials sampled during the survey were limited to the interior of the buildings only.

1.3 Methodology

ASBESTOS

Suspect ACM were sampled according to the guidelines set forth in 40 CFR Part 763, and later analyzed using the Polarized Light Microscopy (PLM) method in accordance with the EPA reference method 600/R-93/116 for Determination of Asbestos in Bulk Building Materials.

The United States Environmental Protection Agency (USEPA) as set forth in 40 CFR 763, defines a homogeneous area as "an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture." The regulation requires that a minimum number of representative samples be collected from each homogeneous area. If asbestos is identified in any samples from a homogeneous area, the entire homogeneous area is considered to contain asbestos.

The aforementioned testing and analytical constraints can affect the findings and recommendations of this survey. Specifically, no assurance is given regarding the asbestos content of the samples beyond these parameters. Further investigation is not recommended unless the client can determine it is cost-effective to do so.

The ACM most likely to release asbestos fibers are those which are in a friable state. Friability describes the condition of asbestos. The definition of friable is any material, when dry, that is capable of being crumbled, pulverized or reduced to powder by hand pressure (40 CFR 763).

Non-friable sources of asbestos are materials containing cement or asphalt binder which may become friable and release fibers if the sources are exposed to actions such as abrasion, drilling, cutting, fracturing or hammering. Non-friable sources of asbestos do not typically pose a

significant exposure risk if they remain in good condition and are not disturbed. During renovation or demolition activities, non-friable sources may become friable and thus may pose an exposure risk.

The PLM method is the most commonly used method to analyze building materials for the presence of asbestos. This method utilizes the optical properties of minerals to identify the selected constituent. The use of this method enables identification of the type and the percentage of asbestos in a given sample. The detection limit of the PLM method for asbestos identification is typically one percent (1%) asbestos.

The California Occupational Safety and Health regulations define asbestos-containing construction material (ACCM) as any material which contains greater than one-tenth of one percent (0.1%) asbestos. Materials containing "trace" amounts of asbestos are reported by the laboratory as <1% which could qualify as ACCM in the State of California. Further quantification is possible utilizing either Transmission Electron Microscopy (TEM) analysis or point counting via PLM.

LEAD-BASED PAINT

A lead-based paint inspection is a surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report explaining the results of the investigation. Lead-based paint may be present in buildings constructed in 1977 and earlier. In general, there are many other building materials which can contain lead in the average building. When conducting construction or demolition activities which disturb lead in any amount or create an exposure to workers, the employer is required to provide worker protection and conduct exposure assessments. Employers should consult Federal OSHA Regulations at 29 CFR 1926.62, "Lead in Construction" standards for complete requirements prior to construction or demolition activities.

Notification must be given to all other contractors at the work site prior to the start of activities that may create a lead hazard. Characterization and disposal of lead-containing waste materials (LCWMs) must comply with federal, state and local authorities.

Contractors must maintain current licenses as required by applicable state or local jurisdictions for the removal, transport, disposal of LCWMs, or other regulated lead-based paint activities.

The HUD Standard for lead-based paint is 1.0 milligram per square centimeter (mg/cm²).

2.0 ASBESTOS/LEAD SURVEY

2.1 Visual Inspection

During the course of the property visit, Mr. Freddy Torres, a Certified Asbestos Consultant and Certified Lead Inspector Assessor performed a review of accessible areas of the subject buildings for the presence of suspect ACM and LBP

Partner did not attempt to disassemble mechanical equipment, open pipe chases, or assess materials within wall voids. Regardless of the thoroughness of a survey, the possibility exists that some areas containing ACM and/or LBP were not identified, inaccessible, or different from those materials at specific locations.

The subject property consists of two buildings constructed with exterior stucco finishes with interior drywall finishes, acoustic ceiling systems, and multiple vinyl floorings. The subject property was occupied at the time of the survey.

ASBESTOS

Suspect asbestos-containing materials observed at the time of the inspection were sampled and analyzed for asbestos content. The survey also established whether any of the substrates sampled could be considered friable and/or significantly damaged or capable of immediate worker exposure.

LEAD-BASED PAINT – XRF TESTING PROTOCOL

During the course of the property visit, Mr. Torres performed a review of accessible areas of the subject buildings for the presence of suspect LBP. The purpose of this assessment is for renovation purposes only; therefore, additional suspect LBP could be present. The painted/finished surfaces containing suspect LBP were analyzed and the data was recorded using a XRF.

The XRF uses a Cobalt 57 (Co-57) isotope radioactive source to 'excite' the atomic structure of painted surfaces. Once 'excited', lead (Pb) atoms emit unique x-ray fluorescence radiation energy. The radiation detector within the XRF then translates these x-rays into a quantitative measure of lead concentration. If present, the XRF will determine the amount of lead in paint with a 95% confidence level. The lead concentrations are reported in milligrams per square centimeter (mg/cm²).

Measurements were taken at locations representative of all painted or varnished surfaces for each different testing combination in the areas inspected. In order to obtain a reading, the XRF analyzer is placed with the face of the instrument flush against the surface to be tested. It is then held in place for the duration of the sample, approximately 4 to 16 source seconds, or until the measurement has reached the acceptable range of accuracy. The sampling time is dependent on the age of the radioactive source inside the XRF.

XRF analysis yields the total lead content of a painted surface, hereby not distinguishing between individual concentrations of painted layers. The XRF was calibrated with a National Institute of Standards and Testing (NIST) calibration surface prior to and post analysis of painted surfaces.

The subject property's orientation is described using HUD's recommended guidelines, assigning the letters A, B, C and D to each side. Side A corresponds to the main entrance of each building. The remaining side identifications are assigned in a clock-wise manner. Each tested component location is identified using the building's assigned letter as a reference point.

The HUD Guidelines for lead-containing paint require a lead hazard abatement activity in cases where lead content is above one half of one percent (0.5%) by weight or equal to or in excess of one milligram per square centimeter (1.0 mg/cm²). This requirement for lead hazard abatement only applies to housing that is administrated or funded by HUD. *Section 1017 of the HUD Guidelines, Residential LBP Reduction Act of 1992*, otherwise known as "Title X", defines a lead-based paint hazard as "any condition that causes exposure to lead that would result in adverse human health effects" resulting from lead-contaminated dust, bare, lead-contaminated soil, and/or lead-contaminated paint that is deteriorated or present on accessible, friction, or impact surfaces. Therefore, under Title X, intact LBP on most walls and ceilings would not be considered a "hazard", although the paint should be maintained and its condition monitored to ensure that it does not deteriorate and become a hazard.

The California Department of Public Health (CDPH) *Title 17 CCR Division 1, Chapter 8, section 35033* defines LBP as paint or other surface coating that contains any amount of lead equal to or in excess of 1.0 mg/cm² or more than 0.5% by weight. This requirement for lead hazard abatement only applies to public and residential buildings.

2.2 Testing Results

ASBESTOS

A total of eighteen (18) bulk samples of presumed ACM were collected for analysis. The samples were grouped into homogeneous categories, assigned individual sample numbers, sealed in plastic bags, and transported under proper chain-of-custody documentation to EMSL Analytical. EMSL Analytical is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP No. 200346-0) for the analysis of asbestos bulk samples. Refer to Appendix A for analytical data.

Analytical Results (ACM)

Sample No.	Location	Description	Asbestos Content	Condition
1-01	Administration Building Chapel	Drywall & Associated Joint Compound	None Detected	Good
1-02	Administration Building Break Room	Drywall & Associated Joint Compound	None Detected	Good
1-03	Administration Building Dorm Laundry	Drywall & Associated Joint Compound	None Detected	Good
1-04	Administration Building Dorm Kitchen	Drywall & Associated Joint Compound	None Detected	Good
1-05	Education Building Library	Drywall & Associated Joint Compound	None Detected	Good
1-06	Education Building Hallway	Drywall & Associated Joint Compound	None Detected	Good
1-07	Education Building Room 103	Drywall & Associated Joint Compound	None Detected	Good
2-01	Administration Building Conference Room	2x4 Acoustic Ceiling Panel	None Detected	Good
2-02	Administration Building Dorm Room 1	2x4 Acoustic Ceiling Panel	None Detected	Good
2-03	Education Building Library	2x4 Acoustic Ceiling Panel	None Detected	Good
3-01	Education Building Room 103	Blue 12x12 Vinyl Floor Tile plus Mastic	None Detected	Good
3-02	Education Building Room 103	Blue 12x12 Vinyl Floor Tile plus Mastic	None Detected	Good
4-01	Education Building Hallway	Grey Vinyl Cove Base	None Detected	Good
4-02	Education Building Room 103	Grey Vinyl Cove Base	None Detected	Good
4-03	Education Building Library	Grey Vinyl Cove Base	None Detected	Good
5-01	Administration Building Break Room	Black Vinyl Cove Base	None Detected	Good
5-02	Administration Building Dorm Laundry	Black Vinyl Cove Base	None Detected	Good
5-03	Administration Building Dorm Room 1	Black Vinyl Cove Base	None Detected	Good

Asbestos-containing material is defined as any material containing more than one percent (1%) asbestos as determined using PLM (40 CFR 61).

In California, asbestos-containing construction material (ACCM) is defined by Cal- OSHA as any material containing more than 0.1% (one-tenth of one percent) of asbestos by weight (CCR Title 8, Section 1529).

Documentation of the laboratory results should be retained as a reference for future renovation/demolition activities.

LEAD-BASED PAINT

A representative number of interior painted surfaces/components were tested for LBP at the subject property.

A total of 112 XRF readings (including 6 calibration readings) were collected throughout the subject property. None of the 106 actual XRF readings indicated a lead content greater than 1.0 mg/cm², which is the current regulatory threshold for the requirement of lead-safe work practices in the City of Oakland, as assessed using an XRF instrument. Additional readings confirmed detectable levels of lead in paint (less than 1.0 mg/cm²). Please see Appendix A for Suspect Lead-Based Paint Inspection Results.

LBP is defined under the US Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) as paint or other surface coating with lead content equal to or greater than 1.0 mg/cm² of surface area by XRF or 0.5% by weight (5,000 parts per million (ppm)) by paint chip analysis.

3.0 CONCLUSION

ASBESTOS

None of the materials sampled contained asbestos.

The roof was not sampled as a part of the survey.

The EPA recommends that all ACM be removed by a certified asbestos contractor prior to any renovation or demolition activities that may impact the material. In the absence of planned renovation/demolition activities, the EPA recommends that ACMs be managed in-place whenever asbestos is identified in a building. Any damaged asbestos materials should be removed, repaired, encapsulated, or enclosed. Asbestos materials that are not damaged may be managed in place in accordance with a written Operations and Maintenance Program.

Federal, state and local laws require building owners and/or their representatives, prior to any demolition and/or renovation operations which may disturb any asbestos-containing materials in their buildings, to meet the following requirements:

- Notifications,
- Removal techniques (such as wetting) for asbestos-containing materials,
- Clean-up procedures,
- Waste storage and disposal requirements.

The potential exists for additional suspect ACM to be exposed during demolition and/or renovation activities. Such materials should be sampled and analyzed for asbestos content prior to any renovation and/or demolition activities that could impact these materials.

LEAD-BASED PAINT

During the inspection no LBP was identified within the subject building. Some of the samples contained detectable concentrations of lead below the threshold for LBP.

Work activities impacting LBP pose a potential exposure risk for workers and/or building occupants. Workers trained in proper safety and respiratory techniques should perform renovation activities that may impact the LBP described in this report. All construction work where an employee may be occupationally exposed to lead must comply with OSHA requirements set forth in 29 CFR 1926.62. This regulation requires initial employee exposure monitoring to evaluate worker exposure during work that disturbs lead-containing materials (lead present in detectable levels). Partner suggests that engineering controls, respiratory protection and personal protective equipment be employed at the start of a project that could disturb LBP.

Waste items generated during an abatement or demolition project should be properly sampled and profiled to determine the final disposition of the waste.

The potential exists for additional suspect lead-containing materials to be exposed during demolition and/or renovation activities. Such materials should be sampled and analyzed for lead content prior to any renovation and/or demolition activities that could impact these materials.

4.0 LIMITATIONS

Partner subcontracted with EMSL Analytical to perform the asbestos analysis. No warranties expressed or implied, are made by Partner or its subcontractor EMSL Analytical, or their employees as to the use of any information, apparatus, product or process disclosed in this report. Every reasonable effort has been made to assure correctness. If an Asbestos and/or Lead Abatement Contractor or other Demolition/Construction Contractor is employed, such contractor should bring any discrepancies found in this report as it relates to current site conditions or newly discovered site conditions to the immediate attention of Partner.

State-of-the-art practices have been employed to perform this asbestos and lead survey. The scope of this evaluation was severely limited to areas which were considered reasonably accessible (i.e., less than 15 feet from the floor), or within range of a visual inspection through reasonable means. No demolition or product research was performed in attempts to reveal material compositions. The services consist of professional opinions and recommendations made in accordance with generally accepted engineering principles/practices. These services are designed to provide an analytical tool to assist the client. Partner and its subcontractor EMSL Analytical and their employees/representatives bear no responsibility for the actual condition of the structure or safety of this site pertaining to asbestos and/or lead contamination regardless of the actions taken by the survey team or the client.

5.0 SIGNATURES OF PROFESSIONALS

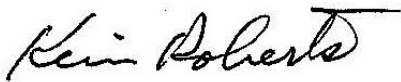
Partner has performed an asbestos and lead-based paint survey on the property located at 701 105th Avenue in Oakland, California, in general conformance with the scope and limitations of the protocol and the limitations stated earlier in this report. Exceptions to or deletions from this protocol are discussed earlier in this report.

Prepared By:

Partner Engineering and Science, Inc.



Freddy Torres
Certified Asbestos Consultant #10-4593
Certified Lead Inspector Assessor #17424



Kevin Roberts, CAC, CLIA
Senior Reviewer

APPENDIX A: LABORATORY ANALYSIS AND CHAIN OF CUSTODY



EMSL Analytical, Inc.

3356 West Catalina Drive Phoenix, AZ 85017

Tel/Fax: (602) 276-4344 / (602) 276-4053

<http://www.EMSL.com> / phoenixlab@emsl.com

EMSL Order: 121700827

Customer ID: 32PRTN78

Customer PO: 17-179703.2

Project ID:

Attention: Kevin Roberts

Partner Engineering and Science, Inc.

2154 Torrance Blvd

Suite 200

Torrance, CA 90501

Project: 17-179703.2 / 701 105th Ave Oakland, CA

Phone: (310) 765-7285

Fax:

Received Date: 02/10/2017 2:30 PM

Analysis Date: 02/13/2017 - 02/14/2017

Collected Date: 02/09/2017

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1-01-Joint Compound <small>121700827-0001 Paint excluded.</small>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-01-Drywall <small>121700827-0001A</small>	DWJC	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (Other)	None Detected
1-02-Joint Compound <small>121700827-0002 Paint excluded.</small>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-02-Drywall <small>121700827-0002A</small>	DWJC	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (Other)	None Detected
1-03-Joint Compound <small>121700827-0003 Paint excluded.</small>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-03-Drywall <small>121700827-0003A</small>	DWJC	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (Other)	None Detected
1-04-Texture <small>121700827-0004 Paint excluded.</small>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-04-Tape <small>121700827-0004A</small>	DWJC	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
1-04-Joint Compound <small>121700827-0004B</small>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-04-Drywall <small>121700827-0004C</small>	DWJC	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (Other)	None Detected
1-05-Texture <small>121700827-0005 Paint excluded.</small>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-05-Tape <small>121700827-0005A</small>	DWJC	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
1-05-Joint Compound <small>121700827-0005B</small>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-05-Drywall <small>121700827-0005C</small>	DWJC	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (Other)	None Detected

Initial report from: 02/14/2017 15:02:10



EMSL Analytical, Inc.

3356 West Catalina Drive Phoenix, AZ 85017

Tel/Fax: (602) 276-4344 / (602) 276-4053

<http://www.EMSL.com> / phoenixlab@emsl.com

EMSL Order: 121700827

Customer ID: 32PRTN78

Customer PO: 17-179703.2

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1-06-Joint Compound <i>121700827-0006</i>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-06-Drywall <i>121700827-0006A</i>	DWJC	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (Other)	None Detected
1-07-Joint Compound <i>121700827-0007</i> <i>Paint excluded.</i>	DWJC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1-07-Drywall <i>121700827-0007A</i>	DWJC	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (Other)	None Detected
2-01 <i>121700827-0008</i>	2x4 ACP	Gray/White Fibrous Heterogeneous	78% Cellulose 2% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
2-02 <i>121700827-0009</i>	2x4 ACP	Gray/White Fibrous Heterogeneous	78% Cellulose 2% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
2-03 <i>121700827-0010</i>	2x4 ACP	Gray/White Fibrous Heterogeneous	78% Cellulose 2% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
3-01-VFT <i>121700827-0011</i>	Blue 12x12 VFT Plus Mastic	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-01-Mastic <i>121700827-0011A</i>	Blue 12x12 VFT Plus Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-02-VFT <i>121700827-0012</i>	Blue 12x12 VFT Plus Mastic	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3-02-Mastic <i>121700827-0012A</i>	Blue 12x12 VFT Plus Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4-01 <i>121700827-0013</i>	Grey VCB	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4-02 <i>121700827-0014</i>	Grey VCB	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4-03 <i>121700827-0015</i>	Grey VCB	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5-01-Cove Base <i>121700827-0016</i>	Black VCB	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5-01-Mastic <i>121700827-0016A</i>	Black VCB	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5-02-Cove Base <i>121700827-0017</i>	Black VCB	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5-02-Mastic <i>121700827-0017A</i>	Black VCB	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 02/14/2017 15:02:10



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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
5-03-Cove Base	Black VCB	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

121700827-0018

Analyst(s)

Isai Portillo (26)

Peter Donato (7)

Michelle Wilson, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Phoenix, AZ NVLAP Lab Code 200811-0, AZ0937

Initial report from: 02/14/2017 15:02:10

CHAIN OF CUSTODY-BULK SUSPECT ACM ANALYSIS

Partner ESI

2154 Torrance Blvd, Suite 200

Torrance, California 90501

Phone (310)615-4500, Fax (310)866-928-7408

CLIENT: _____

PROJECT #: 17-179703.2PROJECT LOCATION: 701 105th Ave. Oakland, Ca.Lab: L. A. TestingTechnician: Freddy TorresSampling Date: 2/9/17Page: 1 of 2

Sample #	Material Description	Sample Location	Material Location	Quantity (SF or LF)	Friable (Y or N)	Condition (G/D/SD)
1-01	DWJC	Admin Bldg. Chapel	Various walls ceilings		N	G
1-02		↓ Break Room				
1-03		↓ Dorm Laundry				
1-04		↓ ↓ Kitchen				
1-05		Education Bldg. Library				
1-06		↓ Hallway				
1-07		↓ Room 103				
2-01	2x4 ACP	Admin Bldg. Conf. Room	Various Ceilings		Y	
2-02		↓ Dorm Room 1				
2-03		Edu. Bldg. Library				

Please Email results to Kroberts@partneresi.com

CONTACT: Freddy Torres 310-200-4006

TAT: _____ SD _____ 24HR ☒ 48HR _____ 72HR _____ANALYSIS: ☒ PLM Bulk-EPA/600 _____ 1,000 Pt Count _____ Other _____Relinquished: [Signature]
Received: _____Date/Time: 2-10-17 8:00am
Date/Time: _____Relinquished: [Signature]
Received: _____Date/Time: 2/10/17 2:30pm
Date/Time: _____

Legend:

SAACM - SPRAY-APPLIED ACOUSTIC CEILING MATERIAL
 DWJC - DRY WALL JOINT COMPOUND
 VFT/M - VINYL FLOOR TILE & MASTIC
 SVF - SHEET VINYL FLOORING
 VCB/M - VINYL COVE BASE & MASTIC
 HDI - HEATING DUCT INSULATION
 PI - PIPE INSULATION
 BAI - BLOWN-IN ATTIC INSULATION

ACP - ACOUSTIC CEILING PANEL
 ACT - ACOUSTIC CEILING TILE
 RPPM - ROOF PATCH & PENETRATION MASTIC
 ARS - ASPHALT ROOF SHINGLES
 ROR - ROLLED-ON ROOFING

N - North E - East
 S - South W - West
 G - Good
 D - Damaged
 SD - Sig. Damaged

Comments:

Transite Pipe QTY _____ Size _____

Shot	Date	Building	Room	Component	Substrate	Side	Condition	Results	PbC
1	2/9/2017	Calibration						Positive	1.1
2	2/9/2017	Calibration						Positive	1
3	2/9/2017	Calibration						Positive	1.1
4	2/9/2017	Admin	Chapel	Wall	Drywall	A	Intact	Negative	0
5	2/9/2017	Admin	Chapel	Wall	Drywall	B	Intact	Negative	0.03
6	2/9/2017	Admin	Chapel	Wall	Drywall	C	Intact	Negative	0.14
7	2/9/2017	Admin	Chapel	Door Frame	Metal	A	Intact	Negative	0.02
8	2/9/2017	Admin	Lobby	Wall	Drywall	A	Intact	Negative	0
9	2/9/2017	Admin	Lobby	Wall	Drywall	B	Intact	Negative	0.1
10	2/9/2017	Admin	Lobby	Wall	Drywall	C	Intact	Negative	0.07
11	2/9/2017	Admin	Lobby	Wall	Drywall	D	Intact	Negative	0.07
12	2/9/2017	Admin	Lobby	Door Frame	Metal	A	Intact	Negative	0.01
13	2/9/2017	Admin	Office 1	Wall	Drywall	B	Intact	Negative	0.01
14	2/9/2017	Admin	Office 1	Wall	Drywall	D	Intact	Negative	0.03
15	2/9/2017	Admin	Office 1	Door Frame	Metal	A	Intact	Negative	0.03
16	2/9/2017	Admin	Office 2	Wall	Drywall	B	Intact	Negative	0.01
17	2/9/2017	Admin	Office 2	Wall	Drywall	D	Intact	Negative	0.01
18	2/9/2017	Admin	Office 2	Door Frame	Metal	A	Intact	Negative	0.01
19	2/9/2017	Admin	Office 3	Wall	Drywall	B	Intact	Negative	0.01
20	2/9/2017	Admin	Office 3	Wall	Drywall	D	Intact	Negative	0.03
21	2/9/2017	Admin	Office 3	Door Frame	Metal	A	Intact	Negative	0
22	2/9/2017	Admin	Office 4	Wall	Drywall	C	Intact	Negative	0.01
23	2/9/2017	Admin	Office 4	Wall	Drywall	D	Intact	Negative	0.02
24	2/9/2017	Admin	Office 4	Door Frame	Metal	B	Intact	Negative	0
25	2/9/2017	Admin	Break Room	Wall	Drywall	A	Intact	Negative	0
26	2/9/2017	Admin	Break Room	Wall	Drywall	C	Intact	Negative	0
27	2/9/2017	Admin	Break Room	Door Frame	Metal	A	Intact	Negative	0.26
28	2/9/2017	Admin	Conference Room	Wall	Drywall	B	Intact	Negative	0.03
29	2/9/2017	Admin	Conference Room	Wall	Drywall	D	Intact	Negative	0.05
30	2/9/2017	Admin	Conference Room	Door Frame	Metal	A	Intact	Negative	0.02
31	2/9/2017	Admin	Men's Restroom	Wall	Drywall	A	Intact	Negative	0.3
32	2/9/2017	Admin	Men's Restroom	Wall	Drywall	B	Intact	Negative	0
33	2/9/2017	Admin	Men's Restroom	Wall	Drywall	C	Intact	Negative	0.07

701 105th Ave Oakland, Ca

34	2/9/2017	Admin	Men's Restroom	Wall	Drywall	D	Intact	Negative	0
35	2/9/2017	Admin	Men's Restroom	Ceiling	Drywall		Intact	Negative	0
36	2/9/2017	Admin	Men's Restroom	Door Frame	Metal	B	Intact	Negative	0.07
37	2/9/2017	Admin	Women's Restroom	Wall	Drywall	A	Intact	Negative	0.4
38	2/9/2017	Admin	Women's Restroom	Wall	Drywall	B	Intact	Negative	0
39	2/9/2017	Admin	Women's Restroom	Wall	Drywall	C	Intact	Negative	0.02
40	2/9/2017	Admin	Women's Restroom	Wall	Drywall	D	Intact	Negative	0.2
41	2/9/2017	Admin	Women's Restroom	Ceiling	Drywall		Intact	Negative	0
42	2/9/2017	Admin	Women's Restroom	Door Frame	Metal	B	Intact	Negative	0.06
43	2/9/2017	Admin	Men's Dorm Common	Wall	Drywall	A	Intact	Negative	0
44	2/9/2017	Admin	Men's Dorm Common	Wall	Drywall	B	Intact	Negative	0
45	2/9/2017	Admin	Men's Dorm Common	Wall	Drywall	C	Intact	Negative	0
46	2/9/2017	Admin	Men's Dorm Common	Wall	Drywall	D	Intact	Negative	0.05
47	2/9/2017	Admin	Men's Dorm Common	Door Frame	Metal	A	Intact	Negative	0.04
48	2/9/2017	Admin	Men's Dorm Kitchen	Wall	Drywall	A	Intact	Negative	0
49	2/9/2017	Admin	Men's Dorm Kitchen	Wall	Drywall	B	Intact	Negative	0.01
50	2/9/2017	Admin	Men's Dorm Kitchen	Wall	Drywall	C	Intact	Negative	0.02
51	2/9/2017	Admin	Men's Dorm Kitchen	Wall	Drywall	D	Intact	Negative	0.04
52	2/9/2017	Admin	Men's Dorm Kitchen	Ceiling	Drywall		Intact	Negative	0
53	2/9/2017	Admin	Men's Dorm Kitchen	Door Frame	Metal	D	Intact	Negative	0.02
54	2/9/2017	Admin	Men's Dorm Laundry	Wall	Drywall	A	Intact	Negative	0
55	2/9/2017	Admin	Men's Dorm Laundry	Wall	Drywall	B	Intact	Negative	0
56	2/9/2017	Admin	Men's Dorm Laundry	Wall	Drywall	C	Intact	Negative	0
57	2/9/2017	Admin	Men's Dorm Laundry	Wall	Drywall	D	Intact	Negative	0.1
58	2/9/2017	Admin	Men's Dorm Laundry	Door Frame	Metal	D	Intact	Negative	0
59	2/9/2017	Admin	Men's Dorm Room 1	Wall	Drywall	B	Intact	Negative	0.02
60	2/9/2017	Admin	Men's Dorm Room 1	Wall	Drywall	D	Intact	Negative	0
61	2/9/2017	Admin	Men's Dorm Room 1	Door Frame	Metal	D	Intact	Negative	0.01
62	2/9/2017	Admin	Men's Dorm Room 2	Wall	Drywall	A	Intact	Negative	0.01
63	2/9/2017	Admin	Men's Dorm Room 2	Wall	Drywall	C	Intact	Negative	0
64	2/9/2017	Admin	Men's Dorm Room 2	Door Frame	Metal	C	Intact	Negative	0.02
65	2/9/2017	Admin	Men's Dorm Room 3	Wall	Drywall	A	Intact	Negative	0
66	2/9/2017	Admin	Men's Dorm Room 3	Wall	Drywall	C	Intact	Negative	0.01
67	2/9/2017	Admin	Men's Dorm Room 3	Door Frame	Metal	C	Intact	Negative	0.3

701 105th Ave Oakland, Ca

68	2/9/2017	Admin	Men's Dorm Room 4	Wall	Drywall	B	Intact	Negative	0.07
69	2/9/2017	Admin	Men's Dorm Room 4	Wall	Drywall	D	Intact	Negative	0.05
70	2/9/2017	Admin	Men's Dorm Room 4	Door Frame	Metal	C	Intact	Negative	0.06
71	2/9/2017	Admin	Men's Dorm Shower	Wall	Drywall	A	Intact	Negative	0
72	2/9/2017	Admin	Men's Dorm Shower	Wall	Drywall	B	Intact	Negative	0.03
73	2/9/2017	Admin	Men's Dorm Shower	Wall	Drywall	C	Intact	Negative	0.01
74	2/9/2017	Admin	Men's Dorm Shower	Wall	Drywall	D	Intact	Negative	0.03
75	2/9/2017	Admin	Men's Dorm Shower	Ceiling	Drywall		Intact	Negative	0
76	2/9/2017	Admin	Men's Dorm Shower	Door Frame	Metal	D	Intact	Negative	0.4
77	2/9/2017	Education	Hallway	Wall	Drywall	A	Intact	Negative	0.06
78	2/9/2017	Education	Hallway	Wall	Drywall	B	Intact	Negative	0
79	2/9/2017	Education	Hallway	Wall	Drywall	C	Intact	Negative	0.01
80	2/9/2017	Education	Hallway	Wall	Drywall	D	Intact	Negative	0
81	2/9/2017	Education	Hallway	Door Frame	Metal	A	Intact	Negative	0.03
82	2/9/2017	Education	Library	Wall	Drywall	A	Intact	Negative	0.11
83	2/9/2017	Education	Library	Wall	Drywall	B	Intact	Negative	0.05
84	2/9/2017	Education	Library	Wall	Drywall	C	Intact	Negative	0.01
85	2/9/2017	Education	Library	Wall	Drywall	D	Intact	Negative	0.05
86	2/9/2017	Education	Library	Door Frame	Metal	D	Intact	Negative	0.12
87	2/9/2017	Education	Room 101	Wall	Drywall	A	Intact	Negative	0.03
88	2/9/2017	Education	Room 101	Wall	Drywall	B	Intact	Negative	0
89	2/9/2017	Education	Room 101	Door Frame	Metal	A	Intact	Negative	0.06
90	2/9/2017	Education	Room 103	Wall	Drywall	A	Intact	Negative	0
91	2/9/2017	Education	Room 103	Wall	Drywall	B	Intact	Negative	0
92	2/9/2017	Education	Room 103	Door Frame	Metal	A	Intact	Negative	0
93	2/9/2017	Education	Room 105	Wall	Drywall	A	Intact	Negative	0
94	2/9/2017	Education	Room 105	Wall	Drywall	B	Intact	Negative	0
95	2/9/2017	Education	Room 105	Door Frame	Metal	C	Intact	Negative	0
96	2/9/2017	Education	Room 104	Wall	Drywall	A	Intact	Negative	0.17
97	2/9/2017	Education	Room 104	Wall	Drywall	D	Intact	Negative	0
98	2/9/2017	Education	Room 104	Door Frame	Metal	C	Intact	Negative	0.01
99	2/9/2017	Education	Storage	Wall	Drywall	B	Intact	Negative	0.19
100	2/9/2017	Education	Storage	Wall	Drywall	D	Intact	Negative	0.13
101	2/9/2017	Education	Storage	Door Frame	Metal	C	Intact	Negative	0.06

701 105th Ave Oakland, Ca

102	2/9/2017	Education	Men's Restroom	Wall	Drywall	A	Intact	Negative	0
103	2/9/2017	Education	Men's Restroom	Wall	Drywall	C	Intact	Negative	0.4
104	2/9/2017	Education	Men's Restroom	Door Frame	Metal	C	Intact	Negative	0.02
105	2/9/2017	Education	Men's Restroom	Ceiling	Drywall		Intact	Negative	0.09
106	2/9/2017	Education	Women's Restroom	Wall	Drywall	B	Intact	Negative	0.1
107	2/9/2017	Education	Women's Restroom	Wall	Drywall	D	Intact	Negative	0.07
108	2/9/2017	Education	Women's Restroom	Ceiling	Drywall		Intact	Negative	0.01
109	2/9/2017	Education	Women's Restroom	Door Frame	Metal	A	Intact	Negative	0.02
110	2/9/2017	Calibration						Positive	1
111	2/9/2017	Calibration						Positive	0.8
112	2/9/2017	Calibration						Positive	1.1

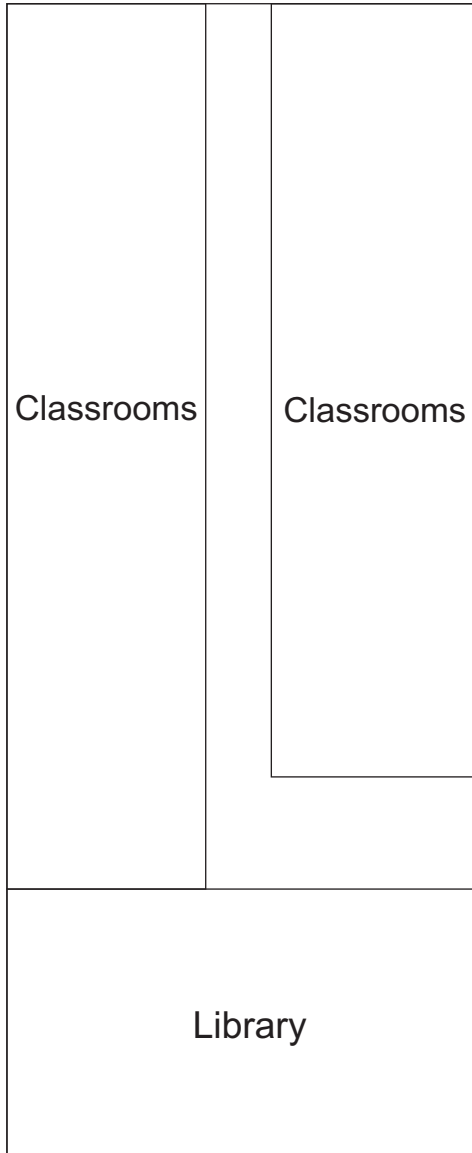
Total Readings
Positive Readings

112
0

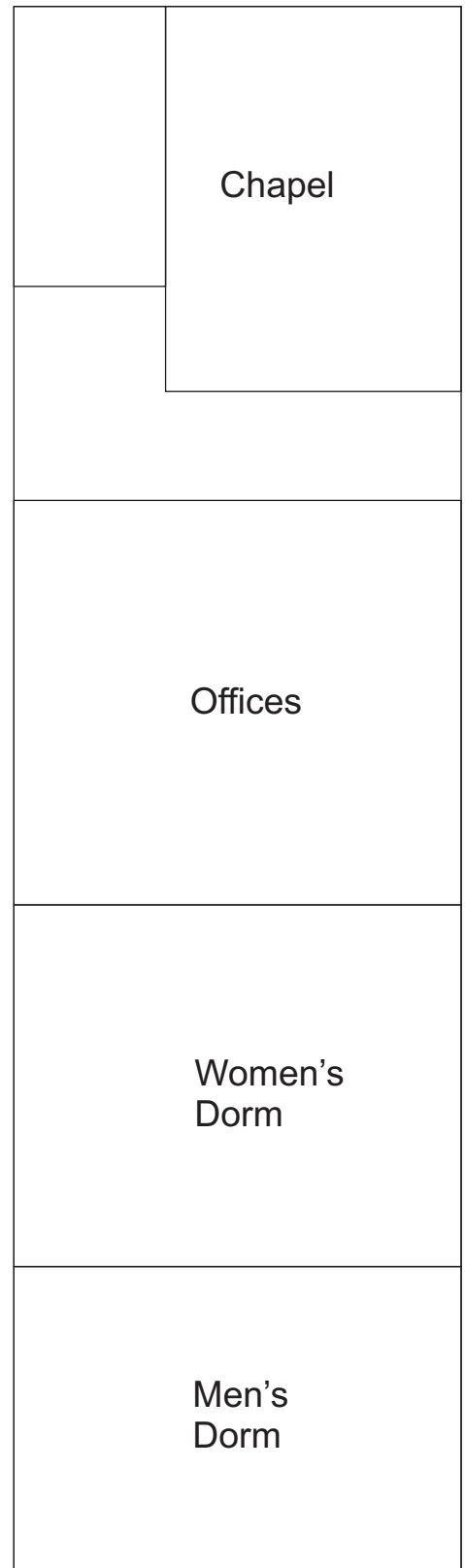
Action Level -
Units

1
mg/cm^2

APPENDIX B: SAMPLE LOCATIONS



Education
Building



Administration
Building

APPENDIX C: CERTIFICATIONS

Alfredo Torres

California DOSH **Certified Asbestos Consultant (CAC) #10-4593**

California DPH **Certified Lead Inspector Assessor (CLIA) #17424**



APPENDIX D: PHOTOGRAPHIC DOCUMENTATION



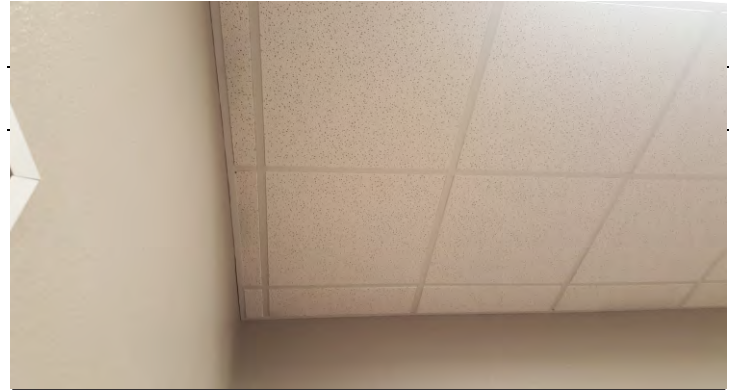
1. View of the interior chapel.



2. View of the interior offices.



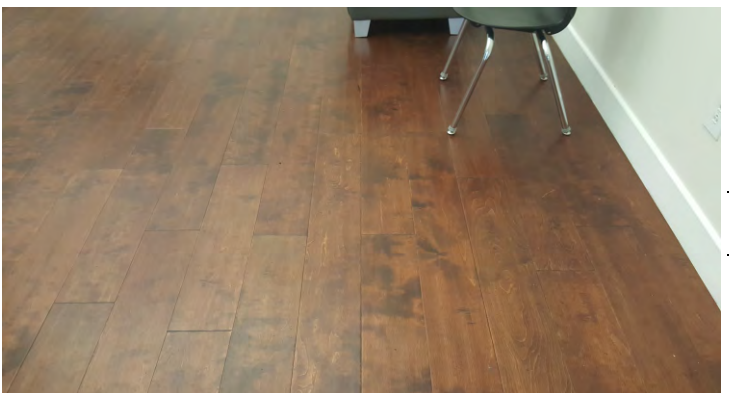
3. View of the interior administration building.



4. View of the acoustic ceiling systems.



5. View of the interior education building.



6. View of the newer style pergo flooring.



7. View of the ceramic floor tile.



8. View of the black vinyl cove base.



DRAFT
REMOVAL ACTION WORKPLAN (RAW)
701-735 105TH AVENUE
OAKLAND, CALIFORNIA

September 1, 2017

Prepared for:
Lighthouse Community Public Schools
444 Hegenberger Road, Oakland, California 94621

Prepared by:
Iris Environmental dba RPS (RPS)
1438 Webster Street, Suite 302
Oakland, California 94612

Project No. 17-1518E

PROFESSIONAL CERTIFICATION AND LIMITATIONS

This Draft Removal Action Workplan (Draft RAW) dated September 1, 2017 for the property located at 701-735 105th Avenue in Oakland, California, has been prepared under the oversight of California Professional Geologist. This document is based on information available to RPS and current laws, policies, and regulations as of the date of this document. The information and opinions expressed in this document are based upon the information available to RPS and are given in response to a limited assignment and should be considered and implemented only in light of that assignment. The services provided by RPS in completing this project were consistent with normal standards of the profession. No other warranty, expressed or implied, is made.

DRAFT

Leah Nelson, G.I.T.
Scientist

DRAFT

Warren B. Chamberlain, P.G., C.HG., P.E.
Principal Remediation Engineer

DRAFT

Todd C. Bernhardt
Principal

DRAFT

Nicholas T. Loizeaux, P.G.
Vice President

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Appendix A	Soil Management Plan (SMP)
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Appendix C	Calculation of Risk-Based Dust Concentrations

1.0 INTRODUCTION

This *Draft Removal Action Workplan* (Draft RAW) was prepared by Iris Environmental dba RPS (RPS) on behalf of Lighthouse Community Public Schools (Lighthouse) for the property located at 701-735 105th Avenue, Oakland, California (Alameda County Assessor's Parcel Number [APN] 045-526-801-800) (the Site) ([Figure 1](#)). The approximately 3.9-acre Site is currently owned by the SUM Bible College & Theological Seminary, but is being considered by Lighthouse for acquisition and development into a K-12 charter school.

This Draft RAW was prepared in accordance with California Health and Safety Code (HSC) Sections 25323.1 and 25356.1 and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) guidance memorandum, *Removal Action Workplans – Senate Bill 1706* ([DTSC, 1998](#)), and for submittal to the DTSC pursuant to the Voluntary Cleanup Agreement (Docket No. HSA-FY16/17-126) entered into between Lighthouse and DTSC on June 21, 2017 (Cal/EPA 2017) (the "VCA"). The DTSC is authorized to review, evaluate and ultimately approve documents such as this Draft RAW under the California Health and Safety Code, Chapter 6.8, Section 25355.5, which was developed to carry out a remedial action in an effective manner that is protective of the public health and environment.

The Site was formerly occupied by iron foundry operations from approximately 1926 until 1955, and retains legacy contamination likely related to historic foundry operations. The site is currently operated as a college and seminary and is to undergo improvements that include the addition and modification of classrooms, parking areas and recreational areas. The existing Site configuration is presented on [Figure 2](#), including boring locations from recent environmental investigations. The proposed redevelopment plan is presented on [Figure 3](#), and to the extent possible this RAW incorporates anticipated site redevelopment plans.

The purpose of this Draft RAW is to summarize previous investigation activities characterizing the nature and extent of legacy contamination at the Site; to establish appropriate remedial action objectives (RAOs); evaluate alternative removal action strategies; and present a work plan for the recommended removal action strategy to mitigate exposure to contaminated soil.

1.1 Site History

As early as 1926, the Site was developed by the Best Steel Casting Company as an iron foundry, with mechanical shops, steel ovens, and large foundry buildings. The General Metal Corporation-Steel Division took over the property in approximately 1943 and continued to operate an iron foundry on Site. Between 1955 and 1958 the buildings on Site were demolished and several of the building slabs were left in place. The Site remained vacant until approximately 1982, when building permits were issued for the construction of two warehouses. One warehouse was converted into a church in 1991. In a 1993 aerial photograph, two large structures and a parking lot are observed on Site. SUM Bible College & Theological Seminary has been listed as the Site occupant since 2000; in the same year building permits were issued to convert the second warehouse into a private school. In 2003 an auxiliary restroom and

concession stand was constructed, and the eastern building was retrofitted with dormitories. Since 2003, there has been no noticeable change to the Site.

1.1. Regulatory Basis for the Draft RAW

California HSC 25323.1, defines a RAW as “a workplan prepared or approved by the Department (DTSC) or a California Regional Water Quality Control Board (RWQCB) that is developed to carry out a removal action, in an effective manner, that is protective of the public health and safety and the environment.” A RAW is one of two remedy selection documents that may be prepared for a hazardous substance Site pursuant to California HSC Section 25356.1, and is appropriate for remedial actions that are projected to cost less than \$2,000,000. If the estimated capital cost of implementing the chosen action will exceed \$2,000,000, a *Remedial Action Plan* (RAP) is recommended.

As presented in Section 4.4, the estimated cost of the selected remedial alternative recommended in this Draft RAW is estimated to be less than \$2,000,000, and therefore, a RAW is warranted.

1.2. Objectives of the Draft RAW

The objectives of this Draft RAW are to:

- Present and evaluate existing Site conditions;
- Establish appropriate RAOs for the protection of human health and safety and the environment; and
- Evaluate alternatives to identify a recommendation for a removal action at the Site that is protective of human health and the environment.

1.3. Elements of the Draft RAW

To accomplish the objectives stated above, and to satisfy regulatory requirements, this Draft RAW includes the following elements:

- A description of the nature and extent of contamination at the Site;
- The RAOs to be achieved by the selected remedial action;
- An analysis of the alternatives considered, and the basis for selection of a recommended remedy, including a discussion of effectiveness, implementability, and cost for each alternative; and
- A description of the recommended alternative and an implementation plan;

2.0 SITE CHARACTERIZATION

2.1. Site Description

The Site is an approximately 3.9-acre property located within a light industrial area of Oakland, California. The Site currently operates as a bible college and seminary and consists of a large

open playing field area and a developed area with three buildings (which encompass approximately 36,400 square feet) and a parking lot and recreational area ([Figure 2](#)).

Currently, the Site is owned and operated by SUM Bible College & Theological Seminary (formerly known as the School of Urban Missions). There are two large buildings on Site, as well as a smaller restroom/concession stand. The two large buildings function as offices, dormitories, classrooms, and a chapel.

Current site features are depicted in [Figure 2](#), as can be observed, the Site consists principally of two functional areas:

- A triangular shaped open field area approximately 1.55-acres in size and used primarily for recreational activities; and
- A squared shaped covered area approximately 2.35-acres in size that consists of building structures, paved parking areas and other hardscape features.

To increase educational opportunities at the Site, Lighthouse plans to construct additional classrooms and playgrounds within the developed areas and reconfigure the playfield with construction of a parking lot and reconfigure the playfield ([Figure 3](#)). The phasing of such redevelopment activities is expected to occur over a period of years, but would start with the reconfiguration of the playfield and construction of a new parking lot.

The Site has an elevation of approximately 26 feet above mean sea level (amsl), the topography in the vicinity of the Site is generally flat and gently slopes towards the south to southwest (towards San Leandro/ San Francisco Bay). The Site is located approximately 0.5 miles north of San Leandro Creek and 2.2 miles east of the San Francisco Bay.

The Site is currently being operated as the School of Urban Missions. The Property has two large structures on site, as well as a smaller restroom/concession stand. All three structures are of concrete masonry unit construction with exterior stucco and largely drywall interior finishes. The two large structures are operated with office spaces, dormitories, classrooms, and a chapel. The smaller structure is an auxiliary restroom/ concession stand. A large asphalt paved parking lot is in the center of the site, between the two large structures. Drains are present in the middle of this parking lot, which slopes inwards towards these drains. There is a basketball court present on the western border of the parking lot and a large grassy recreation area with a soccer field ([Figure 2](#)).

2.1.1. Site Geology and Hydrogeology

Regional and Site-specific information on geology and hydrogeology are summarized in the following subsections.

Site Geology

The Site is located within the East Bay Plain of the Santa Clara Valley within the Coast Ranges Geomorphic Province. According to the Geologic Map of the San Leandro Quadrangle¹, the site is mapped as Cenozoic aged Quaternary soil (Q) which is comprised of poorly drained clay.

According to the Department of Water Resources, the Site is located within the Santa Clara Valley Groundwater Basin, East Bay Plain Sub-basin. The water bearing formations in this subbasin are comprised of four groups in a shallowing sequence:

- the Plio-Pleistocene aged Santa Clara Formation composed of gravel, sand, silt, and clay with various mixtures of sand grains;
- the late Pleistocene aged Alameda Formation composed of a sequence of alluvial fan deposits;
- the early Holocene Temescal Formation composed of alluvial deposits of silts, clays, and some gravels; and
- Artificial Fill composed of materials derived from quarries, demolition debris, and municipal waste.

The thickest formation is the Santa Clara formation, which can be up to 600 feet thick. Two exploratory geotechnical borings were installed at the Site (one borehole was installed to a depth of 50 feet below ground surface [bgs]). Below surficial fill or cover, the boreholes encountered clay, sandy or silty clay to depths of about 30 feet bgs, and interbedded zones of clayey sand, clay and, sand and gravel from 30 to 50 feet bgs (Geosphere Consultants, 2017).

Site Hydrogeology

Surface Water

The Site's relatively flat topography is drained by overland flow and engineered drainage features. The nearest surface water body is San Leandro Creek located approximately 0.5 miles south of the Site and San Leandro Bay, located approximately 1.89-miles northwest of the Site.

Groundwater

The Site is in the East Bay Plain Sub-basin of the Santa Clara Valley Groundwater Basin (CDWR, 2004). During RPS' recent Site investigations, borings were drilled as deep as 15 feet bgs and did not encounter groundwater. Borings advanced during an on-Site geotechnical investigation in February 2017 encountered groundwater at approximately 12 feet bgs (Geosphere Consultants 2017).

¹ Dibblee, T.W., and Minch, J.A., 2005, Geologic Map of San Leandro Quadrangles, Contra Costa and Alameda Counties, California. Dibblee Foundation Map DF-160. Available at http://ngmdb.usgs.gov/Prodesc/proddesc_73798.htm

2.2. Identification of Chemicals of Potential Concern

RPS recently performed surface and subsurface investigations of soil and soil gas at the Site, investigative activities which have been described and summarized in a *Current Site Conditions Report* (RPS 2017b). Soil and soil gas sample locations from these investigations are shown in [Figure 2](#), and summary analytical results obtained from investigation samples are provided on tables as listed below:

- Table 1 – A summary of the sampling and analysis program.
- Table 2a - total petroleum hydrocarbons as diesel (TPH-d) and Motor oil (TPH-mo) in soil; samples were analyzed by EPA method 8015M.
- Table 2b – polycyclic aromatic hydrocarbons (PAHs) in soil; samples were analyzed by EPA method 8270 with selective-ion monitoring (SIM).
- Table 2c – heavy metals in soil; samples were analyzed by EPA method 6010/7470.
- Table 2d – polychlorinated biphenyls (PCBs) and pesticides in soil; samples were analyzed by EPA method 8081A/8082.
- Table 3 – VOCs in soil gas; samples were analyzed by EPA method TO-15.

As part of the evaluation of current Site conditions (RPS 2017b), to assess potential human health risks to future populations at the Site under proposed use (i.e., students and school staff), the analytical results from the various investigations were compared to regulatory screening criteria for residential land use, as recommended by the DTSC for preliminary evaluations of school sites (DTSC 2017b). The selected criteria are considered protective of potentially complete exposures for future students and school staff at the Site. A depiction of the potentially complete exposure pathways, upon which the risk-based criteria are based, is illustrated in the conceptual site model (CSM) on Figure 6.

Based on the preliminary screening of the collected data against residential site use screening criteria, the following chemicals of potential concern (COPCs) were identified as having detected concentrations above the selected criteria:

- Antimony in soil – the maximum detected concentration of antimony, 67 mg/kg in near surface soil sample SB-04-SO3-0.5, as well as one additional concentration, 60 mg/kg, in nearby near surface soil sample SB-04-SO1-0.5, exceed the DTSC-modified screening level (DTSC-SL) for residential soil of 31 mg/kg.
- Arsenic in soil - the maximum detected concentration of arsenic, 29 mg/kg in near surface soil sample SB-04-SO1-0.5, as well as two additional concentrations, 25 mg/kg and 13 mg/kg, in nearby near surface soil samples SB-04-SO3-0.5 and SB-04-0.5, respectively, exceed the ambient-based screening level of 11 mg/kg.

- Cobalt in soil – the maximum detected concentration of cobalt, 28 mg/kg in near surface soil sample SB-04-SO1-0.5 exceeds the DTSC-SL for residential soil of 23 mg/kg.
- Lead in soil - lead was detected in all surface and subsurface soil samples collected, at concentrations ranging from 6.1 to 1,300 mg/kg. Of the 40 soil samples analyzed for lead, nine exceed the DTSC-SL for residential soil of 80 mg/kg.
- Carcinogenic PAHs in soil - Carcinogenic PAHs, expressed as BaPe concentrations, were detected above the ambient-based screening level of 0.92 mg/kg in nine of the 21 surface soil samples collected at the Site, ranging from 1.2 mg/kg to 2.4 mg/kg, and in two of the 23 subsurface soil samples collected at the Site, with detections of 11 mg/kg (SB-02-4.0) and 12 mg/kg (SB-12-4.0).
- Volatile organic compounds in soil gas - all detected concentrations of VOCs are below their respective residential site use screening levels except for 1,3-butadiene. 1,3-butadiene was detected at four of the eight sample locations (at SB-01, SB-03, SB-05, and SB-06) at concentrations ranging from 2.7 to 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The detected concentrations of $8.8 \mu\text{g}/\text{m}^3$ and $10 \mu\text{g}/\text{m}^3$ in soil gas samples SB-03-SG and SB-05-SG, respectively, slightly exceed the residential soil gas screening level of $8.5 \mu\text{g}/\text{m}^3$.

2.3. Nature and Extent of Site Impacts

RPS has performed subsurface and surface testing of media to define the nature and extent of contamination, and identified COPCs listed in Section 2.2. No other previous environmental characterization activities have been performed, to our knowledge, prior to the RPS investigations. The maximum subsurface depth explored is 8.5 feet bgs, and both soil and soil gas samples have been collected for analysis; no groundwater samples have been collected from the Site.

The distribution in Site soil of carcinogenic PAHs (expressed as BaPe) and heavy metals identified above as COPCs are presented in [Figures 4 and 5](#), respectively. The analytical results for these COPCs (see Tables 2b and 2c) indicate that soil contamination generally occurs most within the upper 1-foot of surface soil and diminishes to below regulatory screening levels at 4 feet bgs.

Of these COPCs in soil above their respective screening criteria, the carcinogenic PAHs are the most widespread across the Site; carcinogenic PAH distribution is presented in [Figure 4](#).

Heavy metals above regulatory screening levels are limited in distribution to the area of borings SB-04 (and step out borings SB-04-SO-1, 2 & 3) and SB-05 (and step out boring SB-05-SO-3). Heavy metals were not identified in the open field area above regulatory screening levels.

The VOC 1,3-butadiene was detected at two sample locations above residential ESL in soil gas from borings SB-03 and SB-05. The detected concentrations of $8.8 \mu\text{g}/\text{m}^3$ and $10 \mu\text{g}/\text{m}^3$ slightly exceed the residential soil gas screening level of $8.5 \mu\text{g}/\text{m}^3$. This residential site use screening

level was developed using the DTSC default soil gas-to-indoor air attenuation factor for existing residential buildings of 0.002 (Cal/EPA 2011). For existing or future school site buildings, use of this attenuation factor is particularly conservative as such buildings have higher indoor air exchange rates, similar to commercial/industrial buildings. Notably, if the DTSC default soil gas-to-indoor air attenuation factor for existing commercial buildings of 0.001 (Cal/EPA 2011) was used to calculate the screening level for 1,3-butadiene, all detected concentrations of 1,3-butadiene in soil gas, including at SB-03 (8.8 $\mu\text{g}/\text{m}^3$) and SB-05 (10 $\mu\text{g}/\text{m}^3$), would be below this screening level (17 $\mu\text{g}/\text{m}^3$). Soil gas conditions at the Site therefore do not appear to pose a significant vapor intrusion concern.

2.4. Planned Site Improvements

Lighthouse Community Public Schools plans to expand educational opportunities at the current facility that will require alterations to the current property layout; the proposed Site improvements are shown in [Figure 3](#). These renovations/ improvements include:

- New construction of a Building 3
- Removal of existing parking lot area and replacement with new construction of a playground area.
- New construction of a parking lot area in the southwestern portion of the existing open field.

3.0 REMOVAL ACTION GOALS AND OBJECTIVES

This section describes the RAOs, applicable or relevant and appropriate requirements (ARARs) and other “to be considered” (TBC) criteria for evaluating removal action alternatives, and selected remedial goals for the COPC-impacted soils.

3.1. Remedial Action Objectives (RAOs)

RAOs are Site-specific goals designed to protect human health and the environment. The specific RAOs for the Site are presented below:

- Protection of human health and the environment consistent with the intended future land use: As required by CERCLA, the removal alternatives considered must be protective of human health and the environment. Protection of human health and the environment can be met in several ways, including cleanup of COPCs to meet the applicable Site cleanup levels or using land use and engineering controls to prevent exposure to COPCs. As a conservative measure, the specific RAO for this Site is to minimize the potential for future exposures of students and school staff to levels of COPCs in soil found above criteria for residential land use.
- Cost-effective cleanup of the site: Cost-effectiveness is an objective addressed by identifying removal alternatives that meet all removal objectives for the least cost. In

practice, not all removal alternatives meet all removal objectives equally; therefore, the most cost-effective alternative is not necessarily the least cost alternative.

- Compliance with Applicable or Relevant and Appropriate Requirements (ARARs): Removal alternatives are evaluated for their ability to meet chemical-, location-, and action-specific requirements that include specific regulations or advisories applicable to the Site.
- Construct site improvements such that future occupants and maintenance personnel are not exposed to the COPC currently present in Site soils.
- Conduct the site improvements in a manner which is safe and implementable for construction workers and off-Site populations.
- Develop and implement a site management plan (SMP) to protect future occupants (students, teachers and administrative staff), construction and/or maintenance workers and off-Site populations.

3.2. ARARs and TBC Criteria

In addition to evaluating the technical aspects of various options for their suitability as potential remedial action alternatives, environmental laws and regulations must be reviewed to determine whether the option meets the environmental requirements. These Applicable or Relevant and Appropriate Requirements (ARARs) are developed under the CERCLA process guidance. The following section presents an overview of the ARARs process and identifies ARARs affecting the RAOs. Additional To-Be-Considered (TBC) criteria that are meant to complement the use of ARARs are presented herein.

3.2.1. Overview of ARARs

Identification of ARARs is a site-specific determination involving a two-part analysis: first, a determination of whether a given requirement is applicable; then if it is not applicable, whether it is relevant and appropriate. Applicable requirements are those cleanup standards, standards of control, and/or other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address the situation at a particular site. The requirement is applicable if the jurisdictional prerequisites of the standard show a direct correspondence when objectively compared to the conditions at the Site. If the requirement is not legally applicable, then the requirement is evaluated to determine whether it is relevant and appropriate. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not applicable, address problems or situations sufficiently similar to the circumstances of the proposed response action and are well suited to the conditions of a Site (USEPA, 1988). A requirement must be substantive in order to constitute an ARAR for activities conducted on-Site. Procedural or administrative requirements, such as permits and reporting requirements are not ARARs (55 Fed. Reg. 8666, 8745 (1990)). ARARs are promulgated, or legally enforceable federal and state requirements.

3.2.2. Overview of TBC Criteria

The USEPA has also developed another category known as "to be considered" (TBC) criteria, that includes non-promulgated criteria, advisories, guidance, and proposed standards issued by federal or state governments. Because TBC criteria are not potential ARARs, they are neither promulgated nor enforceable, and their identification and use are not mandatory. Rather, TBC criteria are meant to complement the use of ARARs, not to compete or replace them. For instance, many ARARs have broad performance criteria but do not provide specific instructions for implementation and those instructions are contained in supplemental program guidance. It may be necessary to consult TBC criteria to interpret ARARs, or to determine preliminary remediation goals when ARARs do not exist for particular contaminants.

3.2.3. ARARs and TBC Criteria Affecting RAOs

A summary of the applicable ARARs and TBC criteria that may pertain to the proposed remedial alternatives for the Site is included in [Table 4](#).

3.3. Cleanup Goals

Cleanup goals, a subset of RAOs, consist of levels of risk or chemical concentrations that are protective of human health or the environment. The goal of remediation at most sites is to reduce chemical concentrations to levels that pose acceptable incremental cancer risks or noncancer hazards. The cleanup goal for this Site is to mitigate known COPC to prevent an exposure risk to future occupants through use of engineering and administrative controls.

The default clean-up goals are:

- Carcinogenic PAHs - The 95th percentile value of BaPe from the ambient, carcinogenic PAH data set for Northern California, 0.92 mg/kg (Cal/EPA 2009).
- Heavy metals: Health- or risk-based screening levels for residential land use set by DTSC for antimony, cobalt, and lead; for arsenic, the default cleanup goal is set at the 99th percentile upper estimate of regional background concentrations in undifferentiated urbanized flatland soils of the San Francisco Bay Area (Duvergé 2011).
 - Lead = 80 mg/kg
 - Arsenic = 11 mg/kg
 - Antimony = 31 mg/kg
 - Cobalt = 23 mg/kg

4.0 ALTERNATIVE EVALUATION

The purpose of this Section of the Draft RAW is to identify and screen possible remedial action alternatives that may best achieve the RAOs discussed in [Section 3.1](#). The screening of remedial action alternatives was conducted in general accordance with USEPA's *Guidance on Conducting Non-Time Critical Removal Actions under CERCLA* ([USEPA, 1993](#)) and based on information

presented in DTSC's *Proven Technologies and Remedies Guidance – Remediation of Metals in Soil* (DTSC, 2008). As such, remedial action alternatives were evaluated on the basis of their implementability, effectiveness, and cost.

4.1. Identification of Removal Action Alternatives

Four possible remedial action alternatives were identified to address the conditions at the Site and to achieve the RAOs:

- Alternative 1 – No Action;
- Alternative 2 – Clean Closure - Excavation, Removal and Off-Site Disposal;
- Alternative 3 –Site Wide Excavation, Capping and Institutional Controls; and
- Alternative 4 – Limited Excavation, Capping and Institutional Controls.

The removal action alternatives are considered and evaluated with respect to the proposed Site improvements, such that synergies between the remedial and site-improvement construction efforts can be realized.

4.2. Description of Removal Action Alternatives

The four potential removal action alternatives identified in [Section 4.1](#) are described below. For the purposes of this RAW, it is assumed that the current three onsite buildings will remain in place and not be disturbed by removal actions. The three onsite buildings occupy approximately 36,400 square feet or 0.84-acres. To accommodate facility improvements, we assume that existing paved site areas will be removed to accommodate construction of Building 3 and the Playground (Figure 3). As such, planned site construction activities will result in additional remedial actions.

4.2.1. Alternative 1 – No Further Action

The No Action alternative is included to provide a baseline for comparisons among other removal alternatives. The No Action alternative does not address the risk associated with the subsurface COPCs and has no associated cost.

4.2.2. Alternative 2 – Clean Closure - Excavation, Removal and Off-Site Disposal of COPC Impacted Soil

Alternative 2 has been developed to obtain clean closure of the Site and is the most conservative approach from a risk perspective. The excavation, removal and off-Site disposal of COPC impacted soil alternative represents the most aggressive approach for remediating the Site, and is intended to remove COPCs to the extent possible. COPCs would be excavated to a depth of 1.5-feet across the Site, stockpiled or loaded onto trucks and transported to a landfill. Removing 1.5 feet of soil and general waste from across the Site will generate approximately 9,600 cubic yards of waste spoils. RPS assumes that the upper 6-inches of material will be either

construction debris (asphalt, concrete, baserock) derived from covered areas of the Site or the vegetative layer derived from the Playfield area of the Site; these materials would be disposed to the landfill as general waste. The soil between 6-inches to 18-inches below grade would be profiled and submitted for landfill acceptance as alternative daily cover. Much of the spoils to be generated occurs as non-hazardous waste and is suitable for disposal to a Class II municipal landfill.

At two locations SB-02 and SB-12, approximately 30-foot by 30-foot excavation would be extended to below 4 feet bgs but above 8-feet bgs to remove elevated levels of PAHs. These deeper excavations would generate an additional 200 cubic yards of soil.

Two soil samples SB-04-SO-1 and SB-04-SO-3 returned a lead concentrations of 1,300 mg/kg and 1,100 mg/kg, respectively, which exceed the total threshold limit concentration (TTLC) for lead of 1,000 mg/kg, and therefore would be classified as hazardous waste once excavated, requiring disposal to a Class I landfill. For the purposes of the RAW, we assume that a 10-foot by 10-foot by 2.0-foot deep excavation area centered on the hazardous waste exceedance borings will be isolated and separately stockpiled or direct loaded for Class I disposal. The spot excavations of the lead hot spot areas would generate approximately 15 cubic yards of soil. Confirmation samples will be collected at the 2.0-foot depth from the north, east, south and west sidewalls and tested for lead. Excavation step-out will be performed until confirmation of compliance is achieved.

For areas identified as non-hazardous waste, to confirm that COPCs have been removed at depth, bottom confirmation samples will be collected at a frequency of 1 confirmation sample per 5,000 square feet. Confirmation samples would be tested for COPCs only (that is, PAHs and heavy metals). Should confirmation sample analytical results exceed the cleanup goals, over-excavation on a 10-foot by 10-foot step-out will be performed until confirmation is reached.

Backfill of the excavations will be to the final development grades provided in the site-improvement plans and specifications. The excavation backfill material will consist clean imported soil, and/or baserock and either concrete or asphalt for designated hardscape areas. The final backfill grades of clean soil will be coordinated with the general contractor to facilitate design elevations for the planned building foundations, baserock and asphalt cover for new parking lot, landscaping and drainage. Placement of a geotextile or fabric between the excavation rough grades surface and backfill materials will be based on the recommendation of the Geotechnical Engineer; the placement of orange demarcation netting is not required for the clean closure alternative.

Final excavation cover materials will vary dependent on the final site improvement surface requirements, as indicated:

- Playfield area – 1.5-feet of backfill soil will be placed in this area and the surface will be revegetated.

- New Parking Lot Area - 9-inches of backfill soil will be placed and following the recommendations of the geotechnical report, 6-inches of baserock and 3-inches of asphalt will be placed to form the parking lot surface.
- Building 3 - the foundation and floor concrete slab will form a hardscape cover for the new Building 3.
- The Playground Area – up to 1.5-feet of backfill soil will be placed in this area and the surface covered by a protective, engineered recreation surface (e.g. a rubberized surface).
- Existing hardscape in areas not disturbed by site improvements.

4.2.3. Alternative 3 – Excavation, Cap Entire Site and Institutional Controls

Alternative 3 involves excavation to 1.5-feet below existing grades across the Site. This excavation would generate approximately 9,400 cubic yards of spoils. The spoils would consist of asphalt, concrete and soil from existing paved/covered areas of the Site and a vegetative layer (possibly up to 6-inches thick) from the current playfield area of the Site.

Similar to Alternative 2, the site will be excavated to 1.5-feet below existing grades, but no deeper excavation will be performed to address contamination below 1.5-feet bgs. Areas of hazardous waste identified above will be isolated and handled as described above. Non-hazardous waste will be disposed to a Class II landfill and hazardous waste will be disposed to a Class 1 landfill.

The rough grades of the remedial surface would be covered with a high visibility barrier/netting to serve as a demarcation layer for future redevelopment or maintenance activities should they occur. Soil cover will vary dependent on the final site improvement requirements, as presented for Alternative 2. Backfill soils will be compacted to the specifications provided by the Geotechnical Engineer. The final surface topography will be graded and/or built up to assist surface water drainage off the field or covered surface into perimeter drainage features.

Following the completion of site improvements, institutional controls in the form of a Land Use Covenant (LUC) and implementation of the Site Management Plan will be utilized to ensure that this remedy remains protective to occupants of the Site. These institutional controls will at a minimum ensure that the cap remains functional and provide guidelines for breaching the cap to perform subsurface activities including utility maintenance or other underground activities.

4.2.4. Alternative 4 – Limited Excavation, Capping and Institutional Controls

Alternative 4 was developed to incorporate planned Site improvements, and take advantage of the new hardscaped areas that will be constructed, and by their nature provide a protection from direct exposure. The layout for Alternative 4 is provided in [Figure 7](#). Within those areas of the property where existing hardscapes provide a surface cover, future improvements will essentially replace the nature of the cover, and cap the underlying contamination.

For example, the foundation and concrete floor of the new Building 3 (Figure 3), will replace the existing asphalt covered basketball court and similarly the new Playground will replace the existing parking lot area. Hardscape areas currently provide a surface cap for the immediate area surrounding the SB-04 boring with metal impacts, and these areas will not be disturbed during Site improvements.

In the area of the proposed new parking lot area (currently the southwestern portion of the Playfield), the Geotechnical Report requires that a minimum of 9-inches of existing soil will require excavation to allow for the construction of the new parking lot. Additional soil may be excavated to provide a 1-foot cap to impacted soils. The new parking lot will be built up from the remedial grade surface and include placement of orange demarcation netting; placement of a minimum of 3-inches of clean soil and compaction; and placement of 6-inches of baserock and 3-inches of asphalt. The new parking lot has an area of approximately 30,000 square feet and with a 1-foot excavation, approximately 1,100 cubic yards of soil will be removed from the Site.

Within the Playfield area to provide a protective cap, 1-foot of soil will be excavated and replaced with clean soil backfill. The new Playfield surface will be built up from the remedial grade surface and include placement of high-visibility demarcation netting and placement and compaction of clean soil backfill. The existing Playfield will be reduced in size with the new Playfield having an area of approximately 43,785 square feet and with an excavation to 1-foot, approximately 1,622 cubic yards of soil will be removed from the Site.

In addition to the two larger excavations, existing soils within landscape areas adjacent to the eastern building will be excavated to a depth of 1.0 foot to address lead detections. The new post-remediation surface will have a high-visibility demarcation netting, and placement and compaction of clean soil backfill. Two narrow alleys adjacent to the eastern building (and fronting 105th Street and the adjacent rail corridor) will have new gates installed to prevent pedestrian access. These areas and features are shown on Figure 7.

The future condition of the capped areas would be maintained through the implementation of institutional controls, that is, adding a LUC to the property deed and implementing a site management plan.

4.3. Evaluation Criteria

Each of the remedial action alternatives were screened based on effectiveness, implementability and cost, as defined below.

4.3.1. Effectiveness

In the effectiveness evaluation, the following factors are considered.

Overall Protection of Human Health and the Environment. Evaluates whether the remedial alternative provides adequate protection to human health and the environment and can meet the Site's RAOs.

Compliance with ARARs/TBCs. Assesses the ability of the remedial alternative to comply with ARARs and TBCs.

Short-term Effectiveness. Evaluates the effects of the remedial alternative during the construction and implementation phase until objectives are met. This criterion accounts for the protection of workers and the community during remedial activities, and environmental impacts from implementing the remedial action.

Long-term Effectiveness and Permanence. Addresses issues related to the management of residual risk remaining on-Site after the remedial action has been performed and met objectives.

Reduction of Toxicity, Mobility, or Volume. Evaluates whether the remedial technology employed results in significant reduction in toxicity, mobility, or volume of the hazardous substances.

4.3.2. Implementability

Remedial actions are evaluated with respect to technical feasibility and applicability to Site conditions. Some factors to consider when assessing the implementability of remedial action alternatives include the ability to obtain necessary permits, regulatory approval of remedial actions, availability of necessary equipment and skilled workers, and acceptance by the state and the community.

4.3.3. Cost

The relative cost of each technology based on estimated fixed capital for construction or initial implementation and ongoing operational and maintenance costs is considered when evaluating remedial action alternatives. The actual costs will depend on true labor and material cost, competitive market conditions, final project scope, and the implementation schedule.

4.4. Analysis of Removal Action Alternatives

Each of the four alternatives identified in Section 4.1 and described in Section 4.2 is evaluated here according to the criteria presented in Section 4.3. The evaluation of alternatives is summarized in Table 5 and a comparison of estimated costs to implement each alternative is provided in Table 6.

4.4.1. Alternative 1 – No Action

This alternative would require low or no cost, and would be highly implementable from a technical feasibility perspective. The effectiveness of this alternative, however, would be poor, as the remedial action objectives would not be achieved. Residual risk from the COPCs remaining at the Site would also preclude the redevelopment of the Site.

4.4.2. Alternative 2 – Soil Excavation, Removal and Off-Site Disposal

This alternative would require higher costs to implement compared to Alternative 4, due to the excavation and off-Site disposal of an estimated 9,605 cubic yards of soil and general waste, of which 200 cubic yards consists of Class 1 hazardous waste. Costs also includes importing clean backfill materials to replace the excavated soil.

The overall effectiveness of Alternative 2 would be high, as residual contamination above cleanup goals would be removed from the Site allowing for clean closure. No future Site monitoring would be required compared to Alternative 3 and 4.

Alternative 2 is readily implementable, as earthmoving equipment is readily available and landfill acceptance of soil with low levels of contamination is common. Similarly, for the 200 cubic yards of soil identified as Class I hazardous waste, landfill acceptance to a Class I landfill is common. Backfill materials are common, clean soil and engineering materials can be obtained from soil brokers and/or a quarry.

This alternative is expected to be acceptable to the DTSC and the public, due to its long-term and overall effectiveness.

Thus, the feasibility of this alternative is high with respect to effectiveness, implementability, regulatory and community acceptance, but low with respect to cost.

4.4.3. Alternative 3 – Site wide excavation, Cap Entire Site and Institutional Controls

Alternative 3 would be effective and implementable; however, the costs would be higher compared to Alternatives 2 and 4. Alternative 3 would excavation and removal of 9,405 cubic yards of soil and general waste.

The overall effectiveness of Alternative 3 would be high, but less than Alternative 2 as residual contamination would remain below the 1.5-foot cap layer of either clean soil or hardscape. This alternative has future operation and maintenance activities and cost associated with institutional controls.

This alternative is expected to be acceptable to the DTSC and the community as soil capping of low levels of residual contamination is a common practice within the Bay Area.

Alternative 3 is readily implementable, as earthmoving equipment is readily available and landfill acceptance of soil with low levels of contamination is common. Similarly, for the 200 cubic yards of soil identified as Class I hazardous waste, landfill acceptance to a Class I landfill is common. Backfill materials are common, clean soil and engineering materials can be obtained from local soil brokers and/or a quarry.

This alternative is expected to be acceptable to the DTSC and the public, due to its long-term and overall effectiveness.

Thus, the feasibility of this alternative is also high with respect to effectiveness, implementability, regulatory and community acceptance but low with respect to cost. This alternative will have a life beyond the implementation of the RAW, as annual monitoring and reporting of the soil/hardscape cap is required to ensure that the cap is maintaining its integrity to isolate and protect future Site occupants and workers.

4.4.4. Alternative 4 – Limited Excavation, Capping, and Institutional Controls

Alternative 4 incorporates the planned Site improvements to achieve the goals of the RAW and relies upon the capping of impacted areas through capping with clean soil or hardscape to provide a protective barrier to limit or circumvent identified exposure pathways. From the existing Playfield area, approximately 2,680 cubic yards of impacted soil would be removed, and the southwestern portion capped by an asphalt parking lot and the remaining Playfield area capped by clean soil.

Alternative 4 is readily implementable, similar to Alternatives 2 and 3, but would require less soil off-haul and soil import to complete the RAW.

This alternative is expected to be acceptable to the DTSC and the public, due to its long-term and overall effectiveness. Implementation of Alternative 4 would leave contamination at concentrations above cleanup goals in-place beneath hardscaping.

The cost of Alternative 4 is less than Alternatives 2 and 3. This alternative would require moderate cost to implement and the overall effectiveness would be high. This alternative is expected to be acceptable to the DTSC and the community, due to its overall effectiveness.

4.5. Selection of Recommended Removal Action Alternative

The selection of best alternative to meet RAO considers implementability, effectiveness and cost and compares these criteria for each alternative. Alternative 1 does not meet remedial actions objectives and is not considered further. Regardless of the remedial alternative approach, Site improvements will require demolition of existing Site features and rough grading to construct improvements, including:

- Demolition of existing parking area and potential landscape features;
- Grading and capping (with a rubberized floor/matting material) to create a new Playground;
- Construction of foundation and slab-on-grade floor for new Building 3;
- Excavation of soil and placement of baserock and asphalt for the new parking lot.

The cost for implementing the above site improvement construction activities is not considered in this evaluation.

The implementability of Alternatives 2, 3 and 4 are similar as each option will employ similar equipment, and means and method for construction. Due to the ease of implementation, overall effectiveness and lower quantity of soil handling, Alternative 4, is the favored remedial action. The lower quantity of soil and general waste to be handled is approximately four times less than Alternatives 2 and 3, which translates to lowering the number of trucks needed to export impacted soil and general waste to landfills, reduces the amount of import materials and generally less taxing on the local community.

The effectiveness of Alternative 2 is the most pronounced as all impacted soil above regulatory screening levels would be removed from the Site. However, Alternative 4 provides a minimum 1.5-foot thick clean soil cap or hardscaping and placement of demarcation netting to provide adequate cover and warning for the protection of Site occupants to avoid potential exposure. Also, the types of contamination present at the Site (that is, PAHs and heavy metals) are typically not very mobile in vadose soil and the threat of contamination leaching to groundwater is *de minimus*.

The estimated cost to implement Alternatives 2, 3 and 4 is presented in Table 6, the cost comparison considers: site preparation, mobilization and demobilization, excavation, waste disposal, placement of demarcation. Alternative 4 is the lowest cost alternative at an estimated cost of \$440,000, compared to \$1,692,000 for Alternative 2 and \$1,811,000 for Alternative 3.

Based on the analysis described above, Alternative 4 – Limited Excavation, Capping and Institutional Controls, is the preferred and recommended remedial action alternative for the Site. Alternative 4 will achieve RAOs, be protective of human health and the environment, and have a much lower impact on the adjacent community as compared to Alternative 2 and 3 (due to the limited quantity of soils excavated and backfilled, shorter duration of construction, lower potential for dust emissions, and less truck traffic) while being a cost-effective remedy. Alternative 4 is estimated to cost less than \$2,000,000 and will be implemented in accordance with California HSC Sections 25323.1 and 25356.1.

To implement the RAW, a series of supporting documents are required, the first two are provided in appendices, the SWPPP will be developed later.

- Site Management Plan
- Health and Safety Plan
- Construction SWPPP

5.0 REMOVAL ACTION IMPLEMENTATION

Implementation of Alternative 4 consists of a series of separate tasks. The following sections discuss each task and associated activities. Associated activities to implement Alternative 4 are proposed to be completed during normal business hours (7:00 AM to 6:00 PM) Monday to Friday.

5.1. Permitting, Notifications, and Preparation

As necessary, the following pre-field activities will be completed prior to implementation of the Draft RAW.

- Obtain grading, excavation, hauling or other applicable permits from the City of Oakland, Alameda County, or other pertinent regulatory agencies. This permit will be obtained for the general Site grading activities and applicable to the remedial actions occurring.
- Update the Site-specific HASP presented in [Appendix B](#) and discussed in [Section Error! Reference source not found.](#)
- Mark areas with white paint where subsurface activities are proposed and contact Underground Service Alert (USA) to identify underground utilities in the designated work areas as part of the clearance process. USA will be contacted at least 48-hours prior to the commencement of field activities, as required by law. A private utility locator may be subcontracted to screen the proposed grading and, possible, excavation areas for subsurface utilities.
- Identify and coordinate with a disposal facility.
- Prepare and stage the Site for planned activities, such as the oversight of heavy equipment delivery, staking or demarcation of excavation areas, install temporary fencing and signs to be set-up surrounding proposed earthwork areas, and establish monitoring stations, as necessary.

5.2. Earthwork and Soil Management

The following sections discuss how soils across the Site areas will be graded and managed.

5.2.1. Earthwork Activities

Prior to initiating earthworks activities, the site areas designated for waste removal will be staked and demarcated with white paint. In hardscaped covered areas, non-soil cover materials will be ripped-up and segregated to conform to landfill acceptance criteria. Boring logs information obtained during Site investigation indicates that up to 6-inches of asphalt or concrete cover and up to 0.5 to 2.5-feet of baserock material may exist across the covered areas of the Site based on materials encountered in exploratory borings.

In the Playfield area, the upper six inches of vegetative cover and soil will be removed and separately stockpiled, (due to the organic matter in this layer, the material may not be accepted as daily cover). Upon exposing the soil surfaces, excavation will proceed to the remedial rough grades.

Final excavation remedial grade surfaces will be lined with high-visibility demarcation netting and placement and compaction of backfill soil will proceed. Soil will be placed and compacted to specifications provided by the Geotechnical Engineer.

5.2.2. Soil Management Practices

To the extent possible soil and waste material will be either temporary stockpiled or direct loaded into trucks for transport to a disposal facility. Temporary stockpiles will be placed on Visqueen plastic and borders lined with fiber rolls to prevent sediment transport. At the end of each work day stockpiles will be covered Visqueen plastic and weighted. Temporary stockpiles will be wetted during the course of the work day to prevent dust emissions to the atmosphere.

5.2.3 Drainage Planning

The redeveloped Site topography will be developed to maintain a minimum 1.0-foot cap across remedial areas. Prior to final construction design, the designated waste removal areas will be provided to the Civil Engineer, such that remedial design criteria can be incorporated into the final Site Improvements designs. The finished surfaces should be graded/sloped to provide adequate run-off and drainage to municipal storm drains.

5.2.4 Control Measures

Soil Management Plan

A Soil Management Plan (SMP) has been prepared for the Site and is being submitted to DTSC prior to initiation of field work. The SMP is included in [Appendix A](#) of this RAW and is considered a living document. Updates to the SMP may be made independent from updates to the RAW based on changing field conditions.

The SMP presents the decision framework and risk management measures for managing known environmental conditions including COPCs, before, during, and following Site redevelopment, in a manner both protective of human health in accordance with applicable regulatory requirements, and in consideration with the existing and planned future land uses. The SMP also describes contingency actions for unanticipated environmental conditions encountered during redevelopment earthwork activities at the Site.

The provisions of the SMP are mandatory and apply before and during Site redevelopment. Following Site redevelopment, the provisions of the SMP are mandatory and will be recorded in a Land Use Covenant (LUC) for the Site. The SMP addresses conditions and activities including but not limited to:

- Dust and odor generation associated with excavation and trenching, grading and loading, backfilling, movement of construction and transportation equipment, and fugitive dust generation from wind;
- Management/disposal of soils during redevelopment including off-Site transport of soils;

- Off-Site transport of soils as sediments via surface water run-off from exposed soil stockpiles and graded areas;
- Discovery of unexpected areas of contamination or underground structures;
- Contact with potentially impacted soil and groundwater.

Site-Specific Health and Safety Plan

A Site-specific HASP has been prepared for the Site in accordance with current health and safety standards as specified by the federal and California OSHA, and the SMP ([Appendix A](#)) and is being submitted to DTSC prior to initiation of field work. A copy of the HASP is included in [Appendix B](#) of this RAW; however, the updates to the HASP may be made independent updates to the RAW.

Contractors are responsible for operating in accordance with the most current requirements of State and Federal Standards for Hazardous Waste Operations and Emergency Response (8 CCR 5192; 29 CFR 1910.120). On-Site personnel are responsible for operating in accordance with all applicable regulations of the Occupational Safety and Health Administration (OSHA) outlined in the State General Industry and Construction Safety Orders (8 CCR) and Federal Construction Industry Standards (29 CFR 1910 and 1926), as well as other applicable federal, state, and local laws and regulations. Personnel shall operate in compliance with all California OSHA requirements.

The provisions of the HASP are mandatory for RPS personnel. RPS's contractors and their subcontractors doing fieldwork in association with this Draft RAW will develop and adopt their own HASP, which will shall at a minimum meet the requirements of the HASP presented in this Draft RAW. RPS is not responsible for the health and safety of its contractors or their subcontractors.

Site-Specific Air and Dust Monitoring

To comply with the Bay Area Air Quality Management District (BAAQMD) rules, standard dust control measures (including water spray application) will be followed during the remediation. Successful dust mitigation will accomplish the following goals:

- Reduce the potential for health impacts to workers;
- Reduce the potential for health impacts to facility neighbors;
- Prevent violations of ambient air quality standards;
- Minimize nuisance dust complaints from facility neighbors; and
- Minimize the migration of contaminants adhered to fugitive dust particles outside the Site.

On-Site monitoring of dust levels will be implemented. Dust levels will be monitored during excavation activities directly outside the excavation area, as well as at the Site perimeters. If the

monitoring data at the Site perimeters indicates dust levels are beyond the limits established by BAAQMD (Regulation 6, Particulate Matter and Visible Emissions) or California Ambient Air Quality Standards (CAAQS), then additional engineering control measures, such as foam spray, will be implemented to reduce the dust levels. RPS has calculated site-specific risk-based dust concentrations for the four metals of concern in Site soils as presented in [Appendix C](#). A calculated airborne dust concentration over $320 \mu\text{g}/\text{m}^3$ would be needed to pose unacceptable chronic exposure over the project duration. RPS recommends setting a conservative dust action level at $50 \mu\text{g}/\text{m}^3$ for a daily average, and $250 \mu\text{g}/\text{m}^3$ for a 15-minute average. In the event that active stockpiles of contaminated soil or surface excavations are left overnight, the exposed portions will be properly covered with plastic to reduce dust emissions.

If odor is excessive and vapor emissions are detected, some or all of the following mitigation procedures may be implemented:

- Use of chemical suppressants mixed with water and applied using various applications such as spray or mist;
- Use of plastic sheeting to cover the sidewalls of the trench during non-active remedial activities will minimize the migration of VOCs and odors;
- Alternative work sequencing, such that excavation of soil with potential odor during mid-day or afternoon (during hot weather) is avoided;
- Any highly odorous soil could be segregated and placed inside a roll-off bin equipped with a lid. This will minimize the amount of highly odorous soil during loading; and
- Balancing the excavation with transportation so that the need for large stockpiles is reduced.

Other emissions include exhaust from remediation equipment. The equipment proposed for the Site remediation will be maintained properly so that exhaust emissions will be within acceptable standards.

5.3. Record Keeping

RPS will be responsible for maintaining a field logbook or form, which will serve to document observations, on-Site personnel, and other important project information including “in the field” deviations from expected protocols. The general contractor will be responsible for these activities upon completion of the remedial actions. Logbook or field entries will be complete and accurate enough to permit reconstruction of associated activities. Entries will be legible, written in black or blue ink, and signed by the author. Language will be factual and objective. If an error is made, corrections will be made by crossing a line through the error and entering the correct information. Corrections will be dated and initialed. Entries in the field logbook will include at a minimum the following for each fieldwork date:

- Site name and address;
- Recorder’s name;

- Team members and their responsibilities;
- Time of arrival/entry and time of departure;
- Other personnel on-Site;
- A summary of any on-Site meetings;
- Any deviations from the Draft RAW and HASP;
- Any changes in personnel and responsibilities as well as reasons for the changes;
- Levels of safety protection; and,
- Calibration readings for equipment used and equipment model and serial number.
- Photographs will be taken at each soil removal and consolidation area and other areas of on-Site interest. They will serve to verify information entered in the field logbook.

5.4. Field Variances

Any variances from the Draft RAW will be discussed with DTSC prior to actions taken except for emergencies (when an immediate response is required). The DTSC will be notified if an emergency response is implemented. The field variances will be documented in the *Removal Action Completion Report* (RACR) prepared for the project.

6.0 TRANSPORTATION PLAN

All transportation activities will be performed in strict compliance with all regulations and ordinances. A small portion of the impacted soil and waste material is anticipated to be classified as California or Federal hazardous waste. The hauling contractor(s) used to transport non-hazardous or hazardous waste will be fully licensed and permitted by the State of California. For hazardous waste haulers, the selected transportation company will be certified by the State of California as a hazardous waste hauler, and appropriately permitted to haul contaminated waste material. All Department of Transportation (DOT) and California Highway Patrol (CHP) safety regulations will be strictly followed by both hazardous and non-hazardous waste haulers.

Transportation equipment will be chosen to safely transport the expected volumes of soil, taking into consideration the types of roads to be traveled and their loading capacity. Routine truck maintenance and repairs will be performed at the contractor's premises prior to picking up loads of waste material from the Site.

Non-hazardous and hazardous material could be expected to be generated during remediation procedures. Material that is classified as non-hazardous will likely be transported to a San Francisco Bay Area Class II landfill. Material that is classified as hazardous waste will likely be

transported to the Waste Management, Inc., Kettleman Hills Landfill located at 35251 Old Skyline Road, Kettleman City, California, or approved alternative.

A detailed log of the loads hauled from the Site will be maintained. The log will include, at a minimum, the date and the time trucks were loaded and off-loaded, the destination, size (volume and weight) of the load, description of contents, name and signature of the hauler, and name and signature of the contractor's representative. The waste will be off-loaded for treatment or disposal in a manner consistent with current Federal, State, and local regulations. Shipments of hazardous waste will be tracked with the appropriate hazardous waste manifests.

During loading, dust and odor emissions will be monitored and mitigated as necessary. During transportation, the hauling trucks will be equipped to fully cover all soil and debris, such as with a heavy tarpaulin.

7.0 PUBLIC PARTICIPATION

This Draft RAW is subject to a 30-day public comment period. The public participation requirements for the RAW process include:

- Developing a community profile;
- Publishing a notice of the availability of the Draft RAW for public review and comment;
- Making the Draft RAW and other supporting documents available at DTSC's office and in the local information repository; and,
- Responding to public comments received on the Draft RAW and California Environmental Quality Act (CEQA) documents.
- A Fact Sheet will be sent out to the Site mailing list describing the Site and proposed remedial action.
- Site documents will be made available in electronic format on DTSC's publicly-accessible EnviroStor database.

Once the public comment period is completed, DTSC will review and respond to comments received. The Draft RAW will be revised, as necessary, to address comments received. If significant changes to the Draft RAW are required, it will be revised and be resubmitted to DTSC for public review and comment. If significant changes are not required to the Draft RAW, it will be modified, as necessary, and DTSC will approve the modified RAW for implementation.

8.0 CEQA DOCUMENTATION

The California Environmental Quality Act (CEQA) was modeled after the National Environmental Policy Act (NEPA) of 1969, was enacted in 1970 as a system of checks and balances for land-use development and management decisions in California. CEQA is an administrative procedure to ensure comprehensive environmental review of cumulative impacts prior to project approval. It has no agency enforcement tool, but allows challenge in courts.

A CEQA project has the potential to cause a direct physical change or a reasonably foreseeable indirect physical change in the environment. CEQA applies to discretionary projects proposed to be carried out or approved by California public agencies, unless an exemption applies.

Due to the limited nature of the proposed remedial action and minimal impacts to the Site and surrounding public, a CEQA exemption issued by the DTSC is likely appropriate, as a Class 4 exemption, minor alterations to land. As part of the approval process for the project, the DTSC may prepare a draft Notice of Exemption (NOE) and file the NOE with the Governor's Office of Planning and Research (OPR) to comply with the CEQA requirements.

9.0 REPORTING

Following completion of work presented in this Draft RAW, a Remedial Action Completion Report (RACR) will be prepared and submitted to DTSC for approval. The RACR will include: a description of the Site; a summary of the completed remedial activities, including the construction of caps for the Site; figures depicting the grading limits; conclusions; and recommendations. The RACR will provide comprehensive documentation that the remedial work was performed in accordance with applicable regulations and standard industry practices. In accordance with the PT&R Guidance (DTSC, 2008), the RACR will be stamped and signed by a professional engineer or geologist licensed in California with appropriate experience in hazardous substance site cleanups.

10.0 REFERENCES

California Environmental Protection Agency (Cal/EPA). (2016). Environmental Screening Levels. Excel spreadsheet file "ESL Workbook_22Feb16_Rev3". San Francisco Bay Regional Water Quality Control Board. February 22.

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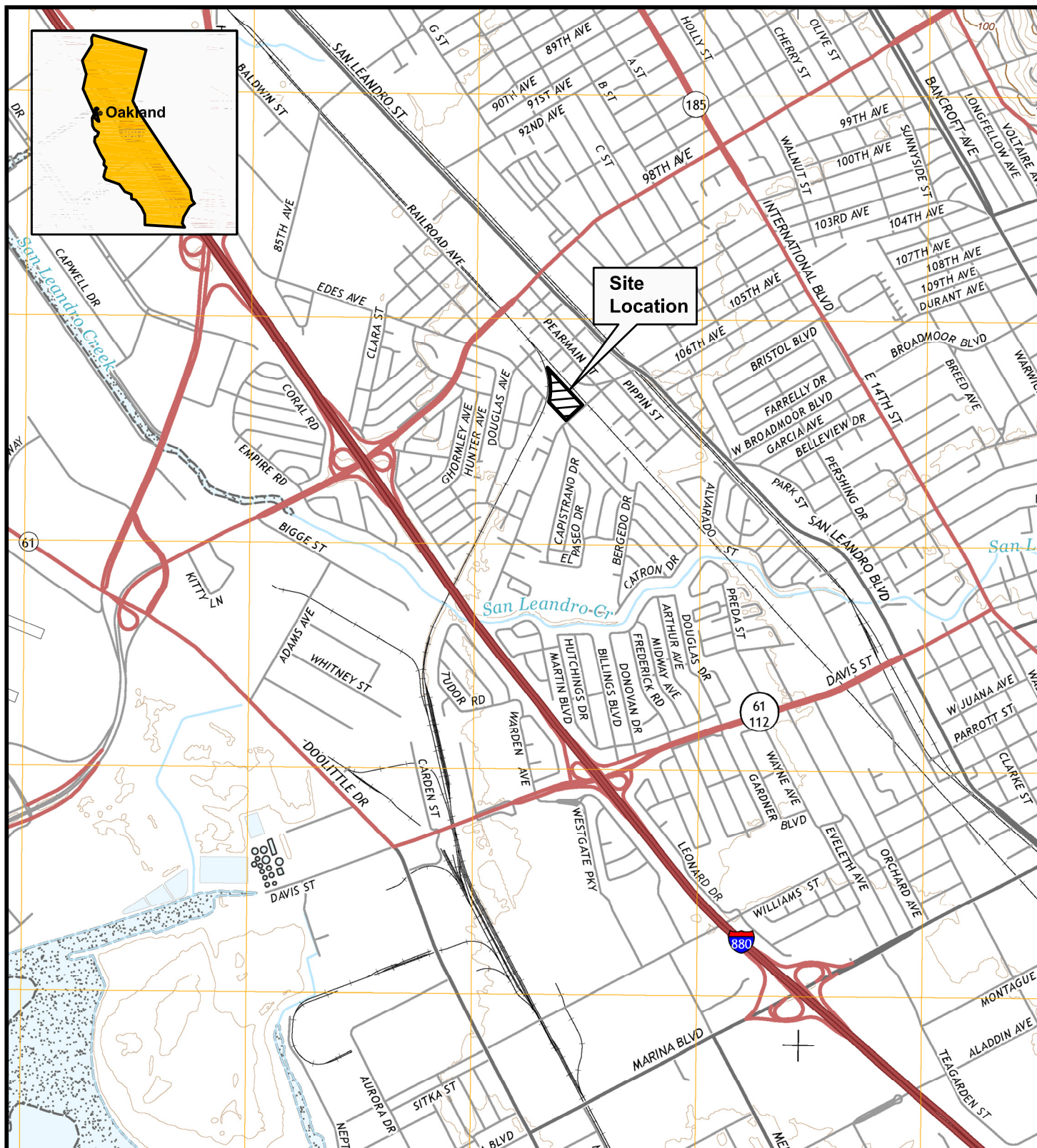
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- United States Environmental Protection Agency (USEPA). (1993). Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA.

FIGURES



SOURCE: USGS 7.5' QUADRANGLE, SAN LEANDRO, CALIFORNIA, 2015



0 1000 2000 4000
SCALE IN FEET

RPS Iris Environmental

1438 Webster Street, Suite 302, Oakland, California 94612
T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com | www.irisenv.com

Site Location Map
701-735 105th Avenue
Oakland, California

Figure

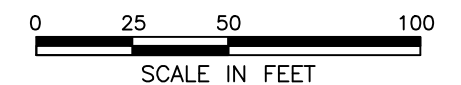
1



BASEMAP: NEARMAP MARCH 9, 2017

LEGEND:

- ▲ SOIL AND SOIL GAS SAMPLE LOCATION
(FEBRUARY 2017)
- ADDITIONAL SOIL SAMPLE LOCATION
(JUNE 2017)
- + TREE WELL/PLANTER BOX SOIL SAMPLE LOCATION
(AUGUST 2017)



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Site Layout including Soil and Soil Gas Sample Locations
701-735 105th Avenue
Oakland, California

Drafter: EC

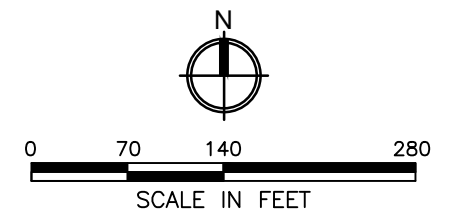
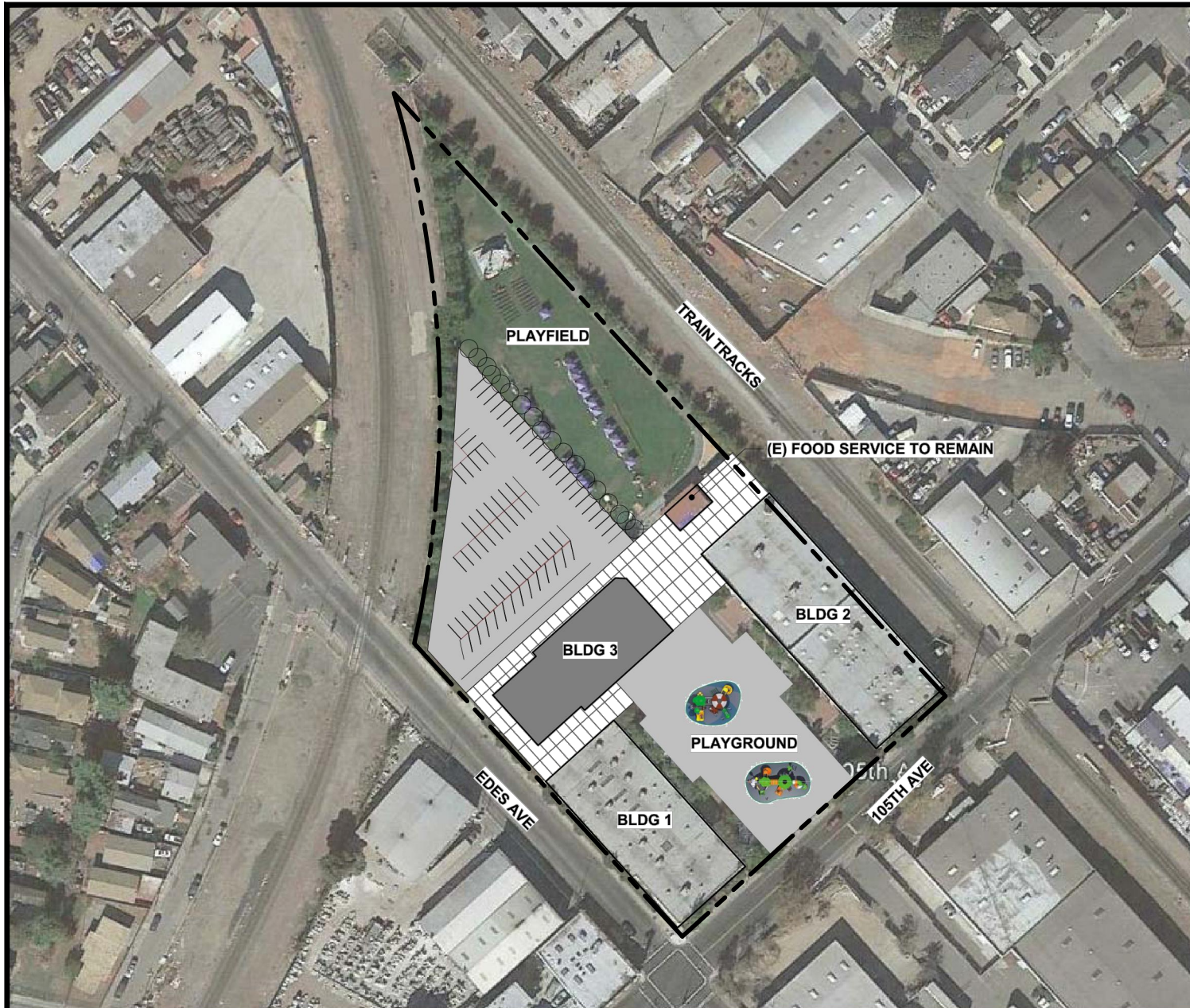
Date: 08/29/17

Figure

2

Contract Number: 17-1518E

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BASEMAP: HIBSER YAMAUCHI, ARCHITECTS, INC.



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T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com

Proposed Site Improvements Layout
701-735 105th Avenue
Oakland, California

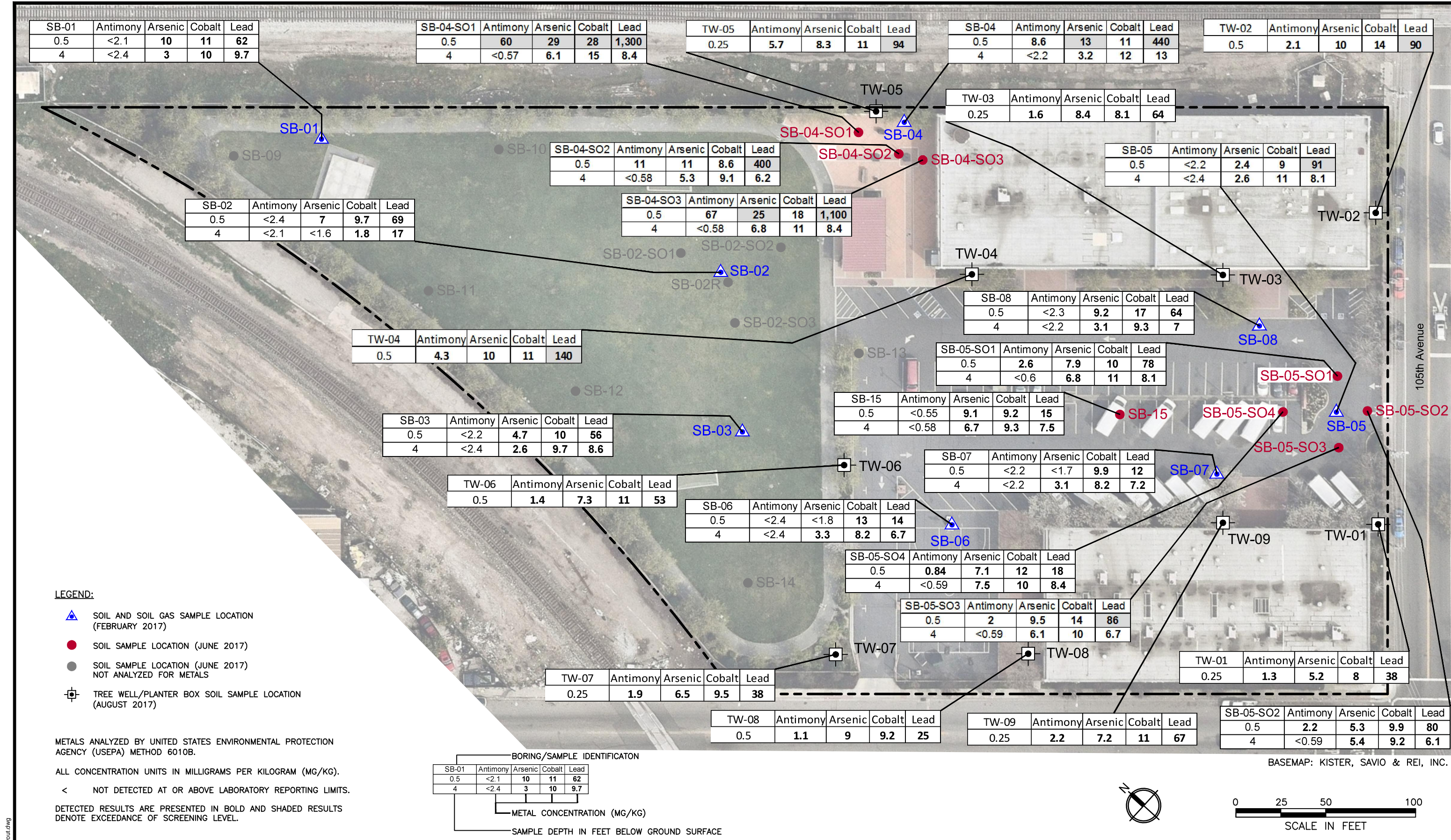
Figure

3

Drafter: EC

Date: 08/29/17

Contract Number: 17-1518E



LEGEND:

- SOIL AND SOIL GAS SAMPLE LOCATION (FEBRUARY 2017)
- SOIL SAMPLE LOCATION (JUNE 2017)
- SOIL SAMPLE LOCATION (JUNE 2017) NOT ANALYZED FOR METALS
- TREE WELL/PLANTER BOX SOIL SAMPLE LOCATION (AUGUST 2017)

METALS ANALYZED BY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) METHOD 6010B.

ALL CONCENTRATION UNITS IN MILLIGRAMS PER KILOGRAM (MG/KG).

< NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS.

DETECTED RESULTS ARE PRESENTED IN BOLD AND SHADED RESULTS DENOTE EXCEEDANCE OF SCREENING LEVEL.

BORING/SAMPLE IDENTIFICATION					
SB-01	Antimony	Arsenic	Cobalt	Lead	
0.5	<2.1	10	11	62	
4	<2.4	3	10	9.7	
METAL CONCENTRATION (MG/KG)					
SAMPLE DEPTH IN FEET BELOW GROUND SURFACE					

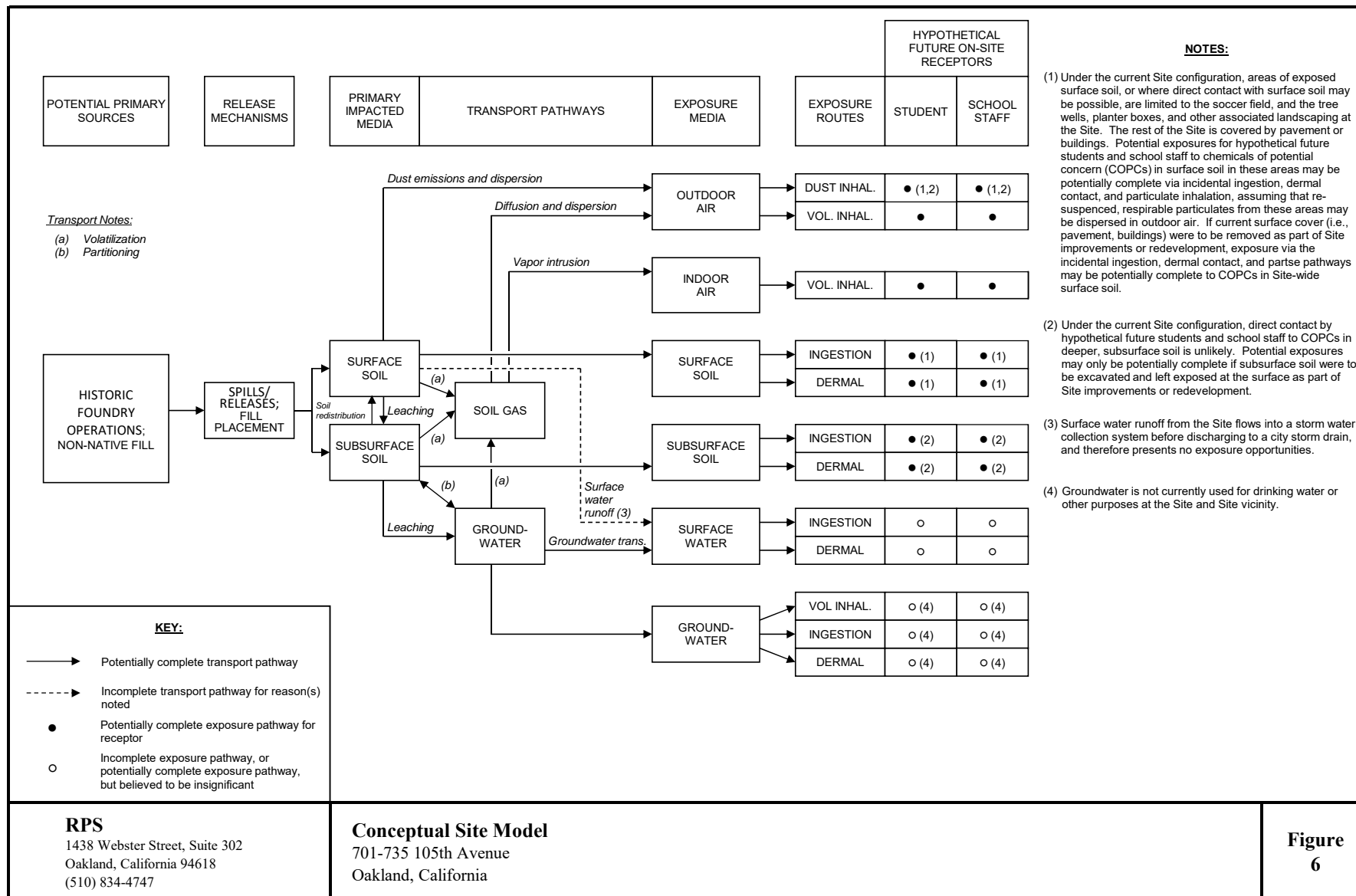
BASEMAP: KISTER, SAVIO & REI, INC.



Formerly Iris Environmental

1438 Webster Street, Suite 302, Oakland, California 94612
T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com

Antimony, Arsenic, Cobalt, and Lead in Soil
701-735 105th Avenue
Oakland, California



TABLES

TABLE 1
Summary of Sampling and Analysis
701-735 105th Avenue
Oakland, California

Boring	Sample Depths (feet bgs)	Sampling Matrix		Analyses									Rationale
		Soil	Soil Gas	SVOCs (including PAHs)	Metals	PCBs	Pesticides	TPH-g	TPH-d/mo ¹	Asbestos	TO-15	Helium	
February 2017 investigation													
SB-01	0.5	X		X	X			X	X	X			Foundry operations: cleaning, welding, rail spur
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-02	0.5	X		X	X			X	X	X			Foundry operations: main plant, proximity to ovens
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-03	0.5	X		X	X			X	X	X			Foundry machine shop
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-04	0.5	X		X	X			X	X	X			Foundry operations, rail spur, and vapor intrusion assessment of existing building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-05	0.5	X		X	X			X	X	X			Foundry operations: oil and gas storage
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-06	0.5	X		X	X			X	X	X			Foundry satellite buildings, and vapor intrusion assessment of planned future building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-07	0.5	X		X	X			X	X	X			Foundry satellite buildings, and vapor intrusion assessment of existing building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-08	0.5	X		X	X			X	X	X			Foundry operations, and vapor intrusion assessment of existing building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
June 2017 investigation													
SB-02-R	0.5	X		X									Delineate PAH's, re-drill SB-02 to see where the black sand encountered at 4 feet bgs stops, collect native soil sample directly underneath sand.
	4.0	X		X									
	8.0	X		X									
SB-02-SO-1	0.5	X		X									Step-out boring for PAHs in soil
	4.0	X		X									
SB-02-SO-2	0.5	X		X									Step-out boring for PAHs in soil
	4.0	X		X									
SB-02-SO-3	0.5	X		X									Step-out boring for PAHs in soil
	4.0	X		X									
SB-04-SO-1	0.5	X		X	X								Step-out boring for PAHs and Metals in soil
	4.0	X		X	X								
SB-04-SO-2	0.5	X		X	X								Step-out boring for PAHs and Metals in soil
	4.0	X		X	X								

TABLE 1
Summary of Sampling and Analysis
701-735 105th Avenue
Oakland, California

Boring	Sample Depths (feet bgs)	Sampling Matrix		Analyses									Rationale
		Soil	Soil Gas	SVOCs (including PAHs)	Metals	PCBs	Pesticides	TPH-g	TPH-d/mo ¹	Asbestos	TO-15	Helium	
SB-04-SO-3	0.5	X		X	X								Step-out boring for PAHs and Metals in soil
	4.0	X		X	X								
SB-05-SO-1	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-05-SO-2	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-05-SO-3	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-05-SO-4	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-09	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-10	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-11	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-12	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
	7.0	X		X									
SB-13	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-14	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-15	0.5	X		X	X								Boring to investigate PAHs and Metals in soil
	4.0	X		X	X								
August 2017 tree well/planter box investigation													
TW-01	0.25	X			X	X	X						Potential historical use of lead-based paint and window caulking (which may contain PCBs) on the Site buildings, and pesticides
TW-02	0.5	X			X	X	X						
TW-03	0.25	X			X	X	X						
TW-04	0.5	X			X	X	X						
TW-05	0.25	X			X	X	X						
TW-06	0.5	X			X	X	X						

TABLE 1
Summary of Sampling and Analysis
701-735 105th Avenue
Oakland, California

Boring	Sample Depths (feet bgs)	Sampling Matrix		Analyses									Rationale
		Soil	Soil Gas	SVOCs (including PAHs)	Metals	PCBs	Pesticides	TPH-g	TPH-d/mo ¹	Asbestos	TO-15	Helium	
TW-07	0.25	X			X	X	X						Potential historical use of lead-based paint and window caulking (which may contain PCBs) on the Site buildings, and pesticides
TW-08	0.5	X			X	X	X						
TW-09	0.25	X			X	X	X						

Notes:

1. TPH-d/mo are both run with silica gel cleanup

bgs = below ground surface

SVOCs = Semivolatile Organic Compounds by EPA Method 8270

Metals = Title 22 metals by EPA Method 6010/7470

PCBs = Polychlorinated Biphenyls by EPA Method 8082

Pesticides = Pesticides by EPA Method 8081A

TPH-g = Gasoline-range Total Petroleum Hydrocarbons by EPA Method 8015

TPH-d = Diesel-range Total Petroleum Hydrocarbons by EPA Method 8015

TPH-mo = Motor Oil-range Total Petroleum Hydrocarbons by EPA Method 8015

Asbestos = Asbestos by Polarized Light Microscopy

TO-15 = Volatile organic compounds in gas by EPA Method TO-15

Helium = by ASTM Method D1946

TABLE 2a
Analytical Data: Total Petroleum Hydrocarbons in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet bgs)	TPH-Diesel	TPH-Motor Oil
<i>Residential Site Use Screening Level ²</i>				230	11,000
SB-01	SB-01-0.5	2/16/2017	0.5	29 Y	150
	SB-01-4.0	2/16/2017	4	<1.2	<6.1
SB-02	SB-02-0.5	2/16/2017	0.5	41 Y	280
	SB-02-4.0	2/16/2017	4	37 Y	240
SB-03	SB-03-0.5	2/16/2017	0.5	27 Y	200
	SB-03-4.0	2/16/2017	4	<1.2	9.4
SB-04	SB-04-0.5	2/16/2017	0.5	34 Y	210
	SB-04-4.0	2/16/2017	4	<1.2	<6
SB-05	SB-05-0.5	2/16/2017	0.5	110 Y	580
	SB-05-4.0	2/16/2017	4	<1.2	29
SB-06	SB-06-0.5	2/16/2017	0.5	<1.2	<6
	SB-06-4.0	2/16/2017	4	3.2 Y	60
SB-07	SB-07-0.5	2/16/2017	0.5	4.2 Y	78
	SB-07-4.0	2/16/2017	4	3.1 Y	79
SB-08	SB-08-0.5	2/16/2017	0.5	87 Y	550
	SB-08-4.0	2/16/2017	4	<1.2	<6

Notes:

1. Total petroleum hydrocarbons (TPH) analyzed by United States Environmental Protection Agency (USEPA) Method 8015B. All concentration units in milligrams per kilogram (mg/kg).

2. San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Levels (ESLs) - Table S-1, direct exposure screening levels, residential land use (SFBRWQCB 2016) for TPH-diesel (diesel C10-C24) and TPH-motor oil (motor oil C24-C36).

< = not detected at or above laboratory reporting limit

bgs = below ground surface

Y = Sample exhibits chromatographic pattern which does not resemble standard.

Detected results are presented in **bold**.

References:

San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2016. *Environmental Screening Levels (ESLs)*. February (Rev. 3).

TABLE 2b
Analytical Data: Polycyclic Aromatic Hydrocarbons in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet bgs)	Non-Carcinogenic PAHs								Carcinogenic PAHs ²							
				Acenaph-thene	Acenaph-thylene	Anthracene	Benzo(g,h,i)-perylene	Fluoranthene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b)-fluoranthene	Benzo(k)-fluoranthene	Chrysene	Dibenz (a,h)-anthracene	Indeno(1,2,3-c,d)-pyrene	Benzo(a)pyrene Equivalent (BaPe) ³
Benzo(a)Pyrene Potency Equivalent Factor (PEF) ⁴				NA	NA	NA	NA	NA	NA	NA	NA	0.1	1	0.1	0.1	0.01	0.34	0.1	NA
Residential Site Use Screening Level ⁵				3,600	3,600 ⁶	18,000	1,800 ⁷	2,400	3.8	18,000 ⁸	1,800	--	--	--	--	--	--	--	0.92 ⁹
SB-01	SB-01-0.5	2/16/2017	0.5	<0.036	<0.036	<0.036	1	0.64	<0.036	0.15	0.76	0.68	1.2	1.5	0.5	1	0.34	0.92	1.7
	SB-01-4.0	2/16/2017	4	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	0.0054 U
SB-02	SB-02-0.5	2/16/2017	0.5	<0.12	<0.12	<0.12	1.4	0.73	<0.12	0.16	0.91	0.8	1.8 b	1.8	0.56	1.3	0.42	1.2	2.4
	SB-02-4.0	2/16/2017	4	<0.28	<0.28	<0.28	11	2.8	<0.28	0.68	3	3.1	6.5 b	12	2.8	6.1	4	10	11
SB-02R	SB-02R-8.0	6/7/2017	8	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-02-SO1	SB-02-SO1-0.5	6/7/2017	0.5	<0.012	0.014	<0.012	0.13	0.24	<0.012	0.11	0.3	0.1	0.17	0.22	0.13	0.2	0.023	0.11	0.24
	SB-02-SO1-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-02-SO2	SB-02-SO2-0.5	6/7/2017	0.5	<0.011	<0.011	<0.011	0.042	0.066	<0.011	0.025	0.069	0.027	0.049	0.064	0.033	0.057	<0.011	0.033	0.067
	SB-02-SO2-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-02-SO3	SB-02-SO3-0.5	6/7/2017	0.5	<0.22	<0.22	<0.22	0.84	0.46	<0.22	<0.22	0.64	0.51	0.84	1	0.52	0.78	<0.22	0.67	1.2
	SB-02-SO3-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-03	SB-03-0.5	2/16/2017	0.5	<0.058	<0.058	<0.058	0.72	0.52	<0.058	0.14	0.62	0.54	1 b	1.1	0.34	0.81	0.24	0.63	1.4
	SB-03-4.0	2/16/2017	4	<0.006	<0.006	<0.006	0.046	0.027	<0.006	0.0064	0.032	0.03	0.05 b	0.068	0.023	0.049	0.015	0.041	0.072
SB-04	SB-04-0.5	2/16/2017	0.5	<0.035	<0.035	0.059	0.82	0.79	<0.035	0.22	0.87	0.75	1.2 b	1.5	0.43	1	0.27	0.79	1.6
	SB-04-4.0	2/16/2017	4	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	0.0053 U
SB-04-SO1	SB-04-SO1-0.5	6/7/2017	0.5	<0.021	0.066	0.076	0.95	0.89	0.03	0.43	1.1	0.57	0.88	1.2	0.7	0.9	0.15	0.74	1.3
	SB-04-SO1-4.0	6/7/2017	4	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	0.0096 U
SB-04-SO2	SB-04-SO2-0.5	6/7/2017	0.5	<0.011	0.02	0.021	0.33	0.31	0.016	0.16	0.42	0.21	0.32	0.46	0.26	0.35	0.056	0.27	0.46
	SB-04-SO2-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-04-SO3	SB-04-SO3-0.5	6/7/2017	0.5	0.024	0.07	0.078	1.2	1.1	0.036	0.49	1.3	0.72	1.1	1.5	0.71	1.2	0.19	0.93	1.6
	SB-04-SO3-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-05	SB-05-0.5	2/16/2017	0.5	<0.056	<0.056	<0.056	0.6	0.64	<0.056	0.17	0.71	0.61	0.86 b	1.2	0.33	0.93	0.21	0.56	1.2
	SB-05-4.0	2/16/2017	4	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.021 U
SB-06	SB-06-0.5	2/16/2017	0.5	<0.006	<0.006	<0.006	0.16	0.16	<0.006	0.036	0.18	0.16	0.23 b	0.33	0.095	0.26	0.058	0.15	0.33
	SB-06-4.0	2/16/2017	4	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	0.0054 U
SB-07	SB-07-0.5	2/16/2017	0.5	<0.0055	<0.0055	<0.0055	0.025	0.037	<0.0055	0.0084	0.038	0.033	0.043 b	0.053	0.019	0.042	0.0085	0.022	0.059
	SB-07-4.0	2/16/2017	4	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	0.0052 U
SB-08	SB-08-0.5	2/16/2017	0.5	<0.03	<0.03	<0.03	0.31	0.27	<0.03	0.065	0.27	0.22	0.32	0.45	0.12	0.34	0.1	0.26	0.46
	SB-08-4.0	2/16/2017	4	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0053 U
SB-09	SB-09-0.5	6/7/2017	0.5	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.19 U
	SB-09-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	0.017	<0.012	<0.012	0.022	0.016	<0.012	0.016	<0.012	0.012	<0.012	<0.012	0.013
SB-10	SB-10-0.5	6/7/2017	0.5	<0.053	<0.053	<0.053	0.54	0.42	<0.053	0.13	0.56	0.41	0.61	0.77	0.37	0.6	0.098	0.43	0.85
	SB-10-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-11	SB-11-0.5	6/7/2017	0.5	<0.022	<0.022	<0.022	0.49	0.26	<0.022	0.079	0.34	0.25	0.46	0.66	0.27	0.44	0.095	0.42	0.66
	SB-11-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	0.016	<0.012	<0.012	0.017	<0.012	<0.012	0.013	<0.012	<0.012	<0.012	<0.012	0.011
SB-12	SB-12-0.5	6/7/2017	0.5	<0.057	<0.057	<0.057	0.92	0.53	<0.057	0.16	0.64	0.47	0.82	1.3	0.54	0.78	0.17	0.78	1.2
	SB-12-4.0	6/7/2017	4	<0.23	<0.23	<0.23	11	2.7	<0.23	0.82	4.2	4	8.6	11	4.7	6.1	2.3	10	12
	SB-12-7.0	6/7/2017	7	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	0.0096 U
SB-13	SB-13-0.5	6/7/2017	0.5	<0.11	<0.11	<0.11	0.53	0.3	<0.11	<0.11	0.41	0.34	0.62	0.8	0.23	0.44	0.12	0.48	0.85
	SB-13-4.0	6/7/2017	4	<0.22	<0.22	<0.22	0.41	0.23	<0.22	<0.22	0.36	0.31	0.38	0.56	<0.22	0.38	<0.22	0.38	0.56
SB-14	SB-14-0.5	6/7/2017	0.5	<0.22	<0.22	<0.22	0.56	0.3	<0.22	<0.22	0.44	0.39	0.57	0.74	0.31	0.44	<0.22	0.46	0.8
	SB-14-4.0	6/7/2017	4	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	0.0096 U
SB-15	SB-15-0.5	6/7/2017	0.5	<0.011	<0.011	<0.011	0.13	0.12	<0.011	0.043	0.15	0.093	0.13	0.2	0.11	0.16	0.024	0.11	0.19
	SB-15-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U

TABLE 2b
Analytical Data: Polycyclic Aromatic Hydrocarbons in Soil ¹
701-735 105th Avenue
Oakland, California

Notes:

1. Polycyclic aromatic hydrocarbons (PAHs) were analyzed by United States Environmental Protection Agency (USEPA) Method 8270 SIM. All concentration units in milligrams per kilogram (mg/kg).
 2. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene are collectively referred to as the carcinogenic PAHs. Although naphthalene is also carcinogenic, it is evaluated separately using the USEPA Regional Screening Level (RSL) for naphthalene because its carcinogenicity is not dependent on benzo(a)pyrene.
 3. Benzo(a)pyrene equivalent (BaPe) is calculated as the summation of the potency equivalency factors (PEFs) multiplied by the concentrations of the carcinogenic PAHs. One-half the reporting limit value was used in the BaPe concentration calculations for non-detect results.
 4. PEFs obtained from California Environmental Protection Agency (Cal/EPA) guidance (2011), as developed by the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) (Cal/EPA 1993, 2002).
 5. USEPA Regional Screening Levels (RSLs) for Residential Soil (USEPA 2017), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2017), except where noted.
 6. No RSL available. Residential RSL for acenaphthene selected as surrogate value.
 7. No RSL available. Residential RSL for pyrene selected as surrogate value.
 8. No RSL available. Residential RSL for anthracene selected as surrogate value.
 9. Represents the 95th percentile value of BaPe from the ambient, carcinogenic PAH data set for Northern California (Cal/EPA 2009).
- = Carcinogenic PAHs evaluated using BaPe concentrations and applicable ambient-based screening level (0.92 mg/kg [see footnote 8]).

< = not detected at or above laboratory reporting limits

b = High response was observed for benzo(a)pyrene in the continuing calibration verification (CCV) sample analyzed. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

bgs = below ground surface

NA = not applicable

U = carcinogenic PAHs not detected. The BaPe value presented is based on using one-half the reporting limit values for the non-detect results.

Detected results are presented in **bold** and shaded results denote exceedance of screening level.

References:

California Environmental Protection Agency (Cal/EPA). 1993. *Benzo(a)pyrene as a Toxic Air Contaminant. Part B. Health Effects of Benzo(a)pyrene.* Air Toxicology and Epidemiology Section, Berkeley, CA.

Cal/EPA. 2002. *Air Toxics Hot Spot Guidelines – Part II Technical Support Document for Describing Available Cancer Potency Factors.* Office of Environmental Health Hazard Assessment (OEHHA).

Cal/EPA. 2009. *Use of the Northern and Southern California Polynuclear Aromatic Hydrocarbon (PAH) Studies in the Manufactured Gas Plant Site Cleanup Process.* Department of Toxic Substances Control (DTSC). July 1.

Cal/EPA. 2011. *DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 4, Screening Level Human Health Risk Assessments.* Department of Toxic Substances Control (DTSC). June 9.

Cal/EPA. 2017. *DTSC-modified Screening Levels (DTSC-SLs).* Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO). June.

United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June.* Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

TABLE 2c
Analytical Data: Metals in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Vanadium	Zinc
Residential Site Use Screening Level ²				31	11 ³	15,000	15 ⁴	5.2 ⁴	36,000 ^{4,5}	23	3,100	80 ⁴	23	390	490 ⁴	390	390	390	23,000
SB-01	SB-01-0.5	2/16/2017	0.5	<2.1	10	300	0.43	0.85	40	11	68	62	0.13	0.57	46	<2.1	<0.27	56	170
	SB-01-4.0	2/16/2017	4	<2.4	3	160	0.5	0.32	43	10	18	9.7	0.045	<0.3	52	<2.4	<0.3	43	61
SB-02	SB-02-0.5	2/16/2017	0.5	<2.4	7	320	0.74	0.85	66	9.7	71	69	0.071	0.6	40	<2.4	<0.3	62	200
	SB-02-4.0	2/16/2017	4	<2.1	<1.6	42	0.14	0.28	15	1.8	21	17	<0.019	17	13	<2.1	<0.27	7.9	22
SB-03	SB-03-0.5	2/16/2017	0.5	<2.2	4.7	350	0.44	0.67	48	10	58	56	0.24	<0.27	37	<2.2	<0.27	56	150
	SB-03-4.0	2/16/2017	4	<2.4	2.6	220	0.59	0.42	46	9.7	25	8.6	0.072	<0.29	54	<2.4	<0.29	47	73
SB-04	SB-04-0.5	2/16/2017	0.5	8.6	13	220	0.42	3.4	62	11	320	440	0.75	0.93	51	<2.2	<0.3	51	1,000
	SB-04-4.0	2/16/2017	4	<2.2	3.2	220	0.64	0.46	53	12	29	13	0.079	<0.27	62	<2.2	<0.27	54	79
SB-04-SO1	SB-04-SO1-0.5	6/7/2017	0.5	60	29	670	<0.54	2.2	50	28	390	1,300	2.1	2.6	60	<0.54	0.66	63	840
	SB-04-SO1-4.0	6/7/2017	4	<0.57	6.1	220	<0.57	0.3	39	15	24	8.4	<0.019	0.59	51	<0.57	<0.57	38	71
SB-04-SO2	SB-04-SO2-0.5	6/7/2017	0.5	11	11	190	<0.56	1.4	40	8.6	240	400	0.46	1.7	41	<0.56	<0.56	32	400
	SB-04-SO2-4.0	6/7/2017	4	<0.58	5.3	200	<0.58	<0.29	37	9.1	28	6.2	0.023	<0.58	44	<0.58	<0.58	33	62
SB-04-SO3	SB-04-SO3-0.5	6/7/2017	0.5	67	25	420	<0.55	4.2	120	18	540	1,100	1.3	5.1	93	<0.55	0.82	56	1,100
	SB-04-SO3-4.0	6/7/2017	4	<0.58	6.8	220	<0.58	0.33	46	11	28	8.4	0.051	<0.58	53	<0.58	<0.58	39	71
SB-05	SB-05-0.5	2/16/2017	0.5	<2.2	2.4	400	0.41	0.86	61	9	96	91	0.22	0.32	43	<2.2	<0.3	42	280
	SB-05-4.0	2/16/2017	4	<2.4	2.6	210	0.57	0.35	45	11	23	8.1	0.049	<0.29	53	<2.4	<0.29	46	54
SB-05-SO1	SB-05-SO1-0.5	6/7/2017	0.5	2.6	7.9	360	<0.55	0.54	47	10	65	78	0.16	1.8	38	<0.55	<0.55	42	200
	SB-05-SO1-4.0	6/7/2017	4	<0.6	6.8	230	<0.6	0.32	44	11	26	8.1	0.054	<0.6	60	<0.6	<0.6	40	60
SB-05-SO2	SB-05-SO2-0.5	6/7/2017	0.5	2.2	5.3	870	<0.55	0.97	100	9.9	57	80	0.059	0.86	39	<0.55	<0.55	34	350
	SB-05-SO2-4.0	6/7/2017	4	<0.59	5.4	190	<0.59	<0.29	38	9.2	21	6.1	0.048	<0.59	51	<0.59	<0.59	33	47
SB-05-SO3	SB-05-SO3-0.5	6/7/2017	0.5	2	9.5	300	<0.55	0.44	89	14	130	86	0.1	1.5	44	<0.55	<0.55	35	160
	SB-05-SO3-4.0	6/7/2017	4	<0.59	6.1	200	<0.59	<0.3	39	10	23	6.7	0.048	<0.59	51	<0.59	<0.59	36	51
SB-05-SO4	SB-05-SO4-0.5	6/7/2017	0.5	0.84	7.1	390	0.59	0.5	52	12	31	18	0.074	0.74	64	<0.59	<0.59	45	83
	SB-05-SO4-4.0	6/7/2017	4	<0.59	7.5	220	0.59	<0.29	48	10	29	8.4	0.025	<0.59	54	<0.59	<0.59	44	67
SB-06	SB-06-0.5	2/16/2017	0.5	<2.4	<1.8	230	0.67	0.46	140	13	50	14	0.042	<0.32	56	<2.4	<0.32	66	75
	SB-06-4.0	2/16/2017	4	<2.4	3.3	190	0.5	0.48	37	8.2	29	6.7	0.039	<0.3	42	<2.4	<0.3	37	88
SB-07	SB-07-0.5	2/16/2017	0.5	<2.2	<1.7	130	0.46	0.37	39	9.9	27	12	0.05	<0.28	31	<2.2	<0.28	45	71
	SB-07-4.0	2/16/2017	4	<2.2	3.1	180	0.5	0.3	38	8.2	21	7.2	0.043	<0.27	42	<2.2	<0.27	43	53
SB-08	SB-08-0.5	2/16/2017	0.5	<2.3	9.2	250	0.48	0.76	120	17	130	64	0.11	<0.29	46	3.2	<0.29	50	140
	SB-08-4.0	2/16/2017	4	<2.2	3.1	180	0.46	0.28	35	9.3	20	7	0.034	<0.28	42	<2.2	<0.28	40	48
SB-15	SB-15-0.5	6/7/2017	0.5	<0.55	9.1	620	<0.55	<0.27	27	9.2	42	15	0.18	0.6	27	<0.55	<0.55	48	100
	SB-15-4.0	6/7/2017	4	<0.58	6.7	200	<0.58	<0.29	40	9.3	22	7.5	0.045	<0.58	50	<0.58	<0.58	40	58
Tree Well/Planter Box Soil Samples																			
TW-01	TW-01	8/16/2017	0.25	1.3	5.2	180	<0.68	0.41	40	8	85	38	0.11	3.1	37	<0.68	<0.68	34	180
TW-02	TW-02	8/16/2017	0.5	2.1	10	140	<0.52	0.79	75	14	140	90	0.27	1.8	54	<0.52	<0.52	71	270
TW-03	TW-03	8/16/2017	0.25	1.6	8.4	240	<0.58	0.44	32	8.1	46	64	0.16	0.89	32	<0.58	<0.58	35	160
TW-04	TW-04	8/16/2017	0.5	4.3	10	310	0.65	0.62	49	11	95	140	0.31	1.1	50	<0.57	<0.57	49	220
TW-05	TW-05	8/16/2017	0.25	5.7	8.3	260	<0.52	0.62	51	11	85	94	0.24	1.4	49	<0.52	<0.52	48	220
TW-06	TW-06	8/16/2017	0.5	1.4	7.3	370	<0.54	0.37	51	11	56	53	0.12	0.91	44	<0.54	<0.54	49	130
TW-07	TW-07	8/16/2017	0.25	1.9	6.5	200	<0.51	0.35	40	9.5	50	38	0.1	1.3	43	<0.51	<0.51	37	110
TW-08	TW-08	8/16/2017	0.5	1.1	9	130	<0.55	<0.28	42	9.2	34	25	0.082	0.91	43	<0.55	<0.55	40	95
TW-09	TW-09	8/16/2017	0.25	2.2	7.2	540	<0.54	0.49	45	11	72	67	0.15	2.5	45	<0.54	<0.54	39	220

TABLE 2c
Analytical Data: Metals in Soil ¹
701-735 105th Avenue
Oakland, California

Notes:

- 1. Inorganics analyzed by United States Environmental Protection Agency (USEPA) Method 6010B and 7471A (mercury only). All concentration units in milligrams per kilogram (mg/kg).
- 2. USEPA Regional Screening Levels (RSLs) for Residential Soil (USEPA 2017), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2017), except where noted.
- 3. Ambient-based screening level recommended by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), based on a 99th percentile upper estimate of regional background concentrations of arsenic (Duvergé 2011).
- 4. DTSC-modified screening level (DTSC-SL) for residential soil (Cal/EPA 2017).
- 5. It was assumed that any chromium at the Site is present in the trivalent form as there are no documented sources of hexavalent chromium. Screening level for trivalent chromium was therefore selected as the screening level for "chromium."

< = not detected at or above laboratory reporting limits

bgs = below ground surface

Detected results are presented in **bold** and shaded results denote exceedance of screening level.

References:

California Environmental Protection Agency (Cal/EPA). 2017. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO).
Duvergé, D.J. 2011. *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*. Master's thesis, San Francisco State University. http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/2011_Arsenic_Background_Duverge.pdf
United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June*. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

TABLE 2d
Analytical Data: Polychlorinated Biphenyls and Pesticides in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth	Aroclor 1254	Aroclor 1260	Chlordane (gamma)
<i>Residential Site Use Screening Level ²</i>				0.24	0.24	0.44 ³
TW-01	TW-01	8/16/2017	0.25	<0.0064	0.023	<0.11
TW-02	TW-02	8/16/2017	0.5	<0.005	0.047	<0.044
TW-03	TW-03	8/16/2017	0.25	<0.0057	0.02	<0.05
TW-04	TW-04	8/16/2017	0.5	0.044	0.035	0.073
TW-05	TW-05	8/16/2017	0.25	0.034	0.032	<0.045
TW-06	TW-06	8/16/2017	0.5	<0.0054	0.022	<0.095
TW-07	TW-07	8/16/2017	0.25	<0.005	0.014	<0.044
TW-08	TW-08	8/16/2017	0.5	<0.0055	0.013	<0.049
TW-09	TW-09	8/16/2017	0.25	<0.0053	0.014	<0.094

Notes:

1. Polychlorinated Biphenyls (PCBs) and Pesticides analyzed by United States Environmental Protection Agency (USEPA) Methods 8082 and 8081A, respectively. All concentration units in milligrams per kilogram (mg/kg).
2. USEPA Regional Screening Levels (RSLs) for Residential Soil (USEPA 2017), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2017), except where noted.
3. DTSC-modified screening level (DTSC-SL) for residential soil (Cal/EPA 2017).
 < = not detected at or above laboratory reporting limits
 Detected results are presented in **bold**.

References:

California Environmental Protection Agency (Cal/EPA). 2017. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO). June.

United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June*. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

TABLE 3
Analytical Data: Volatile Organic Compounds in Soil Gas ¹
701-735 105th Avenue
Oakland, California

Location ID	Sample ID	Sampling Date	Sample Type	1,1,1-Trichloro-ethane	1,3-Butadiene	2-Butanone	Acetone	Benzene	Carbon Disulfide	Cyclo-hexane	Ethyl-benzene	Iso-propanol	m,p-Xylenes	n-Heptane	n-Hexane	o-Xylene	Tetra-chloro-ethene	Tetra-hydro-furan	Toluene
Residential Site Use Screening Level ²				500,000 ³	8.5 ³	2,600,000	16,000,000	49 ³	370,000	3,200,000	550	110,000	50,000	210,000	370,000	50,000	230 ³	1,100,000	160,000 ³
SB-01	SB-01-SG	2/16/2017	N	<6.7	3.2	5.8	76	<3.9	<3.8	5.1	<5.3	56	7.1	6	9.7	<5.3	<8.3	<3.6	18
SB-02	SB-02-SG	2/16/2017	N	400	<2.2	<3	12	<3.2	<3.1	<3.5	<4.4	43	<4.4	25	130	<4.4	<6.9	<3	<3.8
SB-03	SB-03-SG	2/16/2017	N	11	8.8	8	130	13	3.4	21	10	59	40	20	47	10	<7.1	4	100
SB-03	SB-03-SG	2/16/2017	FD	12	5.9	7.2	140	13	3.6	25	10	55	40	20	50	10	<7.4	4.1	110
SB-04	SB-04-SG	2/16/2017	N	<5.4	<2.2	6.4	85	<3.1	3.7	<3.4	<4.3	29	<4.3	62	80	<4.3	30	<2.9	8.3
SB-05	SB-05-SG	2/16/2017	N	<15	10	<8.4	97	18	18	21	13	30	28	320	1,200	<12	<19	<8.4	100
SB-06	SB-06-SG	2/16/2017	N	<5.1	2.7	10	120	15	<2.9	4.9	17	37	56	86	170	13	9.9	3.3	150
SB-07	SB-07-SG	2/16/2017	N	<4.8	<1.9	4.7	72	<2.8	<2.7	<3	<3.8	27	<3.8	<3.6	<3.1	<3.8	12	<2.6	3.8
SB-08	SB-08-SG	2/16/2017	N	<5.5	<2.2	8.9	120	<3.2	<3.1	<3.5	<4.4	20	9	<4.1	<3.5	<4.4	73	<3	16

Notes:

1. Volatile organic compounds (VOCs) analyzed by United States Environmental Protection Agency (USEPA) Method TO-15. All concentration units in micrograms per cubic meter (µg/m³) and sampled at 5 feet below ground surface.
2. Residential soil gas screening levels are based on USEPA Regional Screening Levels (RSLs) for air (USEPA 2016), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2016), except where noted. Residential soil gas screening levels were derived from residential air screening levels by dividing the air screening level by the DTSC default soil gas-to-indoor air attenuation factor for current residential buildings of 0.002 (Cal/EPA 2011). The attenuation factor represents the ratio between indoor air concentration and soil gas concentration, as follows:

$$\alpha = \frac{C_{\text{indoor}}}{C_{\text{soil gas}}}$$

where:

C_{indoor} = Indoor air concentration (µg/m³)

C_{soil gas} = Soil gas concentration (µg/m³)

3. Based on DTSC-modified screening level (DTSC-SL) for residential air (Cal/EPA 2017). Soil gas screening level calculated as described in Note 2 above.

< = not detected at or above laboratory reporting limits

FD = Duplicate sample

N = Primary sample

Detected results are presented in **bold** and shaded results denote exceedance of screening level.

References:

California Environmental Protection Agency (Cal/EPA). 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)* . Department of Toxic Substances Control (DTSC). October.

Cal/EPA. 2017. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO). June.

United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June*. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table 4. Applicable or Relevant and Appropriate Requirements (ARARs) and To-be-considered Criteria (TBC)

<u>Requirement</u>	<u>Description</u>	<u>ARAR or TBC</u>
Bay Area Air Quality Management District (BAAQMD) Regulation 2 Rule 5 - New Source Review of Air Contaminants	Purpose of Rule is to control emissions of asbestos to the atmosphere during demolition, renovation, milling and manufacturing and establish appropriate waste disposal procedures	Rule is an ARAR as the Site is considered a new source of potential air contaminants. Dust emissions to be control by implmenetaion of air and dust moniotring plan.
California Occupational Safety & Health Administration (Cal/OSHA) Regulations (Title 8 of the California Code of Regulations [CCR] Subchapter 4, Article 4. Dusts, Fumes, Mists, Vapors, and Gases, Section 1529. Asbestos)	California law and regulations requiring workers involved in the cleanup of sites impacted with asbestos materials to conduct operations in accordance with Cal/OSHA health and safety requirements.	Regulation is an ARAR as workers may potentially come into contact with contaminated soils at the Site.
Hazardous Waste Property and Land Use Restrictions (22 CCR 67391.1); California Civil Code Section 1471; and Health and Safety Code (HSC) Section 25355.5.	California law and regulations establishing provisions regarding the issuance and recording of land use covenants and restrictions.	Regulation is an ARAR as institutional controls expected since residual contaminants of potentila concern (COPCs) are proposed to remain on-Site.
Air Toxics Control Measure (ATCM) for Surfacing Application (17 CCR Section 93106)	California law and regulations governing the production, sale, supply, use, application, or transportation of aggregate material which was extracted from or is ultramafic rock, or contains asbestos.	Potential ARAR if soils are to be removed and disposed of off-Site. Off-Site soil disposal to Class 1 landfill.
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances and Reportable Quantities (40 CFR Part 302.4)	Federal law and regulations governing the designation of hazardous substances and reportable quantities.	Potential ARAR if soils are to be removed and disposed of off-Site. Off-Site soil disposal to Class 1 landfill.
Resource Conservation and Recovery Act (RCRA) (42 USC, Section 6901 et seq.); Federal Hazardous Waste Regulations (40 CFR Parts 260 to 299).	Federal law and regulations governing the generation, treatment, storage and disposal of waste and hazardous waste.	Potential ARAR for any off-site disposal of excavated soils. Excavated soils will be evaluated by Toxicity Characteristic Leaching Procedure (TCLP), to determine if soils are RCRA hazardous waste. Off-Site soil disposal to Class 1 landfill.
California Hazardous Waste Control Law (Health and Safety Code [HSC] Sections 25100 et seq.); California Hazardous Waste Regulations (22 CCR 66260.1 et seq.)	California law and regulations establishing criteria for classifying wastes for purposes of transportation and land disposal and regulation of the treatment, storage, transportation and disposal of hazardous wastes in California.	Potential ARAR if soils are to be removed and disposed of off-Site. Excavated soils must be evaluated by Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC), to determine if soils are California hazardous waste. Excavation and off-Site soil disposal are not anticipated.
Identification and Listing of Hazardous Waste (22 CCR 66261.10 through 66261.126)	California law and regulations establishing criteria for identifying the characteristics of hazardous wastes and <u>associated recordkeeping</u> .	Potential ARAR if soils are to be removed and disposed of off-Site. Off-Site soil disposal to Class 1 landfill.
Standards Applicable to Generators of Hazardous Waste (22 CCR 66262.11 through 66262.47)	California law and regulations establishing standards for manifesting, packaging, labeling of hazardous wastes and limitations on the duration of on-Site storage of such wastes.	Potential ARAR if soils are to be removed and disposed of off-Site. Off-Site soil disposal to Class 1 landfill.

Table 4. Applicable or Relevant and Appropriate Requirements (ARARs) and To-be-considered Criteria (TBC)

<u>Requirement</u>	<u>Description</u>	<u>ARAR or TBC</u>
Transportation of Hazardous Materials (49 USC, Section 5101 et seq.); U.S. DOT Hazardous Materials Regulations (49 CFR Part 171 and 172).	Federal law and regulations governing hazardous materials transportation, marking, labeling, and placarding.	Potential ARAR if soils are to be removed and disposed of off-Site. Off-Site soil disposal to Class 1 landfill.
Department of Toxic Substances Control, Information Advisory - Clean Imported Fill Material	DTSC guidance to ensure inappropriate fill material is not introduced onto sensitive land use properties.	TBC for determination of clean soils.
The Safe Drinking Water and Toxic Enforcement Act of 1986 (Health and Safety Code Section 25249.5 et seq.)	Also known as Prop 65, requires warnings for occupational and environmental exposure to listed chemicals known to the State of California cause cancer.	Rule is an ARAR as the Site as PAHs are listed chemicals known to the State of California to cause cancer.

Table 5. Summary of Remedial Action Alternatives

Evaluation Criteria	(1) No Further Action	(2) Site-wide Excavation and Clean Closure	(3) Shallow Site- wide Excavation, Cap, and Institutional Controls	(4) Limited Excavation, Cap, and Institutional Controls
Effectiveness	low	high	high	high
Implementability	high	medium	medium	high
Cost	low	high	high	medium

Notes:

- 1) Remedial action alternatives were qualitatively ranked using low, medium, and high.
"high" Rankings of effectiveness and implementability are desirable, whereas "low" cost is desirable.

Table 6
Remedial Action Alternatives Cost Comparison

Lighthouse Community Public Schools
701-735 105th Avenue, Oakland, California

Activity	Measure	Alternative 1	Alternative 2			Alternative 3			Alternative 4		
			Unit	Rate	Quantity	Cost	Unit	Rate	Quantity	Cost	Cost
Site Preparation/ Staking	LS	--	5000		1	\$5,000.00	5000		1	\$5,000.00	\$5,000.00
Mobilization/Demob	LS	--	10,000		1	\$10,000.00	10,000		1	\$10,000.00	\$10,000.00
Excavation	CY	--	15		9605	\$144,075.00	15		9405	\$141,075.00	\$40,200.00
Confirmation Sampling	each	--	200		24	\$4,800.00	200		24	\$4,800.00	\$3,200.00
Transport & Disposal (Class II)	ton	--	45		12967	\$583,503.75	45		12697	\$571,353.75	\$180,900.00
Transport & Disposal (CA Class I)	ton		130		1441	\$187,297.50	130		1411	\$183,397.50	\$0.00
Demarcation Netting	SF	--	0			\$0.00	1		130680	\$130,680.00	\$26,830.00
Backfill & Compaction	CY	--	59		9605	\$566,695.00	59		9405	\$554,895.00	\$88,500.00
Project Management	10% of construction cost					\$150,137.13				\$160,120.13	\$35,463.00
Reporting and LUC Implementation		--	40000 (no LUC)		1	\$40,000.00	50000		1	\$50,000.00	\$50,000.00
Total		\$0.00				\$1,691,508.38				\$1,811,321.38	\$440,093.00

Legend & Notes

LS = Lump Sum estimate

CY = cubic yard

ton = imperial short ton

SF = square foot

Cost for overexcavation, if required, for Alternatives 2,3, & 4 not included

APPENDICES

Appendix A
Soil Management Plan (SMP)



Formerly Iris Environmental

DRAFT

SOIL MANAGEMENT PLAN

701-735 105th Avenue

Oakland, California

VCA Docket No.: HSA-FY16/17-126

September 1, 2017

Prepared for:

Lighthouse Community Public School.
444 Hegenberger Road,
Oakland, California 94621

Prepared by:

Iris Environmental dba RPS (RPS)1438 Webster Street, Suite 302
Oakland, California 94612

Project No. 17-1518B

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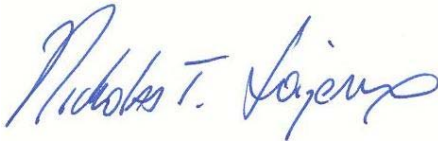
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Table 2b.	Analytical Data: Polycyclic Aromatic Hydrocarbons in Soil
Table 2c.	Analytical Data: Metals in Soil
Table 2d.	Analytical Data: Polychlorinated Biphenyls and Pesticides in Soil
Table 3.	Analytical Data: Volatile Organic Compounds in Soil Gas

PROFESSIONAL CERTIFICATION AND LIMITATIONS

This Soil Management Plan (SMP) dated September 1, 2017 for the property located at 701-735 105th Avenue in Oakland, California has been prepared under the direct supervision of the undersigned California Professional Geologist and/or California Professional Engineer. This document is based on current Site conditions known by RPS and current laws, policies, and regulations as of the date of this document. The opinions expressed in this document are based upon the information available to RPS and are given in response to a limited assignment and should be considered and implemented only in light of that assignment. The services provided by RPS in completing this project were consistent with normal standards of the profession. No other warranty, expressed or implied, is made.



Warren B. Chamberlain, P.G., C.HG., P.E.
Principal Remediation Engineer



Nicholas T. Loizeaux, P.G.
Vice President

1.0 INTRODUCTION

This Soil Management Plan (SMP) describes practices and protocols for managing soil during and following the redevelopment of the site located at 701-735 105th Avenue in Oakland, California (Figure 1). The approved remedy for the Site redevelopment is limited excavation, capping and implementation of institutional controls. Capped areas may or may not cover areas of impacted soil left in place, and this Soil Management Plan has been developed to provide guidance on the future management of soil and other construction debris that may be generated in the course of future redevelopment activities, installation or removal of utilities, and operation and maintenance of capped areas. This SMP has been prepared by RPS on behalf of Lighthouse Community Public School.

2.0 BACKGROUND

2.1 Site Description

This section provides a brief description of the Site features, including Site geology and hydrogeology, with information largely obtained and summarized from the SCA Environmental Inc. January 2017 *Phase I Environmental Site Assessment 701-735 105th Avenue Oakland, CA 94603* (Phase I ESA) (SCA Environmental Inc. 2017).

The Site is an approximately 3.9-acre property in Oakland, California owned and operated by SUM Bible College & Theological Seminary. The Site is bordered by railway tracks to the northwest and northeast, Edes Avenue to the west, and 105th Avenue to the south. Adjacent property uses consist of residential, salvage yard, and abandoned iron works use to the northwest (across the railway tracks); a statuary and liquor store to the west (across Edes Avenue); electronic and metal recycling to the south (across 105th Avenue); and an auto mechanic and abandoned notary company to the east.

Current Site features are depicted in Figure 2. The Site currently consists of two buildings on the southeastern and southwestern corners of the Site with office spaces, dormitories, classrooms, and a chapel, and a smaller auxiliary restroom and concession stand building directly north of the larger eastern building. These three buildings encompass approximately 35,000-square feet. An asphalt paved parking lot is in the center of the Site, between the two large buildings, with a basketball court present on the western border of the parking lot. A common area covered with concrete pavers is located between the large eastern building and the restroom/concession stand building. A triangular-shaped recreation area with soccer field, gravel track, and small stage make up the northern portion of the Site, encompassing approximate 1.55 acres.

2.2 Historical Site Use

As early as 1926, the Site was developed by the Best Steel Casting Company as an iron foundry, with mechanical shops, steel ovens, and large foundry buildings. The General Metal Corporation-Steel Division took over the property in approximately 1943 and continued to operate an iron foundry on-Site. Between 1955 and 1958 the on-Site foundry buildings were

demolished and several of the building slabs were left in place. The Site remained vacant until approximately 1982, when building permits were issued for the construction of warehouses. One warehouse was converted into a church in 1991. In a 1993 aerial photograph, the two large buildings and parking lot are observed on-Site. SUM Bible College & Theological Seminary has been listed as the Site occupant since 2000; in the same year building permits were issued to convert one of the buildings into a private school. In 2003 the auxiliary restroom and concession stand was constructed, and the eastern building was retrofitted with dormitories. Since 2003, there has been no noticeable change to the Site.

3.0 PROJECT DESCRIPTION

The redevelopment plans (Figure 3) for the Site include:

- Construction of the new Building 3
- Demolition and removal of existing parking lot area between Buildings 1 and 2 and replacement with new construction of Playground area.
- Construction of a new parking lot area in the southern portion of the existing open field.

RPS has prepared a Remedial Action Workplan (RAW) for the Site with limited soil excavation, clean soil and hardscape capping and placement of institutional controls to prevent exposure to future Site occupants. Soil excavation will take place in the existing open field area and proposed new parking lot area. Within the existing open field area, soil will be excavated to 1-foot depth and disposed offsite. The excavation surface will be marked with high-visibility demarcation netting (or similar) and backfilled to existing grades with clean import soil. The proposed new parking lot will be excavated to a minimum of 9-inches to allow for placement of 6-inches of baserock and 3-inches of asphalt to form a hardscape cap.

Within the existing covered (and developed) area of the Site, existing hardscaped areas will be replaced by new hardscaped areas. For example, new Building 3 will replace the existing asphalt paved basketball court and the existing parking lot area will be replaced by the new Playground Area.

To prevent future exposure by Site occupants and maintenance workers from impacted soil below capped areas, institutional controls in the form of a land use covenant (LUC) will be established. The LUCs, of which this SMP is an integral part, will describe precautions and contingency actions that are to be implemented to safeguard, handle and manage impacted soils should they be encountered in the future. The locations of each type of cover are shown in Figure 4 (Site Cap Plan).

4.0 SITE CHARACTERIZATION

During 2017, a series of environmental investigations were conducted to assess the potential for contamination from historical Site uses. The sampling locations are shown on Figure 2.

In 2017, RPS conducted a Site-wide baseline soil assessments which are detailed in the *Site Conditions Report (RPS, 2017)*. Soil samples were collected at depths ranging from 0.5 to 5.0 feet below ground surface (bgs) and from planter boxes within landscaped areas. The samples were collected to assess Site conditions with respect potential contaminants of concern (COPCs) and waste characterization. Samples were analyzed for one or more of the following analytical methods:

- United States Environmental Protection Agency (EPA) Method SW 8015B for Total Petroleum Hydrocarbons as Gasoline (TPH-g), Diesel (TPH-d) and Motor Oil (TPH-mo);
- EPA Method 8270 for Semi-Volatile Organic Compounds (SVOCs);
- EPA Method 8082 for Polychlorinated Biphenyls (PCBs);
- EPA Method 8081 for Organochlorine Pesticides (OCPs);
- EPA Method 6010/7470 for CAM 17 metals;
- EPA Method 600 PLM for Bulk Asbestos Containing Material;
- EPA Method TO-15 for VOCs in Soil Gas.

A summary of the sampling and analysis program, soil and soil gas analytical results are provided in the following tables:

- Table 1. Summary of Sampling and Analysis Program
- Table 2a. Analytical Data: Total Petroleum Hydrocarbons in Soil
- Table 2b. Analytical Data: Polycyclic Aromatic Hydrocarbons in Soil
- Table 2c. Analytical Data: Metals in Soil
- Table 2d. Analytical Data: Polychlorinated Biphenyls and Pesticides in Soil
- Table 3. Analytical Data: Volatile Organic Compounds in Soil Gas

The location of sampling points and the detected COPCs are shown on Figures 4 and 5.

In summary, the Site investigations revealed that soil is impacted with PAHs and heavy metals (lead, antimony, arsenic and cobalt), above the DTSC residential screening thresholds, and these compounds are considered Site COPCs. PAHs (measured as Benzo(a)pyrene equivalent [BaPe]) are the most widely detected COPC; lead was detected in two samples above the State of California hazardous waste criteria.

The VOC, 1,3-butadiene was detected slightly above its residential screening threshold in soil gas, but is not considered a contaminant of potential concern due to the small exceedance value above its ESL and the sporadic distribution of detections.

The current conditions of on-Site soil, groundwater, and soil gas, are described in the sections below.

4.1 Soil Conditions

Environmental investigations identified PAHs, and heavy metals (lead, antimony, arsenic, and cobalt) as chemicals above residential screening levels and background concentrations in Site soils. PAHs were the most commonly identified compound, and are the primary target for planned remedial excavation. Lead was the second most widely detected COPC and two samples (SB-04-SO-1 and SB-04-S-3) were detected above the hazardous waste criteria of 1,000 milligrams per kilogram (mg/kg). Arsenic was detected in three soil samples above the accepted Bay Area background concentration of 11 mg/kg (Duvergé, 2011), the highest concentration detected was at 29 mg/kg. The distribution of heavy metals appears to be sporadic across the Site.

During Site investigations, surficial soil types to depths of 5 feet below ground surface (bgs) were logged as fill material of varying grain size and unknown origin to dark grey to black lean to fat clay (with occasional fill fragments). The dark clay soil may represent the native exposed predevelopment soil. The thickness of the surficial fill material varies across the Site from surface to 5 feet bgs and was likely placed to level the Site during the construction of the original foundry.

4.2 Groundwater Conditions

Groundwater has not been tested from areas immediately below the Site. The Site is supplied potable water by East Bay Municipal Utility District (EBMUD) and as such there is no requirement for the production of groundwater to facilitate future Site operations.

4.3 Soil Gas Conditions

The compound 1,3-butadiene was the only VOC detected in soil gas. Two of the eight soil gas samples collected, detected 1,3-butadiene at relatively low concentrations (8.8 and 10 micrograms per cubic meter [$\mu\text{g}/\text{m}^3$]) above the residential ESL for 1,3-butadiene of $8.5 \mu\text{g}/\text{m}^3$. Site-wide soil and soil gas sampling failed to identify any suspected source of VOCs at the Site. RPS concludes vapor intrusion mitigation measures are not warranted for the Site as 1,3-butadiene was not identified as a COPC.

4.4 Soil and Waste Material Classification

The soil and waste material classification will depend on the composition, location and the results of sampling and testing. The following are general descriptions of the different soil and waste material classifications identified during Site characterization:

- Construction Debris – Concrete, pavers, asphalt and wood debris.
- Fill Material – A mixture of gravel, sand and clayey soil material.
- Lean Clay – a dark grey to black native clay material.

5.0 SOIL MANAGEMENT

Soils may be exported from the Site or imported to the Site, subject to the restrictions discussed below. Any export or import of soil pertaining to the removal of native Site soils will be documented and reported to DTSC with respect to soil volume and destination (for export) or source (for import). The Contractor will be responsible for excavation, trenching, handling, reuse, and temporary stockpiling of materials in accordance with project specifications, the health and safety plan, this plan, and all applicable local, state, and federal statutes, regulations, and guidelines. Excavation and handling of impacted soil will be done in a manner that prevents the release of contamination, if present, to other on-site and off-site areas.

RPS Iris Environmental will observe excavation activities, and use appropriate field screening procedures and indicators and project-specific experience to guide the Contractor in segregating the waste, if specified.

5.1 Material for Disposal

Based on the Site characterization, the following demolition and excavation materials have been identified as potential waste streams:

- Construction Waste Debris – which may consist of construction demolition debris including concrete, pavers, asphalt, wood or landscape materials. These waste materials are classified as general waste for disposal to a re-cycling facility or landfill. These materials may be disposed to a Class II landfill.
- Fill Material and Clay Soil – these waste materials are soil that may be disposed to a landfill as alternative daily cover. These materials are likely to be disposed to a Class II landfill.
- Hazardous Waste – soil has been identified (see Figure 5) as containing lead above the total threshold limit concentration of 1,000 mg/kg. While this area is proposed to remain under hardscaping, if soils are removed from these areas, the materials are likely to be disposed to a Class I hazardous waste landfill.

5.2 Import Fill Criteria

Import soils to be used on-Site shall be evaluated in accordance with Department of Toxic Substances Control (DTSC) guidance for imported fill material (DTSC, 2001) to confirm that the soils are appropriate for residential use. Additionally, no imported soils should be visibly stained or odorous. Clean sand or cementitious controlled density fill for utility trench backfill may be employed without notification to the DTSC.

5.3 Stockpile Management

The staging area and the temporary stockpiles will be managed by the Contractor in accordance with this document, the project specifications, and the project Storm Water Pollution Prevention Plan (SWPPP). In general, the stockpiled soils will be:

- Segregated based on waste type, e.g., soil, vegetation, or construction debris,
- Segregated based on contamination,
- Sprayed or misted with water to minimize dust emissions during stockpiling, if necessary,
- Sprayed with soil binder and/or mulch, or covered to minimize rain or wind erosion; and
- Configured in such a manner that surface water runoff, if present, from the stockpile does not carry stockpiled materials beyond the stockpile area.

5.4 Best Management Practices

The Contractor shall implement BMPs to protect the temporary stockpiles from erosion and storm water run-off. The BMPs generally include the following:

- Erosion control;
- Storm water drainage control;
- Fugitive emission control;
- Wind dispersion control; and
- Spill prevention.

5.5 Stormwater Pollution Prevention

Prior to filed mobilization the Contractor will prepare a Storm Water Pollution Prevention Plan (SWPPP) and provide notification of intent to the State of California Storm Water Multiple Application and Report Tracking System (SMARTS) database, if necessary. The SWPPP will include BMPs for stockpile management. Erosion control will be implemented primarily using hydraulic mulch, soil binders and/or plastic sheeting. Sediment control measures will include straw wattles, fiber rolls, silt fence and/or berms that will be installed around the base of each stockpile. Stockpiles will also be sprayed or misted with water to minimize dust emissions during stockpiling. Weekly monitoring, documentation and implementation of BMPs will be conducted in accordance with the SWPPP. These weekly inspection documents will be submitted to the DTSC in the Completion Report.

5.6 Dust Control Measures

Excavation, loading and transport activities have the potential to generate fugitive dust emissions and adversely impact air quality. The Contractor will utilize various pieces of equipment, products and techniques to control dust and odorous vapors potentially emanating from the stockpiles. Monitoring of dust levels would be conducted and dust control measures would be

implemented in accordance with the Air Monitoring and Dust Control Plan to limit dust emissions to acceptable levels, including spraying of water and use of plastic sheeting.

The project will implement construction dust mitigation measures that are recommended for all projects in the Bay Area Air Quality Management District (BAAQMD) California Environmental Quality Act Air Quality Guidelines (BAAQMD, 2012):

- All exposed surfaces (*e.g.*, unpaved parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day or more as necessary to minimize the generation of airborne dust.
- All haul trucks transporting soil, sand, or other loose material off-Site will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads will be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.
- A publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints will be posted at the project site. This person will respond and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.

6.0 UNKNOWN CONTAMINATION

Other than the previously described contaminants, no other impacts to soil or groundwater are anticipated. This section presents a general protocol regarding unknown contamination in case they are encountered during intrusive work activities.

If hazardous substances or conditions are encountered which present an immediate threat of injury to human health or water quality, the Contractor shall secure the area and shall notify the Site contact and RPS Iris Environmental immediately. The Contractor shall call "911" to summon the emergency services, as necessary.

If previously unknown hazardous substances or conditions are encountered that do not present an immediate threat to human health or water quality, the Contractor shall immediately notify RPS

Iris Environmental. As necessary, the area surrounding the discovery of unknown contamination will be isolated and secured by the Contractor with markings, fencing, or a suitable barrier so that construction activities can be excluded from the zone of impact. RPS Iris Environmental will then decide whether immediate excavation, segregation, stockpiling, containerization, or other activities are warranted.

When deemed safe, samples of the potentially impacted media will be collected and analyzed for COPCs. Notification will be provided to the DTSC and Client, and corrective options will be discussed and appropriate mitigation action taken.

7.0 TRANSPORT AND DISPOSAL

Transporters and disposal facilities used must be appropriately licensed and/or permitted and properly insured. RPS Iris Environmental will coordinate the transportation and disposal of waste material to the off Site disposal facility. Transporter of soil or material export to the landfill should follow the routes provided in the Traffic Plan. Soil loads should be covered and/or wetted to avoid dust emission during transportation to the final destination.

8.0 DOCUMENTATION

Upon completion of the Remediation Area backfill and restoration, a Completion Report documenting all activities will be prepared. The Completion Report will be stamped and signed by a professional engineer or professional geologist licensed in California with appropriate experience in hazardous substance site cleanup, and will include the following items related to soil management:

- The results of confirmation sampling (i.e., before backfilling and restoration), and compliance with performance standards;
- Determination as to whether the goals and objectives of the RAW were met;
- Written and tabular summary of disposal activities;
- Health and safety activities including any analytical results; and
- Copies of manifests and bills of lading.

Construction observation documents such as weekly SWPPP inspection reports, implementation of stockpile BMP's, air monitoring, soil compaction results documenting the will be submitted to the DTSC upon completion of the project in the Remedial Action Completion Report (RACR).

9.0 REFERENCES

Bay Area Air Quality Management District (BAAQMD). 2012. *California Environmental Quality Act Air Quality Guidelines*. May.

Department of Toxic Substances Control (DTSC). 2001. *Information Advisory, Clean Imported Fill Material*. October.

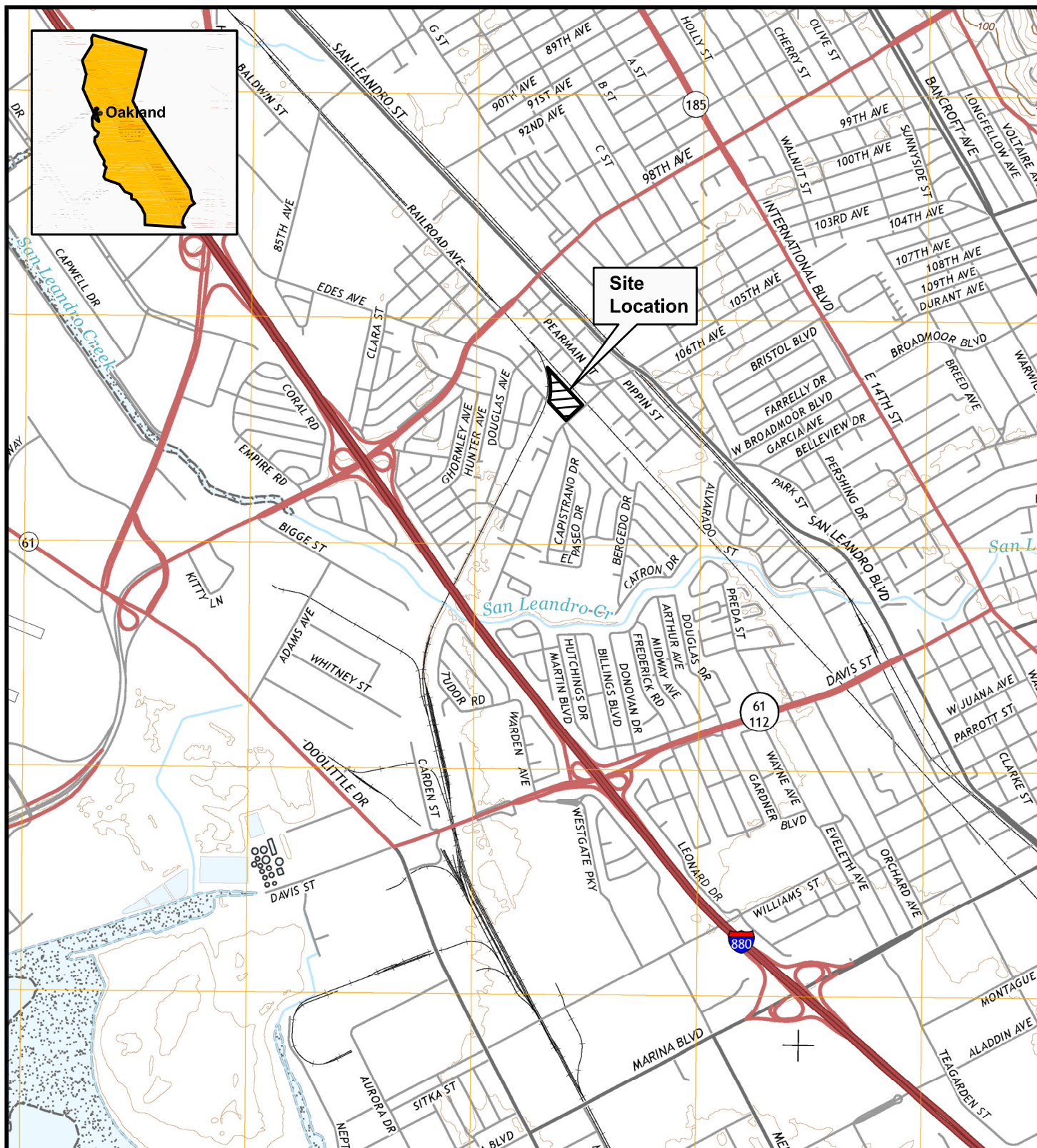
Duvergé, D.J. 2011. *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*. A thesis submitted to the faculty of San Francisco State University, In partial fulfillment of The Requirements for The Degree, Master of Science in Geosciences. December.

RPS Iris Environmental. 2017. *Current Site Conditions Report*, 710-735 105th Avenue, Oakland California. August 30.

San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2016a. *February 2016 Update to Environmental Screening Levels*. February 22.

SFBRWQCB. 2016b. *User's Guide: Derivation and Application of Environmental Screening Levels (ESLs)*. Interim Final. February.

Figures



SOURCE: USGS 7.5' QUADRANGLE, SAN LEANDRO, CALIFORNIA, 2015



0 1000 2000 4000
SCALE IN FEET

RPS Iris Environmental

1438 Webster Street, Suite 302, Oakland, California 94612
T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com | www.irisenv.com

Site Location Map
701-735 105th Avenue
Oakland, California

Figure

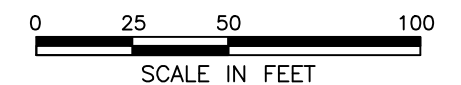
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BASEMAP: NEARMAP MARCH 9, 2017

LEGEND:

- ▲ SOIL AND SOIL GAS SAMPLE LOCATION
(FEBRUARY 2017)
- ADDITIONAL SOIL SAMPLE LOCATION
(JUNE 2017)
- + TREE WELL/PLANTER BOX SOIL SAMPLE LOCATION
(AUGUST 2017)



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1438 Webster Street, Suite 302, Oakland, California 94612
T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com

Site Layout including Soil and Soil Gas Sample Locations
701-735 105th Avenue
Oakland, California

Drafter: EC

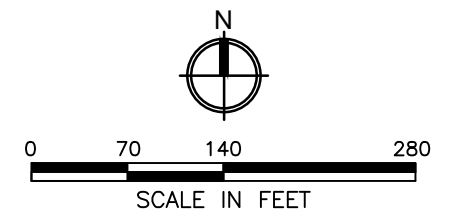
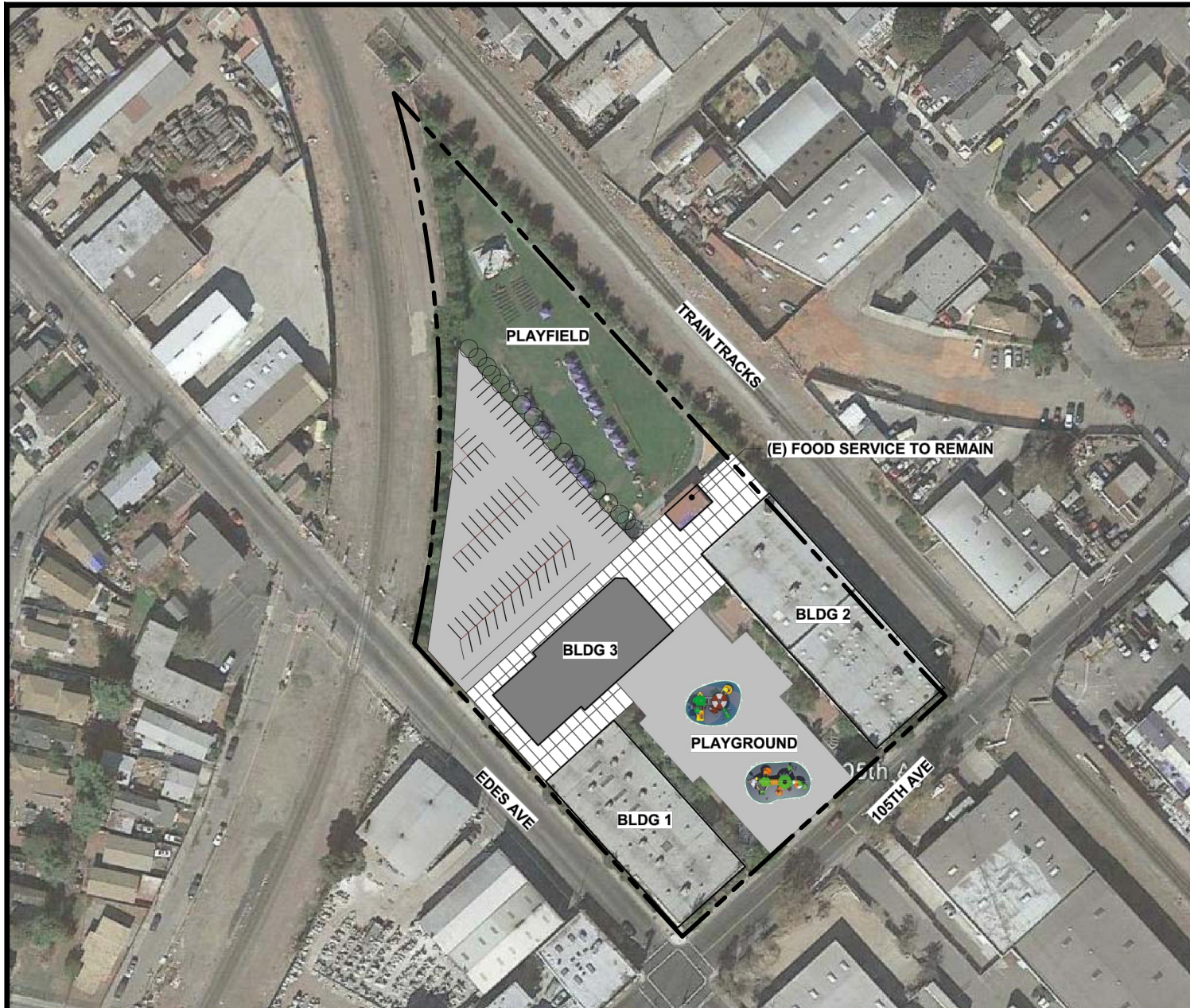
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Figure

2

Contract Number: 17-1518E

I:\CAD\1717-1518-ElSite layout.dwg



BASEMAP: HIBSER YAMAUCHI, ARCHITECTS, INC.



Formerly Iris Environmental

1438 Webster Street, Suite 302, Oakland, California 94612
T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com

Proposed Site Improvements Layout
701-735 105th Avenue
Oakland, California

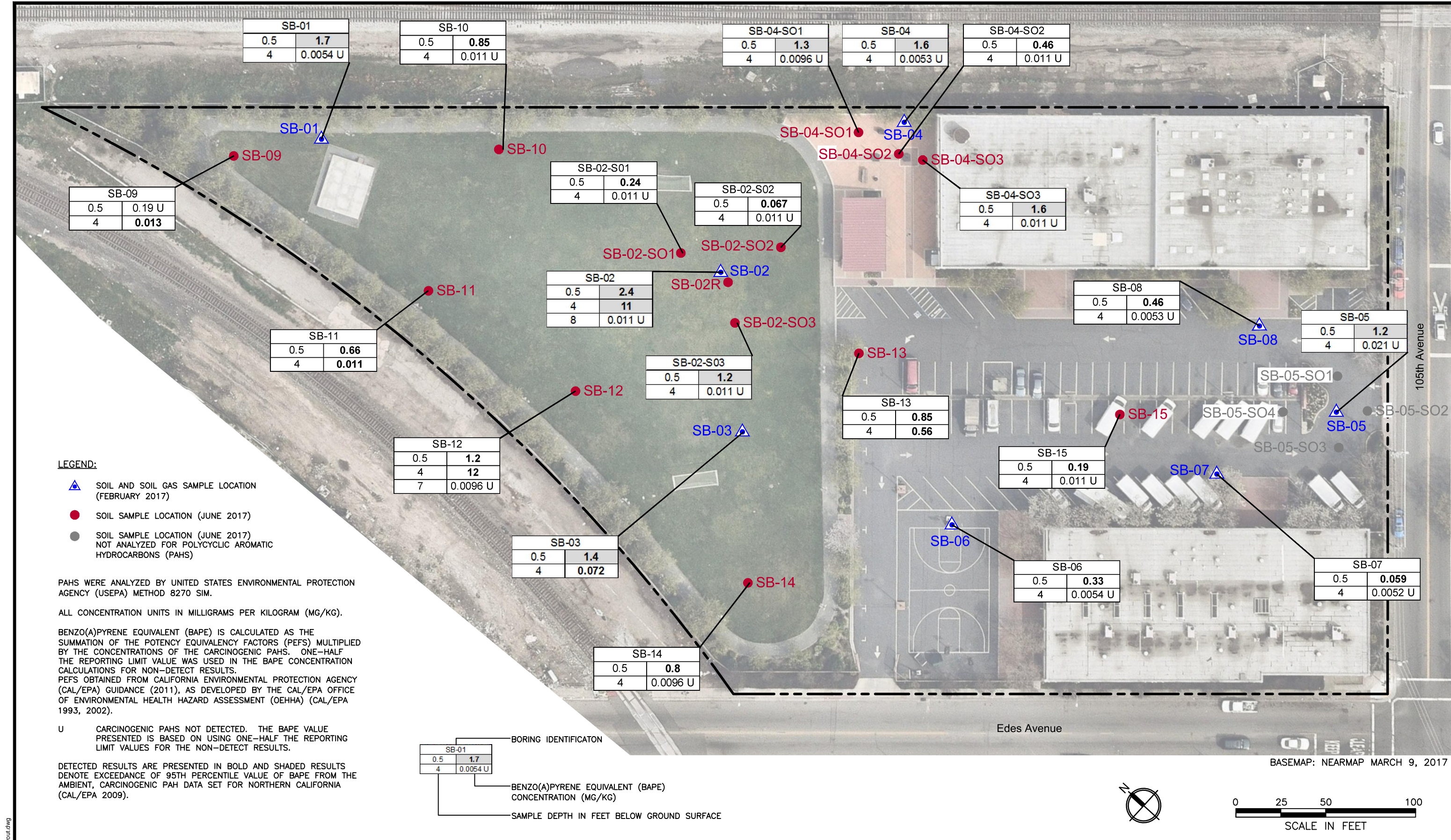
Figure

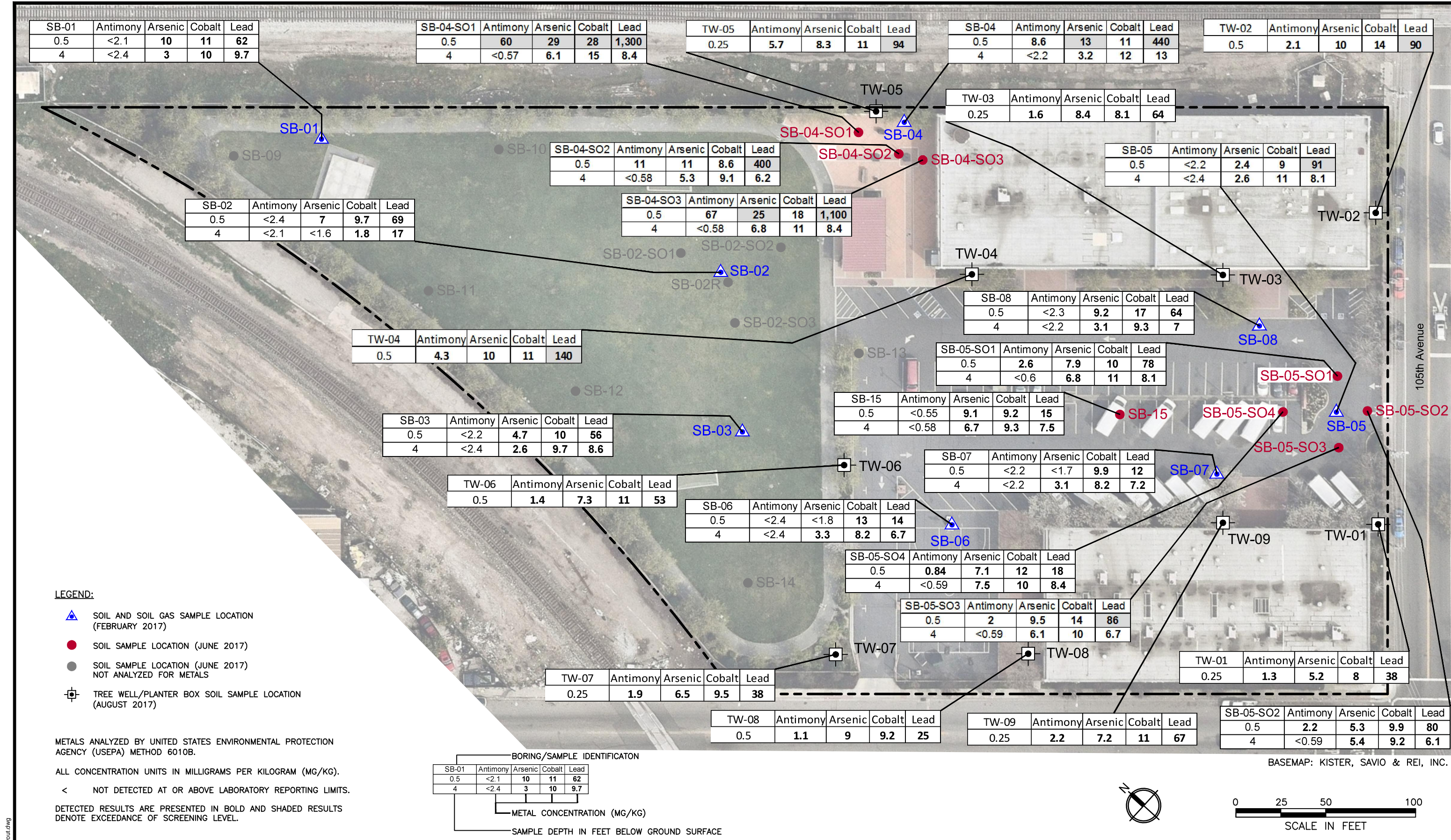
3

Drafter: EC

Date: 08/29/17

Contract Number: 17-1518E





LEGEND:

- SOIL AND SOIL GAS SAMPLE LOCATION (FEBRUARY 2017)
- SOIL SAMPLE LOCATION (JUNE 2017)
- SOIL SAMPLE LOCATION (JUNE 2017) NOT ANALYZED FOR METALS
- TREE WELL/PLANTER BOX SOIL SAMPLE LOCATION (AUGUST 2017)

METALS ANALYZED BY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) METHOD 6010B.

ALL CONCENTRATION UNITS IN MILLIGRAMS PER KILOGRAM (MG/KG).

< NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS.

DETECTED RESULTS ARE PRESENTED IN BOLD AND SHADED RESULTS DENOTE EXCEEDANCE OF SCREENING LEVEL.

BORING/SAMPLE IDENTIFICATION					
SB-01	Antimony	Arsenic	Cobalt	Lead	
0.5	<2.1	10	11	62	
4	<2.4	3	10	9.7	
METAL CONCENTRATION (MG/KG)					
SAMPLE DEPTH IN FEET BELOW GROUND SURFACE					

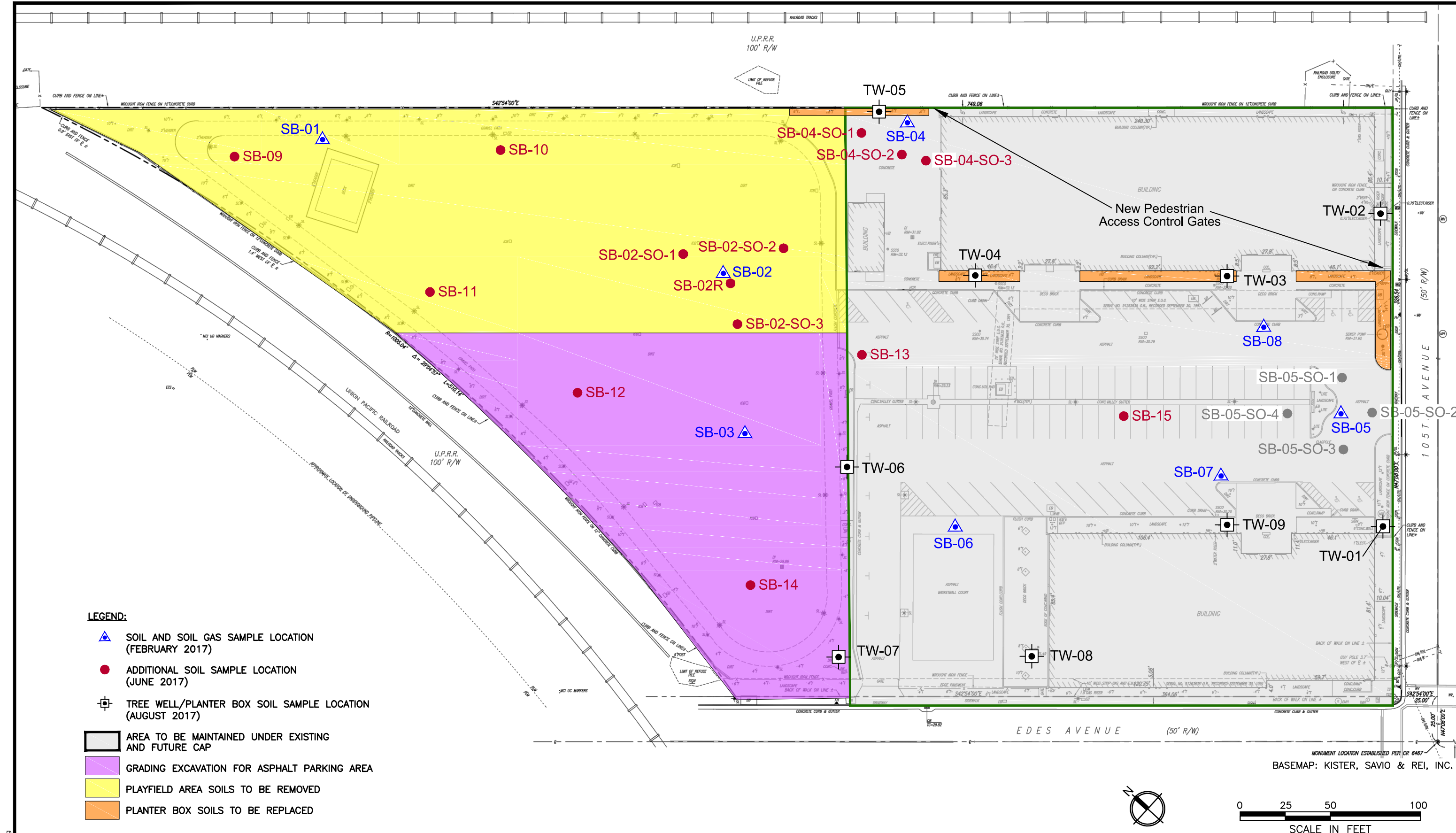
BASEMAP: KISTER, SAVIO & REI, INC.

RPS

Formerly Iris Environmental

1438 Webster Street, Suite 302, Oakland, California 94612
T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com

Antimony, Arsenic, Cobalt, and Lead in Soil
701-735 105th Avenue
Oakland, California



Tables

TABLE 1
Summary of Sampling and Analysis
701-735 105th Avenue
Oakland, California

Boring	Sample Depths (feet bgs)	Sampling Matrix		Analyses									Rationale
		Soil	Soil Gas	SVOCs (including PAHs)	Metals	PCBs	Pesticides	TPH-g	TPH-d/mo ¹	Asbestos	TO-15	Helium	
February 2017 investigation													
SB-01	0.5	X		X	X			X	X	X			Foundry operations: cleaning, welding, rail spur
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-02	0.5	X		X	X			X	X	X			Foundry operations: main plant, proximity to ovens
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-03	0.5	X		X	X			X	X	X			Foundry machine shop
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-04	0.5	X		X	X			X	X	X			Foundry operations, rail spur, and vapor intrusion assessment of existing building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-05	0.5	X		X	X			X	X	X			Foundry operations: oil and gas storage
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-06	0.5	X		X	X			X	X	X			Foundry satellite buildings, and vapor intrusion assessment of planned future building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-07	0.5	X		X	X			X	X	X			Foundry satellite buildings, and vapor intrusion assessment of existing building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
SB-08	0.5	X		X	X			X	X	X			Foundry operations, and vapor intrusion assessment of existing building
	4.0	X		X	X			X	X				
	5.0		X								X	X	
June 2017 investigation													
SB-02-R	0.5	X		X									Delineate PAH's, re-drill SB-02 to see where the black sand encountered at 4 feet bgs stops, collect native soil sample directly underneath sand.
	4.0	X		X									
	8.0	X		X									
SB-02-SO-1	0.5	X		X									Step-out boring for PAHs in soil
	4.0	X		X									
SB-02-SO-2	0.5	X		X									Step-out boring for PAHs in soil
	4.0	X		X									
SB-02-SO-3	0.5	X		X									Step-out boring for PAHs in soil
	4.0	X		X									
SB-04-SO-1	0.5	X		X	X								Step-out boring for PAHs and Metals in soil
	4.0	X		X	X								
SB-04-SO-2	0.5	X		X	X								Step-out boring for PAHs and Metals in soil
	4.0	X		X	X								

TABLE 1
Summary of Sampling and Analysis
701-735 105th Avenue
Oakland, California

Boring	Sample Depths (feet bgs)	Sampling Matrix		Analyses									Rationale
		Soil	Soil Gas	SVOCs (including PAHs)	Metals	PCBs	Pesticides	TPH-g	TPH-d/mo ¹	Asbestos	TO-15	Helium	
SB-04-SO-3	0.5	X		X	X								Step-out boring for PAHs and Metals in soil
	4.0	X		X	X								
SB-05-SO-1	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-05-SO-2	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-05-SO-3	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-05-SO-4	0.5	X			X								Step-out boring for Metals in soil
	4.0	X			X								
SB-09	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-10	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-11	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-12	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
	7.0	X		X									
SB-13	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-14	0.5	X		X									Boring to investigate PAHs in soil
	4.0	X		X									
SB-15	0.5	X		X	X								Boring to investigate PAHs and Metals in soil
	4.0	X		X	X								
August 2017 tree well/planter box investigation													
TW-01	0.25	X			X	X	X						Potential historical use of lead-based paint and window caulking (which may contain PCBs) on the Site buildings, and pesticides
TW-02	0.5	X			X	X	X						
TW-03	0.25	X			X	X	X						
TW-04	0.5	X			X	X	X						
TW-05	0.25	X			X	X	X						
TW-06	0.5	X			X	X	X						

TABLE 1
Summary of Sampling and Analysis
701-735 105th Avenue
Oakland, California

Boring	Sample Depths (feet bgs)	Sampling Matrix		Analyses									Rationale
		Soil	Soil Gas	SVOCs (including PAHs)	Metals	PCBs	Pesticides	TPH-g	TPH-d/mo ¹	Asbestos	TO-15	Helium	
TW-07	0.25	X			X	X	X						Potential historical use of lead-based paint and window caulking (which may contain PCBs) on the Site buildings, and pesticides
TW-08	0.5	X			X	X	X						
TW-09	0.25	X			X	X	X						

Notes:

1. TPH-d/mo are both run with silica gel cleanup

bgs = below ground surface

SVOCs = Semivolatile Organic Compounds by EPA Method 8270

Metals = Title 22 metals by EPA Method 6010/7470

PCBs = Polychlorinated Biphenyls by EPA Method 8082

Pesticides = Pesticides by EPA Method 8081A

TPH-g = Gasoline-range Total Petroleum Hydrocarbons by EPA Method 8015

TPH-d = Diesel-range Total Petroleum Hydrocarbons by EPA Method 8015

TPH-mo = Motor Oil-range Total Petroleum Hydrocarbons by EPA Method 8015

Asbestos = Asbestos by Polarized Light Microscopy

TO-15 = Volatile organic compounds in gas by EPA Method TO-15

Helium = by ASTM Method D1946

TABLE 2a
Analytical Data: Total Petroleum Hydrocarbons in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet bgs)	TPH-Diesel	TPH-Motor Oil
<i>Residential Site Use Screening Level ²</i>				230	11,000
SB-01	SB-01-0.5	2/16/2017	0.5	29 Y	150
	SB-01-4.0	2/16/2017	4	<1.2	<6.1
SB-02	SB-02-0.5	2/16/2017	0.5	41 Y	280
	SB-02-4.0	2/16/2017	4	37 Y	240
SB-03	SB-03-0.5	2/16/2017	0.5	27 Y	200
	SB-03-4.0	2/16/2017	4	<1.2	9.4
SB-04	SB-04-0.5	2/16/2017	0.5	34 Y	210
	SB-04-4.0	2/16/2017	4	<1.2	<6
SB-05	SB-05-0.5	2/16/2017	0.5	110 Y	580
	SB-05-4.0	2/16/2017	4	<1.2	29
SB-06	SB-06-0.5	2/16/2017	0.5	<1.2	<6
	SB-06-4.0	2/16/2017	4	3.2 Y	60
SB-07	SB-07-0.5	2/16/2017	0.5	4.2 Y	78
	SB-07-4.0	2/16/2017	4	3.1 Y	79
SB-08	SB-08-0.5	2/16/2017	0.5	87 Y	550
	SB-08-4.0	2/16/2017	4	<1.2	<6

Notes:

1. Total petroleum hydrocarbons (TPH) analyzed by United States Environmental Protection Agency (USEPA) Method 8015B. All concentration units in milligrams per kilogram (mg/kg).

2. San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Levels (ESLs) - Table S-1, direct exposure screening levels, residential land use (SFBRWQCB 2016) for TPH-diesel (diesel C10-C24) and TPH-motor oil (motor oil C24-C36).

< = not detected at or above laboratory reporting limit

bgs = below ground surface

Y = Sample exhibits chromatographic pattern which does not resemble standard.

Detected results are presented in **bold**.

References:

San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2016. *Environmental Screening Levels (ESLs)*. February (Rev. 3).

TABLE 2b
Analytical Data: Polycyclic Aromatic Hydrocarbons in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet bgs)	Non-Carcinogenic PAHs								Carcinogenic PAHs ²							
				Acenaph-thene	Acenaph-thylene	Anthracene	Benzo(g,h,i)-perylene	Fluoranthene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b)-fluoranthene	Benzo(k)-fluoranthene	Chrysene	Dibenz (a,h)-anthracene	Indeno(1,2,3-c,d)-pyrene	Benzo(a)pyrene Equivalent (BaPe) ³
Benzo(a)Pyrene Potency Equivalent Factor (PEF) ⁴				NA	NA	NA	NA	NA	NA	NA	NA	0.1	1	0.1	0.1	0.01	0.34	0.1	NA
Residential Site Use Screening Level ⁵				3,600	3,600 ⁶	18,000	1,800 ⁷	2,400	3.8	18,000 ⁸	1,800	--	--	--	--	--	--	--	0.92 ⁹
SB-01	SB-01-0.5	2/16/2017	0.5	<0.036	<0.036	<0.036	1	0.64	<0.036	0.15	0.76	0.68	1.2	1.5	0.5	1	0.34	0.92	1.7
	SB-01-4.0	2/16/2017	4	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	0.0054 U
SB-02	SB-02-0.5	2/16/2017	0.5	<0.12	<0.12	<0.12	1.4	0.73	<0.12	0.16	0.91	0.8	1.8 b	1.8	0.56	1.3	0.42	1.2	2.4
	SB-02-4.0	2/16/2017	4	<0.28	<0.28	<0.28	11	2.8	<0.28	0.68	3	3.1	6.5 b	12	2.8	6.1	4	10	11
SB-02R	SB-02R-8.0	6/7/2017	8	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-02-SO1	SB-02-SO1-0.5	6/7/2017	0.5	<0.012	0.014	<0.012	0.13	0.24	<0.012	0.11	0.3	0.1	0.17	0.22	0.13	0.2	0.023	0.11	0.24
	SB-02-SO1-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-02-SO2	SB-02-SO2-0.5	6/7/2017	0.5	<0.011	<0.011	<0.011	0.042	0.066	<0.011	0.025	0.069	0.027	0.049	0.064	0.033	0.057	<0.011	0.033	0.067
	SB-02-SO2-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-02-SO3	SB-02-SO3-0.5	6/7/2017	0.5	<0.22	<0.22	<0.22	0.84	0.46	<0.22	<0.22	0.64	0.51	0.84	1	0.52	0.78	<0.22	0.67	1.2
	SB-02-SO3-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-03	SB-03-0.5	2/16/2017	0.5	<0.058	<0.058	<0.058	0.72	0.52	<0.058	0.14	0.62	0.54	1 b	1.1	0.34	0.81	0.24	0.63	1.4
	SB-03-4.0	2/16/2017	4	<0.006	<0.006	<0.006	0.046	0.027	<0.006	0.0064	0.032	0.03	0.05 b	0.068	0.023	0.049	0.015	0.041	0.072
SB-04	SB-04-0.5	2/16/2017	0.5	<0.035	<0.035	0.059	0.82	0.79	<0.035	0.22	0.87	0.75	1.2 b	1.5	0.43	1	0.27	0.79	1.6
	SB-04-4.0	2/16/2017	4	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	0.0053 U
SB-04-SO1	SB-04-SO1-0.5	6/7/2017	0.5	<0.021	0.066	0.076	0.95	0.89	0.03	0.43	1.1	0.57	0.88	1.2	0.7	0.9	0.15	0.74	1.3
	SB-04-SO1-4.0	6/7/2017	4	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	0.0096 U
SB-04-SO2	SB-04-SO2-0.5	6/7/2017	0.5	<0.011	0.02	0.021	0.33	0.31	0.016	0.16	0.42	0.21	0.32	0.46	0.26	0.35	0.056	0.27	0.46
	SB-04-SO2-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-04-SO3	SB-04-SO3-0.5	6/7/2017	0.5	0.024	0.07	0.078	1.2	1.1	0.036	0.49	1.3	0.72	1.1	1.5	0.71	1.2	0.19	0.93	1.6
	SB-04-SO3-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-05	SB-05-0.5	2/16/2017	0.5	<0.056	<0.056	<0.056	0.6	0.64	<0.056	0.17	0.71	0.61	0.86 b	1.2	0.33	0.93	0.21	0.56	1.2
	SB-05-4.0	2/16/2017	4	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.021 U
SB-06	SB-06-0.5	2/16/2017	0.5	<0.006	<0.006	<0.006	0.16	0.16	<0.006	0.036	0.18	0.16	0.23 b	0.33	0.095	0.26	0.058	0.15	0.33
	SB-06-4.0	2/16/2017	4	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	0.0054 U
SB-07	SB-07-0.5	2/16/2017	0.5	<0.0055	<0.0055	<0.0055	0.025	0.037	<0.0055	0.0084	0.038	0.033	0.043 b	0.053	0.019	0.042	0.0085	0.022	0.059
	SB-07-4.0	2/16/2017	4	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	0.0052 U
SB-08	SB-08-0.5	2/16/2017	0.5	<0.03	<0.03	<0.03	0.31	0.27	<0.03	0.065	0.27	0.22	0.32	0.45	0.12	0.34	0.1	0.26	0.46
	SB-08-4.0	2/16/2017	4	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0053 U
SB-09	SB-09-0.5	6/7/2017	0.5	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.19 U
	SB-09-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	0.017	<0.012	<0.012	0.022	0.016	<0.012	0.016	<0.012	0.012	<0.012	<0.012	0.013
SB-10	SB-10-0.5	6/7/2017	0.5	<0.053	<0.053	<0.053	0.54	0.42	<0.053	0.13	0.56	0.41	0.61	0.77	0.37	0.6	0.098	0.43	0.85
	SB-10-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U
SB-11	SB-11-0.5	6/7/2017	0.5	<0.022	<0.022	<0.022	0.49	0.26	<0.022	0.079	0.34	0.25	0.46	0.66	0.27	0.44	0.095	0.42	0.66
	SB-11-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	0.016	<0.012	<0.012	0.017	<0.012	<0.012	0.013	<0.012	<0.012	<0.012	<0.012	0.011
SB-12	SB-12-0.5	6/7/2017	0.5	<0.057	<0.057	<0.057	0.92	0.53	<0.057	0.16	0.64	0.47	0.82	1.3	0.54	0.78	0.17	0.78	1.2
	SB-12-4.0	6/7/2017	4	<0.23	<0.23	<0.23	11	2.7	<0.23	0.82	4.2	4	8.6	11	4.7	6.1	2.3	10	12
	SB-12-7.0	6/7/2017	7	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	0.0096 U
SB-13	SB-13-0.5	6/7/2017	0.5	<0.11	<0.11	<0.11	0.53	0.3	<0.11	<0.11	0.41	0.34	0.62	0.8	0.23	0.44	0.12	0.48	0.85
	SB-13-4.0	6/7/2017	4	<0.22	<0.22	<0.22	0.41	0.23	<0.22	<0.22	0.36	0.31	0.38	0.56	<0.22	0.38	<0.22	0.38	0.56
SB-14	SB-14-0.5	6/7/2017	0.5	<0.22	<0.22	<0.22	0.56	0.3	<0.22	<0.22	0.44	0.39	0.57	0.74	0.31	0.44	<0.22	0.46	0.8
	SB-14-4.0	6/7/2017	4	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	0.0096 U
SB-15	SB-15-0.5	6/7/2017	0.5	<0.011	<0.011	<0.011	0.13	0.12	<0.011	0.043	0.15	0.093	0.13	0.2	0.11	0.16	0.024	0.11	0.19
	SB-15-4.0	6/7/2017	4	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.011 U

TABLE 2b
Analytical Data: Polycyclic Aromatic Hydrocarbons in Soil ¹
701-735 105th Avenue
Oakland, California

Notes:

1. Polycyclic aromatic hydrocarbons (PAHs) were analyzed by United States Environmental Protection Agency (USEPA) Method 8270 SIM. All concentration units in milligrams per kilogram (mg/kg).
 2. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene are collectively referred to as the carcinogenic PAHs. Although naphthalene is also carcinogenic, it is evaluated separately using the USEPA Regional Screening Level (RSL) for naphthalene because its carcinogenicity is not dependent on benzo(a)pyrene.
 3. Benzo(a)pyrene equivalent (BaPe) is calculated as the summation of the potency equivalency factors (PEFs) multiplied by the concentrations of the carcinogenic PAHs. One-half the reporting limit value was used in the BaPe concentration calculations for non-detect results.
 4. PEFs obtained from California Environmental Protection Agency (Cal/EPA) guidance (2011), as developed by the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) (Cal/EPA 1993, 2002).
 5. USEPA Regional Screening Levels (RSLs) for Residential Soil (USEPA 2017), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2017), except where noted.
 6. No RSL available. Residential RSL for acenaphthene selected as surrogate value.
 7. No RSL available. Residential RSL for pyrene selected as surrogate value.
 8. No RSL available. Residential RSL for anthracene selected as surrogate value.
 9. Represents the 95th percentile value of BaPe from the ambient, carcinogenic PAH data set for Northern California (Cal/EPA 2009).
- = Carcinogenic PAHs evaluated using BaPe concentrations and applicable ambient-based screening level (0.92 mg/kg [see footnote 8]).

< = not detected at or above laboratory reporting limits

b = High response was observed for benzo(a)pyrene in the continuing calibration verification (CCV) sample analyzed. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

bgs = below ground surface

NA = not applicable

U = carcinogenic PAHs not detected. The BaPe value presented is based on using one-half the reporting limit values for the non-detect results.

Detected results are presented in **bold** and shaded results denote exceedance of screening level.

References:

California Environmental Protection Agency (Cal/EPA). 1993. *Benzo(a)pyrene as a Toxic Air Contaminant. Part B. Health Effects of Benzo(a)pyrene*. Air Toxicology and Epidemiology Section, Berkeley, CA.

Cal/EPA. 2002. *Air Toxics Hot Spot Guidelines – Part II Technical Support Document for Describing Available Cancer Potency Factors*. Office of Environmental Health Hazard Assessment (OEHHA).

Cal/EPA. 2009. *Use of the Northern and Southern California Polynuclear Aromatic Hydrocarbon (PAH) Studies in the Manufactured Gas Plant Site Cleanup Process*. Department of Toxic Substances Control (DTSC). July 1.

Cal/EPA. 2011. *DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 4, Screening Level Human Health Risk Assessments*. Department of Toxic Substances Control (DTSC). June 9.

Cal/EPA. 2017. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO). June.

United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June*. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

TABLE 2c
Analytical Data: Metals in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth (feet bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Vanadium	Zinc
Residential Site Use Screening Level ²				31	11 ³	15,000	15 ⁴	5.2 ⁴	36,000 ^{4,5}	23	3,100	80 ⁴	23	390	490 ⁴	390	390	390	23,000
SB-01	SB-01-0.5	2/16/2017	0.5	<2.1	10	300	0.43	0.85	40	11	68	62	0.13	0.57	46	<2.1	<0.27	56	170
	SB-01-4.0	2/16/2017	4	<2.4	3	160	0.5	0.32	43	10	18	9.7	0.045	<0.3	52	<2.4	<0.3	43	61
SB-02	SB-02-0.5	2/16/2017	0.5	<2.4	7	320	0.74	0.85	66	9.7	71	69	0.071	0.6	40	<2.4	<0.3	62	200
	SB-02-4.0	2/16/2017	4	<2.1	<1.6	42	0.14	0.28	15	1.8	21	17	<0.019	17	13	<2.1	<0.27	7.9	22
SB-03	SB-03-0.5	2/16/2017	0.5	<2.2	4.7	350	0.44	0.67	48	10	58	56	0.24	<0.27	37	<2.2	<0.27	56	150
	SB-03-4.0	2/16/2017	4	<2.4	2.6	220	0.59	0.42	46	9.7	25	8.6	0.072	<0.29	54	<2.4	<0.29	47	73
SB-04	SB-04-0.5	2/16/2017	0.5	8.6	13	220	0.42	3.4	62	11	320	440	0.75	0.93	51	<2.2	<0.3	51	1,000
	SB-04-4.0	2/16/2017	4	<2.2	3.2	220	0.64	0.46	53	12	29	13	0.079	<0.27	62	<2.2	<0.27	54	79
SB-04-SO1	SB-04-SO1-0.5	6/7/2017	0.5	60	29	670	<0.54	2.2	50	28	390	1,300	2.1	2.6	60	<0.54	0.66	63	840
	SB-04-SO1-4.0	6/7/2017	4	<0.57	6.1	220	<0.57	0.3	39	15	24	8.4	<0.019	0.59	51	<0.57	<0.57	38	71
SB-04-SO2	SB-04-SO2-0.5	6/7/2017	0.5	11	11	190	<0.56	1.4	40	8.6	240	400	0.46	1.7	41	<0.56	<0.56	32	400
	SB-04-SO2-4.0	6/7/2017	4	<0.58	5.3	200	<0.58	<0.29	37	9.1	28	6.2	0.023	<0.58	44	<0.58	<0.58	33	62
SB-04-SO3	SB-04-SO3-0.5	6/7/2017	0.5	67	25	420	<0.55	4.2	120	18	540	1,100	1.3	5.1	93	<0.55	0.82	56	1,100
	SB-04-SO3-4.0	6/7/2017	4	<0.58	6.8	220	<0.58	0.33	46	11	28	8.4	0.051	<0.58	53	<0.58	<0.58	39	71
SB-05	SB-05-0.5	2/16/2017	0.5	<2.2	2.4	400	0.41	0.86	61	9	96	91	0.22	0.32	43	<2.2	<0.3	42	280
	SB-05-4.0	2/16/2017	4	<2.4	2.6	210	0.57	0.35	45	11	23	8.1	0.049	<0.29	53	<2.4	<0.29	46	54
SB-05-SO1	SB-05-SO1-0.5	6/7/2017	0.5	2.6	7.9	360	<0.55	0.54	47	10	65	78	0.16	1.8	38	<0.55	<0.55	42	200
	SB-05-SO1-4.0	6/7/2017	4	<0.6	6.8	230	<0.6	0.32	44	11	26	8.1	0.054	<0.6	60	<0.6	<0.6	40	60
SB-05-SO2	SB-05-SO2-0.5	6/7/2017	0.5	2.2	5.3	870	<0.55	0.97	100	9.9	57	80	0.059	0.86	39	<0.55	<0.55	34	350
	SB-05-SO2-4.0	6/7/2017	4	<0.59	5.4	190	<0.59	<0.29	38	9.2	21	6.1	0.048	<0.59	51	<0.59	<0.59	33	47
SB-05-SO3	SB-05-SO3-0.5	6/7/2017	0.5	2	9.5	300	<0.55	0.44	89	14	130	86	0.1	1.5	44	<0.55	<0.55	35	160
	SB-05-SO3-4.0	6/7/2017	4	<0.59	6.1	200	<0.59	<0.3	39	10	23	6.7	0.048	<0.59	51	<0.59	<0.59	36	51
SB-05-SO4	SB-05-SO4-0.5	6/7/2017	0.5	0.84	7.1	390	0.59	0.5	52	12	31	18	0.074	0.74	64	<0.59	<0.59	45	83
	SB-05-SO4-4.0	6/7/2017	4	<0.59	7.5	220	0.59	<0.29	48	10	29	8.4	0.025	<0.59	54	<0.59	<0.59	44	67
SB-06	SB-06-0.5	2/16/2017	0.5	<2.4	<1.8	230	0.67	0.46	140	13	50	14	0.042	<0.32	56	<2.4	<0.32	66	75
	SB-06-4.0	2/16/2017	4	<2.4	3.3	190	0.5	0.48	37	8.2	29	6.7	0.039	<0.3	42	<2.4	<0.3	37	88
SB-07	SB-07-0.5	2/16/2017	0.5	<2.2	<1.7	130	0.46	0.37	39	9.9	27	12	0.05	<0.28	31	<2.2	<0.28	45	71
	SB-07-4.0	2/16/2017	4	<2.2	3.1	180	0.5	0.3	38	8.2	21	7.2	0.043	<0.27	42	<2.2	<0.27	43	53
SB-08	SB-08-0.5	2/16/2017	0.5	<2.3	9.2	250	0.48	0.76	120	17	130	64	0.11	<0.29	46	3.2	<0.29	50	140
	SB-08-4.0	2/16/2017	4	<2.2	3.1	180	0.46	0.28	35	9.3	20	7	0.034	<0.28	42	<2.2	<0.28	40	48
SB-15	SB-15-0.5	6/7/2017	0.5	<0.55	9.1	620	<0.55	<0.27	27	9.2	42	15	0.18	0.6	27	<0.55	<0.55	48	100
	SB-15-4.0	6/7/2017	4	<0.58	6.7	200	<0.58	<0.29	40	9.3	22	7.5	0.045	<0.58	50	<0.58	<0.58	40	58
Tree Well/Planter Box Soil Samples																			
TW-01	TW-01	8/16/2017	0.25	1.3	5.2	180	<0.68	0.41	40	8	85	38	0.11	3.1	37	<0.68	<0.68	34	180
TW-02	TW-02	8/16/2017	0.5	2.1	10	140	<0.52	0.79	75	14	140	90	0.27	1.8	54	<0.52	<0.52	71	270
TW-03	TW-03	8/16/2017	0.25	1.6	8.4	240	<0.58	0.44	32	8.1	46	64	0.16	0.89	32	<0.58	<0.58	35	160
TW-04	TW-04	8/16/2017	0.5	4.3	10	310	0.65	0.62	49	11	95	140	0.31	1.1	50	<0.57	<0.57	49	220
TW-05	TW-05	8/16/2017	0.25	5.7	8.3	260	<0.52	0.62	51	11	85	94	0.24	1.4	49	<0.52	<0.52	48	220
TW-06	TW-06	8/16/2017	0.5	1.4	7.3	370	<0.54	0.37	51	11	56	53	0.12	0.91	44	<0.54	<0.54	49	130
TW-07	TW-07	8/16/2017	0.25	1.9	6.5	200	<0.51	0.35	40	9.5	50	38	0.1	1.3	43	<0.51	<0.51	37	110
TW-08	TW-08	8/16/2017	0.5	1.1	9	130	<0.55	<0.28	42	9.2	34	25	0.082	0.91	43	<0.55	<0.55	40	95
TW-09	TW-09	8/16/2017	0.25	2.2	7.2	540	<0.54	0.49	45	11	72	67	0.15	2.5	45	<0.54	<0.54	39	220

TABLE 2c
Analytical Data: Metals in Soil ¹
701-735 105th Avenue
Oakland, California

Notes:

- 1. Inorganics analyzed by United States Environmental Protection Agency (USEPA) Method 6010B and 7471A (mercury only). All concentration units in milligrams per kilogram (mg/kg).
- 2. USEPA Regional Screening Levels (RSLs) for Residential Soil (USEPA 2017), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2017), except where noted.
- 3. Ambient-based screening level recommended by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), based on a 99th percentile upper estimate of regional background concentrations of arsenic (Duvergé 2011).
- 4. DTSC-modified screening level (DTSC-SL) for residential soil (Cal/EPA 2017).
- 5. It was assumed that any chromium at the Site is present in the trivalent form as there are no documented sources of hexavalent chromium. Screening level for trivalent chromium was therefore selected as the screening level for "chromium."

< = not detected at or above laboratory reporting limits

bgs = below ground surface

Detected results are presented in **bold** and shaded results denote exceedance of screening level.

References:

California Environmental Protection Agency (Cal/EPA). 2017. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO).
Duvergé, D.J. 2011. *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*. Master's thesis, San Francisco State University. http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/2011_Arsenic_Background_Duverge.pdf
United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June*. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

TABLE 2d
Analytical Data: Polychlorinated Biphenyls and Pesticides in Soil ¹
701-735 105th Avenue
Oakland, California

Sample Location	Sample ID	Sample Date	Sample Depth	Aroclor 1254	Aroclor 1260	Chlordane (gamma)
<i>Residential Site Use Screening Level</i> ²				0.24	0.24	0.44 ³
TW-01	TW-01	8/16/2017	0.25	<0.0064	0.023	<0.11
TW-02	TW-02	8/16/2017	0.5	<0.005	0.047	<0.044
TW-03	TW-03	8/16/2017	0.25	<0.0057	0.02	<0.05
TW-04	TW-04	8/16/2017	0.5	0.044	0.035	0.073
TW-05	TW-05	8/16/2017	0.25	0.034	0.032	<0.045
TW-06	TW-06	8/16/2017	0.5	<0.0054	0.022	<0.095
TW-07	TW-07	8/16/2017	0.25	<0.005	0.014	<0.044
TW-08	TW-08	8/16/2017	0.5	<0.0055	0.013	<0.049
TW-09	TW-09	8/16/2017	0.25	<0.0053	0.014	<0.094

Notes:

1. Polychlorinated Biphenyls (PCBs) and Pesticides analyzed by United States Environmental Protection Agency (USEPA) Methods 8082 and 8081A, respectively. All concentration units in milligrams per kilogram (mg/kg).
2. USEPA Regional Screening Levels (RSLs) for Residential Soil (USEPA 2017), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2017), except where noted.
3. DTSC-modified screening level (DTSC-SL) for residential soil (Cal/EPA 2017).
 < = not detected at or above laboratory reporting limits
 Detected results are presented in **bold**.

References:

California Environmental Protection Agency (Cal/EPA). 2017. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number:

3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO). June.

United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June*. Available at:
<https://www.epa.gov/risk/regional-screening-levels-rsls>.

TABLE 3
Analytical Data: Volatile Organic Compounds in Soil Gas ¹
701-735 105th Avenue
Oakland, California

Location ID	Sample ID	Sampling Date	Sample Type	1,1,1-Trichloro-ethane	1,3-Butadiene	2-Butanone	Acetone	Benzene	Carbon Disulfide	Cyclo-hexane	Ethyl-benzene	Iso-propanol	m,p-Xylenes	n-Heptane	n-Hexane	o-Xylene	Tetra-chloro-ethene	Tetra-hydro-furan	Toluene
Residential Site Use Screening Level ²				500,000 ³	8.5 ³	2,600,000	16,000,000	49 ³	370,000	3,200,000	550	110,000	50,000	210,000	370,000	50,000	230 ³	1,100,000	160,000 ³
SB-01	SB-01-SG	2/16/2017	N	<6.7	3.2	5.8	76	<3.9	<3.8	5.1	<5.3	56	7.1	6	9.7	<5.3	<8.3	<3.6	18
SB-02	SB-02-SG	2/16/2017	N	400	<2.2	<3	12	<3.2	<3.1	<3.5	<4.4	43	<4.4	25	130	<4.4	<6.9	<3	<3.8
SB-03	SB-03-SG	2/16/2017	N	11	8.8	8	130	13	3.4	21	10	59	40	20	47	10	<7.1	4	100
SB-03	SB-03-SG	2/16/2017	FD	12	5.9	7.2	140	13	3.6	25	10	55	40	20	50	10	<7.4	4.1	110
SB-04	SB-04-SG	2/16/2017	N	<5.4	<2.2	6.4	85	<3.1	3.7	<3.4	<4.3	29	<4.3	62	80	<4.3	30	<2.9	8.3
SB-05	SB-05-SG	2/16/2017	N	<15	10	<8.4	97	18	18	21	13	30	28	320	1,200	<12	<19	<8.4	100
SB-06	SB-06-SG	2/16/2017	N	<5.1	2.7	10	120	15	<2.9	4.9	17	37	56	86	170	13	9.9	3.3	150
SB-07	SB-07-SG	2/16/2017	N	<4.8	<1.9	4.7	72	<2.8	<2.7	<3	<3.8	27	<3.8	<3.6	<3.1	<3.8	12	<2.6	3.8
SB-08	SB-08-SG	2/16/2017	N	<5.5	<2.2	8.9	120	<3.2	<3.1	<3.5	<4.4	20	9	<4.1	<3.5	<4.4	73	<3	16

Notes:

1. Volatile organic compounds (VOCs) analyzed by United States Environmental Protection Agency (USEPA) Method TO-15. All concentration units in micrograms per cubic meter (µg/m³) and sampled at 5 feet below ground surface.
2. Residential soil gas screening levels are based on USEPA Regional Screening Levels (RSLs) for air (USEPA 2016), as endorsed by the California Department of Toxic Substances Control (DTSC) (Cal/EPA 2016), except where noted. Residential soil gas screening levels were derived from residential air screening levels by dividing the air screening level by the DTSC default soil gas-to-indoor air attenuation factor for current residential buildings of 0.002 (Cal/EPA 2011). The attenuation factor represents the ratio between indoor air concentration and soil gas concentration, as follows:

$$\alpha = \frac{C_{\text{indoor}}}{C_{\text{soil gas}}}$$

where:

C_{indoor} = Indoor air concentration (µg/m³)

C_{soil gas} = Soil gas concentration (µg/m³)

3. Based on DTSC-modified screening level (DTSC-SL) for residential air (Cal/EPA 2017). Soil gas screening level calculated as described in Note 2 above.

< = not detected at or above laboratory reporting limits

FD = Duplicate sample

N = Primary sample

Detected results are presented in **bold** and shaded results denote exceedance of screening level.

References:

California Environmental Protection Agency (Cal/EPA). 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)* . Department of Toxic Substances Control (DTSC). October.

Cal/EPA. 2017. *DTSC-modified Screening Levels (DTSC-SLs)*. Human Health Risk Assessment (HHRA) Note Number: 3. Department of Toxic Substances Control (DTSC) and Human and Ecological Risk Office (HERO). June.

United States Environmental Protection Agency (USEPA). 2017. *Regional Screening Levels for Chemical Contaminants, June*. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Appendix B
Site-Specific Health and Safety Plan (HASP)

HEALTH AND SAFETY PLAN
701-735 105th Avenue
Oakland, California

September 1, 2017

Prepared for:

Lighthouse Community Public Schools
444 Hegenberger Road
Oakland, California 94621

Prepared by:

RPS IRIS ENVIRONMENTAL
1438 Webster Street, Suite 302
Oakland, California 94612

EMERGENCY INSTRUCTIONS

E.1 Emergency Equipment Locations

ITEM	LOCATION
Eyewash kit	Field vehicle
First aid kit	Field vehicle
Fire extinguisher	Field vehicle

E.2 Emergency Telephone Numbers

CONTACT	TELEPHONE
Ambulance	911
Police	911
Fire Department	911
Hospital	San Leandro Hospital 13855 E 14 th Street San Leandro, California 94578 (510) 357 - 6500
Urgent Care Facility	U.S HealthWorks Medical Group 7817 Oakport Street, Ste140 Oakland, California 94621 (510) 638 - 0701
Poison Control Center	(800) 222 - 1222
CHEMTREC	(800) 424 - 9300
Facility Contact	Judy Littleton
Project Manager	Conor McDonough RPS Iris Environmental (510) 834 – 4747 x 46 office (415) 308 - 1734 cell
Site Health and Safety Officer	Leah Nelson RPS Iris Environmental (510) 834 - 4747 x 19 office (518) 605 - 6798 cell
Office Health and Safety Officer	Julie Hayes RPS Iris Environmental (510) 834 - 4747 x 44 office (510) 717-1559 cell

E.3 Standard Procedure for Reporting an Emergency

When calling for assistance in an emergency situation, the following information should be provided:

- name of person making call;
- telephone number at location of person making call;
- name of person(s) exposed or injured;
- nature of emergency; and,
- actions already taken.

Do not hang up the phone until after the recipient has hung up first.

E.4 Route to Hospital

The nearest hospital is San Leandro Hospital in San Leandro, California. This hospital has confirmed that they have emergency services. This hospital is located approximately 3.3 miles from the Site; and the drive time from the Site to the hospital is approximately 11 minutes without traffic. The hospital address, driving directions, and route maps included in the section and below.

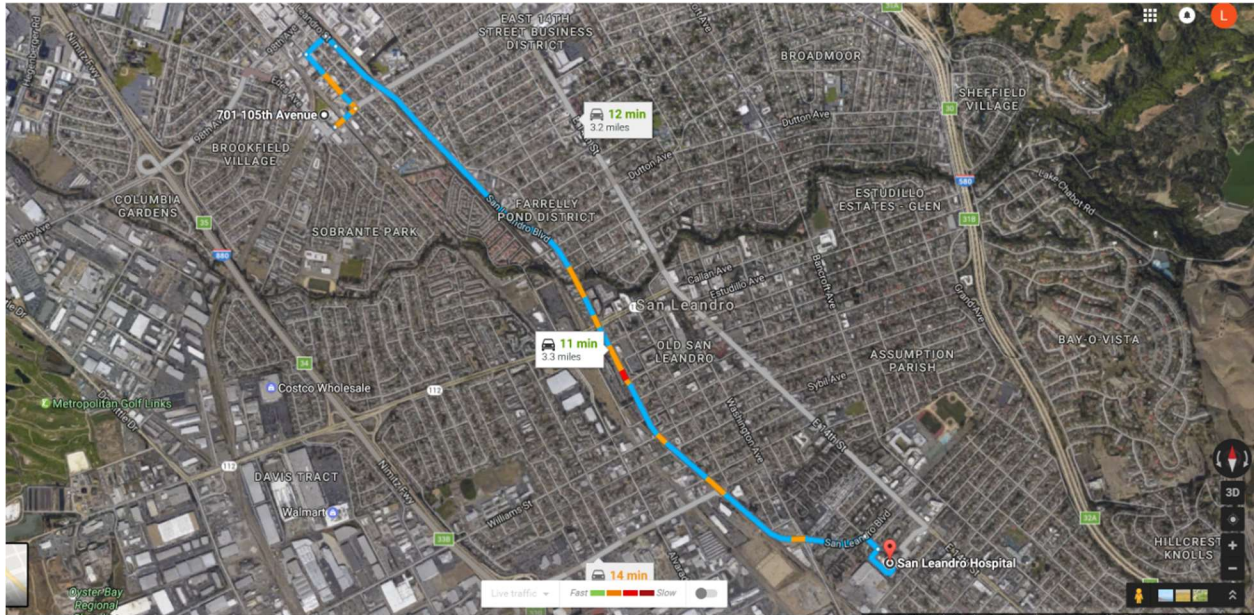
Hospital Address

San Leandro Hospital
13855 E 14th Street
San Leandro, CA 94578

Directions from Site to Hospital

1. Head northeast on 105th Avenue toward Pearmain Street, go 495 feet.
2. Turn left at the 1st cross street onto Pearmain Street, for 0.2 miles.
3. Turn right onto 100th Avenue, go 482 feet.
4. Turn right onto San Leandro Street, go 259 feet.
5. Keep left to stay on San Leandro Street, go 2.6 miles.
6. Turn right on Rose Drive, go 325 feet.
7. Turn right, go 0.1 miles.
8. Arrive at San Leandro Hospital.

Hospital Route Map



E.5 Route to Urgent Care Facility

The nearest urgent care facility is U.S. HealthWorks Medical Group. This facility has confirmed that they have emergency services. This facility is located approximately 2.3 miles from the Site; and the drive time from the Site to the facility is approximately 10 minutes without traffic. The facility is in operation between the hours of 7:00 A.M. to 6:00 P.M. The facility address, driving directions, and route maps included in the section and below.

Facility Address

U.S. HealthWorks Medical Group
7817 Oakport Street, Suite 140
Oakland, CA 94621

Directions from Site to Facility

1. Follow Edes Avenue and 98th Avenue to Empire Road, go 1.0 mile.
2. Follow Empire Road and Hegenberger Loop to Edgewater Drive, go 0.6 miles.
3. Drive to Oakport Street, go 0.6 miles.
4. Arrive at U.S. HealthWorks Medical Group.

Urgent Care Facility Route Map

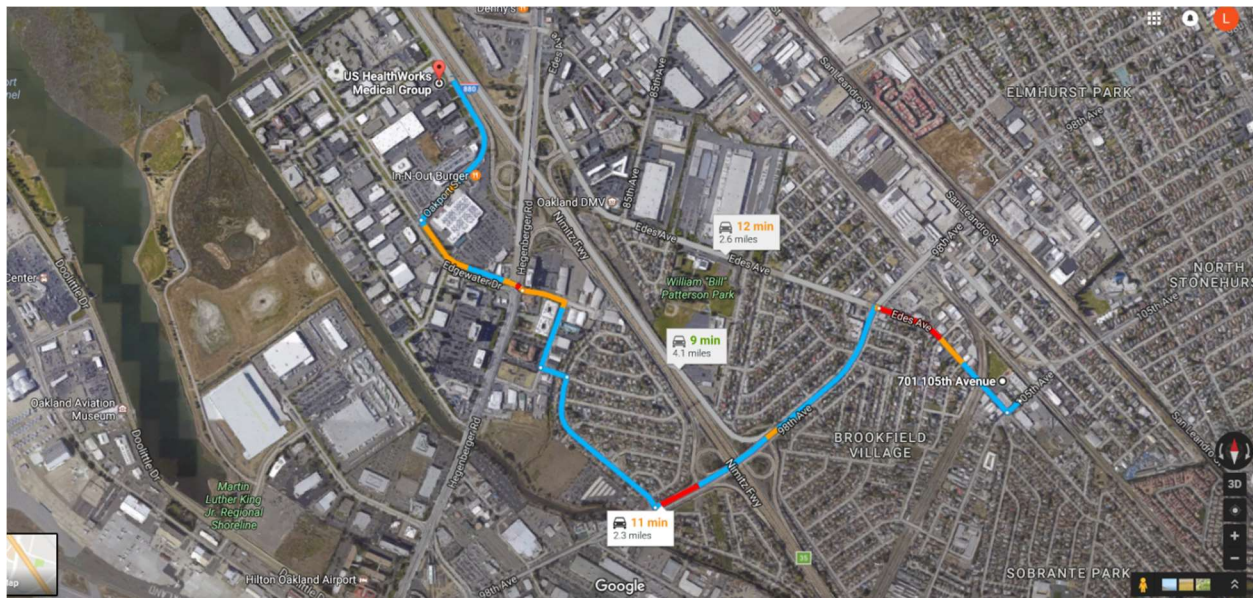


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Figure 1 Site Layout

Appendices

Appendix A Tailgate Safety Meeting Documentation

Appendix B Job Safety Analysis Form

1.0 INTRODUCTION

This site-specific Health and Safety Plan (HASP) describes the procedures that shall be followed to protect the health and safety of RPS Iris Environmental employees at the property located at 701-735 105th Avenue, Oakland California (the Site, Figure 1).

This HASP has been developed to comply with applicable federal, state, and local health and safety requirements including California Occupational Safety and Health Administration's (Cal-OSHA) requirements contained in Title 8 of the California Code of Regulations, Section 5192 (8 CCR 5192) and federal OSHA requirements contained in Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120).

The observance and practice of the health and safety procedures specified in this HASP, and compliance with applicable federal, state, and local regulations, pertaining to health and safety, are mandatory. In the event of conflicting requirements, the procedures that provide the highest degree of required personal protection shall be implemented.

RPS Iris Environmental personnel who participate in field activities must be trained in the general and site-specific health and safety hazards associated with those field activities and if applicable, meet recommended medical examination requirements. RPS Iris Environmental personnel must follow the guidelines, rules, and procedures contained in this HASP. The Project Manager or Site Health and Safety Officer may impose other procedures or prohibitions believed to be necessary for safe operations. This HASP is a "living document" that will be revised, as appropriate, to reflect current job hazards.

This HASP has been prepared to inform field personnel, including RPS Iris Environmental contractors and RPS Iris Environmental subcontractors, of the health and safety hazards associated with field activities at this site. **Each contractor and subcontractor must assume direct responsibility for the health and safety of its own employees.**

A copy of this HASP shall be kept onsite (*e.g.*, in the field vehicle) and made available for inspection and review by employees, clients, agency personnel and other visitors while working at the Site.

2.0 ROLES AND RESPONSIBILITIES

2.1 Project Manager

The Project Manager is Mr. Conor McDonough of RPS Iris Environmental. Contact information is provided in the Emergency Instructions section, above. The responsibilities of the Project Manager include:

- familiarity with aspects of the HASP;
- distribution of the HASP to RPS Iris Environmental field personnel prior to their working at the job site;
- providing necessary information to subcontractors prior to implementing work so that subcontractors can prepare their own HASP accordingly; and
- coordination with the Site Health and Safety Officer and the Office Health and Safety Manager, as necessary.

2.2 Site Health and Safety Officer

The Site Health and Safety Officer is Ms. Leah Nelson of RPS Iris Environmental. Contact information is provided in the Emergency Instructions section, above. The responsibilities of the Site Health and Safety Officer include:

- familiarity with aspects of the HASP;
- daily tailgate safety meetings with Site personnel, visitors and subcontractors to review job hazards and the associated protocols and procedures contained in the HASP; and,
- enforcement of the HASP at the job site.

2.3 Office Health and Safety Manager

The Office Health and Safety Manager is Ms. Julie Hayes of RPS Iris Environmental. Contact information is provided in the Emergency Instructions section, above. The responsibilities of the Office Health and Safety Manager include:

- familiarity with health and safety protocols and procedures;
- development and revision of the HASP; and,
- point of contact for persons working at the Site who have questions regarding the HASP.

2.4 RPS Iris Environmental Field Personnel

RPS Iris Environmental field personnel are responsible for reading and understanding this HASP before entering the Site, and are required to comply with the protocols and procedures contained in this HASP.

2.5 Visitors

2.5.1 Invited Visitors

Invited visitors to the Site include on-Site employees and subcontractors working for RPS Iris Environmental. Scheduled visitors may be required to participate in a health and safety meeting (held by the development contractor) upon their arrival at the Site. It is the responsibility of each visitor to:

- provide their own personal protective equipment (PPE);
- protect their own health and safety; and,
- comply with federal, state, and local laws, regulations, and ordinances governing worker health and safety.

Scheduled guests that are under direct oversight by RPS Iris Environmental may be provided with appropriate project information to develop their own HASP in advance of conducting work, if requested. Guests will also be required to participate in an additional health and safety tailgate meeting, held by the RPS Iris Environmental Site Health and Safety Officer, upon arrival.

Unscheduled guests will also be required to participate in a health and safety tailgate meeting, held by the Site Health and Safety Officer, upon their arrival. Such guests may be required to maintain an appropriate distance from specific on-Site activities, for their protection, as directed by the Site Health and Safety Officer.

RPS Iris Environmental is not responsible for the health and safety of scheduled and unscheduled guests; they are responsible for the health and safety of their own workers.

2.5.2 General Public

Area of work is controlled and not open to the public.

RPS Iris Environmental is not responsible for the health and safety of the general public that enter the Site.

2.6 Subcontractors

RPS Iris Environmental subcontractors may include general contractors, drillers, environmental contractors, utility locating contractors, and waste removal companies. Prior to conducting work, subcontractors will be provided with project information to develop their own HASP. It is the responsibility of the manager or superintendent of each subcontractor to:

- develop/provide a job related HASP for contracted work
- read and understand their HASP;
- provide proper training and equipment to their personnel;
- ensure the health and safety of their own personnel; and,
- comply with federal, state, and local laws, regulations, and ordinances governing worker health and safety.

RPS Iris Environmental is not responsible for the health and safety of subcontractors; they are responsible for the health and safety of their own workers.

3.0 SITE CONDITIONS

3.1 Site Layout

The Site is located at 701-735 105th Avenue, Oakland, Alameda County, California, as shown in Figure 1, and consists of one parcel (APN: 045-526-801-800) with two buildings. The northeastern building is approximately 15,000 square-feet and the southwestern building is approximately 20,000 square-feet. The total land area of the Site is approximately 3.9 acres. The Site is located in a mixed residential and commercial area.

3.2 Site History

The Site was utilized as early as 1926 as an iron foundry, with various small buildings constructed on-Site including mechanical shops, steel ovens, and a large foundry building. The Site continued to be operated as an iron foundry until approximately 1955-1958, after which the buildings on-Site were demolished. The Site remained vacant until approximately 1982 when permits were issued to construct two warehouses. One warehouse was converted into an assembly church in 1991. By 1993, aerial photos show two large structures and a parking lot on-Site. With the construction of the auxiliary restrooms and concession stand in 2003, the Site reached its present-day configuration.

Limited Phase II Environmental Site Assessments were performed by RPS Iris Environmental during 2017 and the following chemicals were detected within Site media as described below:

- Media: Soil Total Petroleum Hydrocarbons as Diesel at concentrations up to 110 milligrams per kilogram (mg/kg).
- Total Petroleum Hydrocarbons as Motor Oil at concentrations up to 550 mg/kg.
- Polyaromatic Hydrocarbons (PAHs) at concentrations up to 11 mg/kg expressed as Benzo(a)pyrene equivalent (BaPe).
- Heavy metals above residential San Francisco regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs), as follows:
 - Lead at up to 1,300 mg/kg, which is above the hazardous waste Total Threshold Limit Concentration (TTLIC) of 1,000 mg/kg for lead.
 - Arsenic up to 29 mg/kg.
 - Antimony up to 67 mg/kg.
 - Cobalt up to 28 mg/kg.
- Polychlorinated Biphenyls:
 - Aroclor 1254 up to concentrations of 0.044 mg/kg.
 - Aroclor 1260 up to concentrations of 0.047 mg/kg.
 - Chlordane up to concentrations of 0.073 mg/kg.
- No volatile organic compounds (VOCs) were detected above laboratory reporting limits.

Media: Soil Gas

- The VOC, 1,3-Butadiene was detected at concentrations up to 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). No other VOCs were detected above their respective residential soil gas ESL.

Media: Groundwater

- No groundwater testing has occurred onsite. Groundwater is reported to occur at depths of 14 feet below ground surface and is not expected to be encountered during the proposed work.

For a complete listing of the chemicals detected in Site media refer to the Current Site Condition Report (RPS Iris Environmental, 2017a).

3.3 Chemicals Potentially Present in the Subsurface

Based on the limited Site investigations (RPS Iris Environmental, 2017a), the following chemicals of potential concern (COPC) have been identified at the Site:

- PAHs;
- Heavy Metals (Lead, Arsenic, Antimony and Cobalt).

For a listing of COPCs detected in Site media with respect to ESLs refer to the Current Site Condition Report (RPS Iris Environmental, 2017).

3.4 Objectives of Work

RPS Iris Environmental developed a Remedial Action Workplan (RAW) that provides as a remedy limited soil excavation, capping and institutional controls. To implement the RAW remedial activities will included;

- Mobilization and demobilization of (heavy) earth moving equipment.
- Site preparation – establishment of traffic routes, demarcation of work zones, clearing and grubbing, minor Site demolition (removal of existing surface cover of asphalt, pavers, concrete and vegetation) to expose soil.
- Excavation and stockpiling of soil and loading into trucks.
- Placement of orange demarcation netting over exposed excavation surfaces.
- Export waste material and soil to appropriate disposal facility.
- Import of clean soil.
- Excavation backfill and compaction.

4.0 JOB HAZARD ANALYSIS

4.1 Traffic and Heavy Equipment Hazards

Motor vehicle and construction equipment traffic entering and exiting the Site constitutes a physical safety hazard, regardless of the specific job tasks that are being conducted. It should be assumed that operators of heavy equipment used for soil excavation have limited field of visibility while operating their equipment. To mitigate traffic hazards, Site personnel and visitors shall:

- Wear highly visible (*e.g.*, bright orange with reflective elements) safety vests;
- Stay at least 10 feet away from moving equipment. If closer than 10 feet:
 - Maintain awareness of vehicles at all times.
 - Inform the operator of your location before moving.
 - Stay visible to equipment operator and/or spotter.

4.2 Physical Hazards

- Prior to entering work area, survey work area for potential hazards and take precautions to mitigate any recognized hazards prior to starting work.
- Open excavations present a significant fall hazard.

- Keep personnel and vehicles away from edge of open excavation.
- Do not enter excavation unless appropriate excavation safety protocols have been established and personnel are familiar with excavation egress points and procedures.
- See more detail in Section 4.8.
- Prevent back injury from lifting heavy objects by:
 - Do not attempt to lift heavy objects (greater than 50 pounds), use buddy system or mechanical lift device.
 - Bending with your knees
 - Lifting with your legs and not your back
 - Keep your feet centered under you
 - Keep the load close to your body
- Maintain awareness of physical hazards due to unstable footing, physical obstacles and potential falling objects prior to the commencement of work activities.

4.2 Mechanical Hazards

- Verify that equipment is in good condition.
- Use caution when working around a coring, drilling, development, excavation or sampling rig. Heavy equipment may become unstable, hydraulic lines may rupture, and equipment operators may have limited lines of site when moving or rotating equipment.
- Keep a neat and clean workplace.
- Do not stand or walk under elevated loads or ladders.
- Avoid pinch points.
- Note locations of kill switches and confirm they are operational before beginning work.
- Consult the H&S Officer if other mechanical hazards exist.

4.3 Electrical Hazards

- Locate and mark buried utilities before initiating excavation activities.
 - Utilities located by: Underground Service Alert (USA) and a private locator.
- Operations adjacent to overhead lines are prohibited unless one of the following conditions is satisfied:
 - Lockout/tagout procedure. The main electrical switches is in a locked "off" position for any electrically operated equipment or electrical lines. De-energized equipment or circuits are tagged at all points where such equipment or circuits can be energized.
 - Equipment or any part does not have the capability of coming within the minimum clearances for energized overhead lines as specified in Table 1, or the equipment has been positioned and blocked to assure the part, including cables, cannot come within the minimum clearances specified in Table 1.

TABLE 1 - Minimum Required Clearances for Overhead Lines

POWER LINES NOMINAL SYSTEM (kilovolts)	MINIMUM REQUIRED CLEARANCE
50 or under	10 feet (3.05 meters)
69	12 feet (3.66 meters)
115-161	15 feet (4.57 meters)
230-285	20 feet (6.10 meters)
345	25 feet (7.62 meters)
500	35 feet (10.67 meters)

In addition, the following measures should also be conducted:

- Properly ground electrical equipment.
- Avoid standing in water when operating electrical equipment.
- If equipment must be connected by splicing wires, make sure connections are properly taped.
- Note locations of kill switches on heavy equipment and confirm they are operational before beginning work.

4.4 Temperature Hazard

Heat stress in workers is a potential concern at the site. Although the use of protective equipment will reduce the risk of exposure to toxic chemicals, its use can create significant worker hazards, such as heat stress, physical and psychological stress, and impaired vision, mobility, and communication (NIOSH, 1985). Of these hazards, heat stress is perhaps the most common and the most serious. In the early stages, heat stress causes rashes, drowsiness, cramps, and discomfort, threatening the safety of both the individual and his co-workers. In more severe cases, heat stroke and death can result (NIOSH, 1985).

Daytime temperatures at the Site may be expected to range from 1°C to 32°C (34°F to 90°F). Wearing an impermeable suit with rubber boots, gloves, hard hat, and full-face respirator imposes an additional 6°C to 11°C (10°F to 20°F) burden on the worker (Paull and Rosenthal, 1987). For the purposes of this HASP, it is assumed that workers wearing Level C protective gear with impermeable suits would experience the same additional temperature burdens as described above. It is therefore possible that workers wearing Level C safety gear could be exposed to working temperatures inside their suits of approximately 7°C to 43°C (44°F to 110°F).

The following mitigation measures will be taken by workers at the site if ambient temperatures exceed 70°F.

- Rest periods will be taken by workers every 2 to 4 hours. Rest periods will be a minimum of 15 minutes. Liquids (particularly electrolyte-replenishing fluids) will be available to all workers during rest periods.

- A timely access to shade upon a worker's request shall be provided or as per subsection (d) (1) of T8 CCR 3395.
- Workers will wear lightweight clothing (e.g., short-sleeve shirts) under impervious suits.
- Workers dressed in impervious clothing will receive the following physiological monitoring during their prescribed rest periods:
 - a) Measure heart rate (HR) as early as possible in the rest period and record.
 - b) Check for the physical reactions related to heat stress. Physical reactions include fatigue, irritability, anxiety, and decreased concentration, dexterity or movement.
 - c) Check for other heat-related problems, including:
 - i) Heat Rash caused by continuous exposure to hot and humid air and aggravated by chafing clothes. Decreases ability to tolerate heat.
 - ii) Heat Cramps caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs include muscle spasm and pain in the extremities and abdomen.
 - iii) Heat Exhaustion caused by increased stress on various organs to meet increased demands to cool the body. Signs include shallow breathing; pale, cool, moist skin; profuse sweating; dizziness; and listlessness.
 - iv) Heat Stroke is the most severe form of heat stress. Body must be cooled immediately to prevent severe injury or death. Signs and symptoms are red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; and coma. **Call 911 immediately if a worker exhibits symptoms of heat stroke.**

If the measured HR exceeds 110 beats per minute, or any of the above physical symptoms are noted, the work period will be shortened by 30 percent (NIOSH 1985). Work may resume after the HR and physical condition of the worker has returned to normal.

If ambient temperatures exceed 80 °F, the following protective measures will be undertaken by workers at the Site in addition to the protective measures listed above:

- One or more areas of shade that are either open to the air or provided with ventilation or cooling shall be maintained at all times while workers are present. The amount of shade present shall be at least enough to accommodate the number of employees on recovery or rest periods, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other.
- Employees shall be allowed and encouraged to take a preventative cool-down rest in the shade when they feel the need to do so to protect themselves from overheating. Such access to shade shall be permitted at all times. An individual employee who takes a preventative cool-down rest:

- a) shall be monitored and asked if he or she is experiencing symptoms of heat illness;
 - b) shall be encouraged to remain in the shade;
 - c) shall not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the shade
- If an employee exhibits signs or reports symptoms of heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, the employer shall provide appropriate first aid or emergency response procedures. Effective communication by voice, observation, or electronic means shall be maintained so that workers can contact a supervisor or emergency medical services when necessary:
 - a) If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor shall take immediate action commensurate with the severity of the illness.
 - b) If the signs or symptoms are indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), the employer must implement emergency response procedures.
 - c) An employee exhibiting signs or symptoms of heat illness shall be monitored and shall not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services in accordance with the employer's procedures.
 - d) Contacting emergency medical services and, if necessary, transporting employees to a place where they can be reached by an emergency medical provider.
 - e) Ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

If ambient temperatures exceed 95 °F, high-heat procedures shall be implemented by workers at the Site in addition to the protective measures listed above:

- Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.

- Observing employees for alertness and signs or symptoms of heat illness. The employer shall ensure effective employee observation/monitoring by implementing one or more of the following:
 - a) Supervisor or designee observation of 20 or fewer employees, or
 - b) Mandatory buddy system, or
 - c) Regular communication with sole employee such as by radio or cellular phone, or
 - d) Other effective means of observation.
- Designating one or more employees on each worksite as authorized to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available.
- Reminding employees throughout the work shift to drink plenty of water.
- Pre-shift meetings before the commencement of work to review the high heat procedures, encourage employees to drink plenty of water, and remind employees of their right to take a cool-down rest when necessary.

Employers are required to closely observe all employees during a heat wave. A “heat wave” is defined as any day in which the predicted high temperature for the day will be at least 80 °F and at least 10°F higher than the average high daily temperature in the preceding five days. A worker who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the worker’s employment.

According to the Cal/OSHA and Department of Industrial Relations (DIR) revised heat illness prevention standard effective May 1, 2015, employers are obligated to train employees in:

- The employer’s responsibility to provide water, shade, cooldown rests, and access to first aid
- The employee’s right to exercise their rights under the standard without retaliation
- The concept, importance, and methods of acclimatization
- Appropriate first aid and/or emergency responses

The employer shall establish, implement, and maintain, an effective heat illness prevention plan which must contain the following:

- Procedures for provision of water and access to shade
- High heat procedures
- Emergency response procedures
- Acclimatization methods and procedures

4.5 Biological Hazards

Potential biological hazards include insects and vermin (*e.g.*, ticks, mosquitoes, bees, rats) that may be poisonous or carry disease. Workers should notify the Site Health and Safety Manager, during the pre-work tailgate safety meeting, if they have any known allergic reactions to any insect stings or bites. Pest repellent may be worn if desired.

4.6 Chemical Hazards

Chemical hazards associated with the Site are presented in Section 3.3. Exposure to COPCs may occur primarily through direct contact with the soil and therefore can be mitigated using the PPE as specified in Section 8.0.

Exposure to VOCs may also occur through the inhalation pathway. The presence of those constituents with the lowest California OSHA-Permissible Exposure Limits (PELs) or NIOSH Recommended Exposure Limits (RELs) will dictate the level of PPE that will be required.

Of the many VOCs that may or may not be present beneath the Site, benzene has the lowest PEL of 1 part per million by volume (ppmv) or 0.47 ppmv as isobutylene. Therefore, the PEL established at 1 ppmv for these compounds will be used as a conservative basis to monitor for the potential presence of VOCs in ambient air via the inhalation exposure pathway.

Further discussion pertaining to air monitoring that may be employed is presented in Section 7.0; a discussion of the PPE that will be donned during Site activities is presented in Section 8.0.

4.7 Explosive Hazards

Explosive hazards are not anticipated in the subsurface based on the previous investigations and available analytical data in the areas of excavation. However, the project will involve subsurface excavation and gas lines may be present. Call Underground Surface Alert (USA) as required by law and request a utility survey for utilities entering the Site. In addition, a private utility contractor should be engaged to identify on Site utilities, including gas lines.

4.8 Trench/Excavation Hazards

OSHA requires that in all excavations, workers exposed to potential cave-ins must be protected by shoring, sloping, or benching the sides of the excavation, or placing a shield between the side of the excavation and the work area. Excavations four feet deep or deeper must have adequate means of access/egress and must be tested by a competent person for oxygen deficiency or hazardous atmosphere before anyone enters. Entry into excavations/trenches five feet deep or deeper requires an OSHA permit and compliance with OSHA regulations for trenching and excavation.

During the work for this project, RPS Iris Environmental will not enter trenches/excavations. If soil is not inherently stable at the total excavation depth, appropriate protective measures (sloping, shoring, etc.) will be used. Soil samples will be collected from undisturbed soils using the excavator backhoe.

4.9 Confined Space Hazards

A confined space is any space a person can bodily enter that has limited egress and is not designed for continuous human occupancy. Confined spaces can pose many potential hazards including hazardous atmosphere, poor natural ventilation, engulfment, entrapment, and restricted entry for rescue purposes. Confined spaces are considered immediately dangerous to life or health unless proven otherwise. During the work for this project, RPS Iris Environmental will not enter a confined space.

5.0 GENERAL WORK PRACTICES

- No one will be permitted to engage in work operations alone.
- Smoking, eating, drinking, and chewing gum or tobacco will not be permitted within the work zones.
- Personnel should keep track of weather conditions and wind direction to the extent they could affect potential exposure.
- Personnel should be alert to any abnormal behavior on the part of other workers that might indicate distress, disorientation, or other ill effects.
- Personnel should never ignore symptoms that could indicate potential exposure to chemical contaminants. These should be immediately reported to their supervisor or the Site Health and Safety Officer.
- Observe the buddy system, if applicable.
- No matches or lighters in contaminated areas.
- No horseplay.
- A copy of the HASP will be available onsite when work is being performed.

6.0 CONTROL ZONES AND DECONTAMINATION PROCEDURES

6.1 Work Zones

Work activities will have location-specific exclusion zones. RPS Iris Environmental personnel shall not enter excavations, confined spaces, or stockpiled soil locations. These areas will be cordoned off, as appropriate, with safety tape, traffic cones, fences, barriers, or other physical means necessary to maintain a secure and safe work zone.

6.2 Site Control/Security Measures

Field activities will be performed during working hours, typically 7 AM to 6 PM. Area of work is controlled and not open to the public. Clearance to enter the work area is required from the applicable tenants or visitors prior to work, which has been coordinated with the Site representative.

6.3 Equipment Decontamination

The current scope of work should not warrant equipment decontamination measures. However, if deemed necessary, sampling equipment will be decontaminated by subcontractors at an on-Site decontamination area. Used decontamination water, if generated, will be temporarily containerized in 55-gallon steel drums, sealed and labeled pending off-Site disposal.

6.4 Personnel Decontamination

Used protective clothing (nitrile gloves, Tyvek® coveralls, etc.) will be removed and placed in a designated area or container (*e.g.*, plastic bag).

6.5 Dust Control

Fugitive dusts will be generated through the work activities. Dust control measures including misting or applying water to soils or construction debris will be implemented as necessary. Should excessive dust be generated leave work area to upwind location

6.6 Investigation Derived Material Disposal

Investigation derived soil and wastewater including used decontamination water generated during sampling will be containerized into California Department of Transportation 55-gallon drums or equivalent for future transport to a pre-determined disposal facility. Used but unsoiled protective clothing (nitrile gloves, Tyvek® coveralls, etc.) may be disposed of as municipal waste.

6.7 Site Resources Locations

ITEM	LOCATION
Restroom	on-Site
Drinking water supply	Field vehicle and on-Site
Telephone	Personal cell phone and on-Site

7.0 AIR MONITORING

7.1 VOC Monitoring

As a precautionary measure, RPS Iris Environmental will periodically screen the ambient air (*i.e.* the breathing zone of RPS Iris Environmental staff professional) during sampling activities (*i.e.* once per hour) using a photoionization detector (PID). If the total VOC concentration measures below 1 part per million by volume (ppmv), then the individual volatile chemical concentration (*i.e.* benzene, vinyl chloride, TCE) can safely be assumed to be well below 1 ppmv, and it may be concluded that conditions are safe with respect to inhalation health hazard or explosion hazard. If, however, the total VOC concentration exceeds the action level of 1 ppmv over a 1-minute averaging period, then further monitoring will be performed.

In the unlikely event that the measured VOC concentration exceeds 1 ppmv for a period of five minutes, then work shall stop and mitigative measures will be implemented. Actual mitigative measures will be evaluated and implemented based on encountered conditions. These may involve the donning of respiratory protection consisting of half-face air purifying respirator (Level C respiratory protection) or the use of engineering controls such as applying water or the application of vapor suppressants. The mitigative measures will be evaluated and subsequently, the health and safety measures in this HASP will be revised as necessary prior to resuming work.

7.2 Dust Monitoring

Dust monitoring will be established in accordance with the Bay Area Air Quality District's (BAAQMD) guidelines for excavations.

8.0 REQUIRED PERSONAL PROTECTIVE AND RELATED SAFETY EQUIPMENT

The following summary table indicates the PPE that will be required for the Site depending on the OSHA's different levels of PPE protection classification system. Site conditions will be based on the air monitoring results presented in Section 7.0. Otherwise, the PPE used for the Site will be Level D.

Required items	Level of Protection			
	A	B	C	D
Hardhat	x	x	x	x
Safety glasses/shield	x	x	x	x
Neoprene/latex gloves			x	x
Nitrile or chemically appropriate gloves		x	x	
Long sleeve shirt, long pants				x
Tyvek or chemically appropriate	x	x	x	
Half-face respirator with HEPA/organic cartridges			x	
Supplied-air respirator	x	x		
Steel-toed Boots (leather for level D, rubber for level A, B, C)	x	x	x	x
Barricades/barrier tape	x	x	x	x
Ventilation blower/fan			x	
Other (specify)				

9.0 TRAINING

Site-specific health and safety training is required for RPS Iris Environmental field personnel. RPS Iris Environmental field personnel are required to read and understand this HASP, prior to working work at the Site.

As part of RPS Iris Environmental's Health and Safety Policy Program, all RPS Iris Environmental employees on-site with the potential for exposure to hazardous substances have received the initial 40-hour and, if appropriate, the 8-hour refresher health and safety training courses, meeting both 29 CFR 1910.120 (e) and Title 8 CCR 5192 (b)(4)(B)2 requirements.

In accordance with 29 CFR 1910.120(f) and Title 8 CCR 5192 (b)(4)(B) 4, prior to being assigned to a hazardous or a potentially hazardous activity involving exposure to toxic materials, employees must receive a baseline physical exam. The contents of the physical exam are to be determined by the employer's medical consultant. The baseline physical exam should categorize employees as fit-for-duty and able to wear respiratory protection. In addition to the baseline physical, employees must have a periodic physical exam every 12 months. Personnel working in contaminated or potentially contaminated areas at the Site must have current medical monitoring (i.e., exam within 12 months). Additionally, all employees assigned to a hazardous or a potentially hazardous activity involving exposure to toxic materials must be certified as

medically able to use an air purifying respirator in accordance with 29 CFR 1910.134 (Respiratory Protection) and Title 8 CCR 5192 (f)(4)(A).

It is the responsibility of the manager or superintendent of each subcontractor to read and understand their HASP, provide proper training and equipment to their personnel, ensure the health and safety of their own personnel; and comply with federal, state, and local laws, regulations, and ordinances governing worker health and safety.

RPS Iris Environmental field personnel and subcontractors are required to participate in a tailgate safety meeting prior to beginning work at the Site. A copy of the tailgate meeting form is presented in Appendix A.

10.0 EMERGENCY RESPONSE/CONTINGENCY PLAN

10.1 Personal Injury

In case of a minor personal injury, general first aid procedures will apply. Injuries or accidents will be reported to the Site Health Safety Officer immediately.

More serious injuries may require assistance from paramedics. The project supervisor, Site Health Safety Officer, or another designated person will contact the appropriate emergency personnel by dialing 911. The location of and direction to the nearest hospitals are provided in Section E-4 in the front of this HASP.

10.2 Eye and Skin Exposure

Chemicals and hazardous substances may act as irritants to eyes and skin. In case of exposure:

- Remove contaminated clothing and shoes.
- Flush affected areas with plenty of water.
- IF IN EYE, hold eyelids open and flush with plenty of water.
- If irritation or discomfort continues, call for medical aid immediately.

10.3 Ingestion of Chemicals

Chemicals can be harmful if swallowed. In case of exposure:

- Call for medical aid.
- Get immediate medical attention.

10.4 Inhalation Exposure to Chemicals

Inhalation of chemicals, dusts, mists or fumes can cause dizziness, headache, nausea, and eye, nose, and throat irritation. In case of exposure:

- Move victim to fresh air.
- If discomfort continues, call for medical aid immediately.
- If breathing has stopped, call 911 immediately, then, if trained, give artificial respiration.

- If breathing is difficult, call for medical aid immediately.

10.5 Fire Hazards

In case of fire, leave the area and call 911 to report fire immediately.

11.0 SPILL CONTAINMENT PROGRAM

Based upon the type of activities to be performed, spills or uncontrolled releases of liquids are not anticipated. Contractors to perform equipment refueling and handling of liquids in designated area that contain spill containment measure in accordance to their construction storm water pollution and prevention plan (SWPPP).

Soil and/or debris stockpiles, will be constructed on top of 20-mil plastic sheeting and the stockpile sides will be covered with 10-mil plastic sheets and weighted down when not in use.

12.0 REFERENCES

National Institute for Occupational Safety and Health (NIOSH). 1985. *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*. October.

Paull, J.M., and F.S. Rosenthal. 1987. Heat Strain and Heat Stress for Workers Wearing Protective Suits at a Hazardous Waste Sites. American Industrial Hygiene Association Journal. p. 458-463.

RPS Iris Environmental. 2017a. *Current Site Conditions Report*. 701-735 105th Avenue, Oakland, California. August 31.

RPS Iris Environmental. 2017b. *Remedial Action Workplan*. 701-735 105th Avenue, Oakland, California. August 31.

13.0 SIGNATURES

This plan prepared by:



Leah Nelson
Staff Scientist



This plan reviewed by:

Julie Hayes
Office Health and Safety Officer

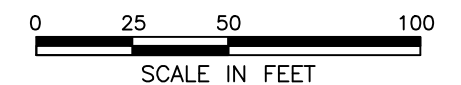
February 8, 2017 (original version)



BASEMAP: NEARMAP MARCH 9, 2017

LEGEND:

- ▲ SOIL AND SOIL GAS SAMPLE LOCATION
(FEBRUARY 2017)
- ADDITIONAL SOIL SAMPLE LOCATION
(JUNE 2017)
- + TREE WELL/PLANTER BOX SOIL SAMPLE LOCATION
(AUGUST 2017)



Formerly Iris Environmental

1438 Webster Street, Suite 302, Oakland, California 94612
T +1 510 834-4747 F +1 510 834-4199 W www.rpsgroup.com

Site Layout including Soil and Soil Gas Sample Locations
701-735 105th Avenue
Oakland, California

Drafter: EC

Date: 08/29/17

Figure

2

Contract Number: 17-1518E

I:\CAD\1717-1518-ElSite layout.dwg

APPENDIX A

TAILGATE SAFETY MEETING DOCUMENTATION

Tailgate Safety Meeting Record

Job Name: _____

Meeting Date/Time: _____

Job Number: _____

Meeting Leader: _____

Topics to Be Covered (mark all that apply):

<input type="checkbox"/>	Chemical Hazards	<input type="checkbox"/>	Emergencies
<input type="checkbox"/>	Physical Hazards	<input type="checkbox"/>	"STOP WORK" Authority
<input type="checkbox"/>	Biological Hazards	<input type="checkbox"/>	Decontamination
<input type="checkbox"/>	Traffic Safety	<input type="checkbox"/>	Weather
<input type="checkbox"/>	Personal Hygiene	<input type="checkbox"/>	Public Relations
<input type="checkbox"/>	Monitoring Plan (PID, dust, methane, etc.)	<input type="checkbox"/>	Standard Operating Procedures
<input type="checkbox"/>	PPE required	<input type="checkbox"/>	Other:
<input type="checkbox"/>	OSHA Rights & Responsibilities	<input type="checkbox"/>	Other:

Details to Discuss/Questions, Suggestions & Comments:

Signatures of Participants:

APPENDIX B

JOB SAFETY ANALYSIS FORM

Job Hazard Analysis
[PROJECT NAME]
[PROJECT ADDRESS]

SCOPE:	[Describe scope of fieldwork in enough detail to understand goals of field effort: e.g. Advance 4 direct-push borings to 8 ft bgs. Collect soil samples at x, y, z ft bgs. Collect grab groundwater samples in 2 borings. Submit soil samples for analysis by US EPA Methods X, Y, Z. Submit groundwater samples for analysis by US EPA Methods X, Y, Z. Etc....]			
TASK COMPONENTS	HAZARDS	MITIGATION STEPS	PPE	Safety Equipment
Break job down into individual step, list tasks and what you mean by each here. E.g. Mobilization - gain site access, follow traffic route, move rigs and personnel onto site, stage in area near boring locations.	For each task, identify hazards associated with completing the whole task. See list at bottom for examples.	For each hazard identified, state the action that will be used to mitigate the hazard. E.g., Hazard: biological - stinging insects. Mitigation: scan area, wear leather gloves when opening well vaults and inspect before reaching hand inside, long pants and long sleeves, bug repellent containing DEET may be worn.	List PPE required to mitigate all hazards mentioned.	List additional safety equipment needed to mitigate all hazards mentioned.

Appendix C
Calculation of Risk-Based Dust Concentrations

Table C-1. Inhalation Toxicity Criteria

Compound	Unit Risk Factor (per µg/m3)					Chronic Reference Exposure Limit (REL) (µg/m3)					8-hr REL (µg/m3)	1-hr REL (µg/m3)
	OEHHA TCDB	USEPA IRIS	DTSC Note 3	USEPA RSLs	To Use	OEHHA TCDB	USEPA IRIS	DTSC Note 3	USEPA RSLs	To Use	OEHHA TCDB	OEHHA TCDB
Antimony	None	None	None	None	None	None	None	None	None	None	None	None
Arsenic	3.30E-03	4.30E-03	None	4.30E-03	4.30E-03	1.5E-02	None	None	1.50E-02	1.5E-02	1.5E-02	2.0E-01
Cobalt	None	None	None	9.00E-03	9.00E-03	None	None	None	6.00E-03	6.0E-03	None	None
Lead	None	None	None	None	None	None	None	None	None	None	None	None
<div>Notes:</div> <div>(1) Sources of toxicity data are:<ul style="list-style-type: none">Office of Environmental Health Hazard Assessment (OEHHA) Toxicity Criteria Database (TCDB)United States Environmental Protection Agency (USEPA) Integrated Risk Information System (IRIS)Department of Toxic Substances Control (DTSC) Human Health Risk Assessment Note Number 3USEPA Regional Screening Levels (RSLs)</div> <div>(2) Inhalation toxicity of lead is evaluated through a separate methodology.</div>												

Table C-2. Development of Risk-based Concentrations in Air – Cancer and Chronic Noncancer Effects

Compound	Exposure Assessment					Target Risk and Hazard		Toxicity Factors		Risk-based Concentrations	
	Exposure Time (hr/d)	Exposure Frequency (d/yr)	Exposure Duration (yr)	Averaging Time, Cancer (d)	Averaging Time, Noncancer (d)	Target Cancer Risk ()	Target Noncancer Quotient ()	Unit Risk (per µg/m3)	Chronic REL (µg/m3)	Cancer (µg/m3)	Chronic Noncancer (µg/m3)
Antimony	8	250	1	25,550	365	1.E-06	1	None	None	None	None
Arsenic	8	250	1	25,550	365	1.E-06	1	4.3E-03	1.5E-02	7.1E-02	6.6E-02
Cobalt	8	250	1	25,550	365	1.E-06	1	9.0E-03	6.0E-03	3.4E-02	2.6E-02
Lead	8	250	1	25,550	365	1.E-06	1	None	None	None	None
<div>Notes:</div> <div>(1) Exposure assumptions are consistent with DTSC default intrusive construction scenario.</div> <div>(2) Inhalation toxicity of lead is evaluated through a separate methodology.</div>											

Table C-3. Summary of Risk-based Concentrations in Air ($\mu\text{g}/\text{m}^3$)

Compound	Chronic Exposure		8-hour Noncancer	1-hour Noncancer
	Cancer	Noncancer		
Antimony	None	None	None	None
Arsenic	7.1E-02	6.6E-02	1.5E-02	2.0E-01
Cobalt	3.4E-02	2.6E-02	None	None
Lead	None	None	None	None
<u>Notes:</u> (1) Inhalation toxicity of lead is evaluated through a separate methodology.				

Table C-4. Development of Risk-based Dust Concentration

Compound	Representative Concentration in Soil/Dust (mg/kg)	Target Concentration in Air (µg/m3)	Dust Concentration in Air (µg/m3)
Antimony	67	None	–
Arsenic	29	6.6E-02	2.3E+03
Cobalt	28	2.6E-02	9.4E+02
Lead	1,300	4.2E-01	3.2E+02
MINIMUM	–	–	3.2E+02
<p><u>Notes:</u></p> <p>(1) Representative concentrations in soil are maxima.</p> <p>(2) Target concentrations in air are risk-based values protective of chronic exposure over the duration of the project (see Tables C-2 and C-5).</p>			

Table C-5
LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	1,300 (1)
Respirable Dust (ug/m ³)	323 (4)
Lead in Air (ug/m3)	0.42 (5)

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	0 (2)
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	0 (2)
Soil ingestion, pica	mg/day	0 (2)
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

[Click here for REFERENCES](#)

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.5	1.00 (3)	1.2	1.4	1.6	1300
BLOOD Pb, PICA CHILD	0.5	1.0	1.2	1.4	1.6	1300

PATHWAYS						
CHILDREN	typical			with pica		
Pathway	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	0.0E+0	0.00	0%		0.00	0%
Soil Ingestion	0.0E+0	0.00	0%	0.0E+0	0.00	0%
Inhalation	4.2E-4	0.55	100%		0.55	100%

NOTES	
<div><div></div></div>	= INPUT PARAMETER
<div><div></div></div>	= OUTPUT PARAMETER
(1)	Assumed lead concentration in soil/dust is maximum concentration detected in soil.
(2)	Inhalation exposure to windblown dust is only complete pathway. Dermal and ingestion exposures are incomplete.
(3)	Target is 1.00-ug/dl increase in blood lead concentration for 90th percentile.
(4)	Solve for respirable dust concentration that produces target blood lead increase.
(5)	Concentration of lead in air is calculated from lead in dust and dust in air.

APPENDIX NOI – ENVIRONMENTAL NOISE AND VIBRATION STUDY

Acoustics
Audiovisual
Telecommunications
Security

28 February 2017

Jenna Stauffer, CEO
Lighthouse Community Public Schools
444 Hegenberger Road
Oakland, CA 94621

CO Kathy Dominguez
Email: kathy@edfacgroup.org

Subject: **Lighthouse Charter School 105th Ave, Oakland, CA –
Environmental Noise and Vibration Study**
Salter Project: 17-0089

Dear Jenna:

We completed our acoustical and vibration measurements at the project site and assessed the environmental noise and vibration impact to the Lighthouse Charter School 105th Ave project. This letter summarizes our findings and recommendations.

SUMMARY

The following points summarize our analysis and recommendations for this project.

1. The project site is subjected to high levels of intermittent noise from train activity (freight and commuter rail).
2. The project will not incorporate any typical acoustical performance criteria such as ANSI S12, CHPS, or LEED.
3. Noise levels, if left unmitigated, could interfere with the intended teaching and learning use of these buildings.
4. We recommend noise reducing measures such as upgraded construction assemblies and strategic location of classrooms away from the tracks.

PROJECT CRITERIA

Mandatory Requirements

This project includes the additional of a third classroom building. As such, it will be subject to the State of California Building Code CAL Green acoustical requirements.

Charles M. Salter, PE
David R. Schwind, FASA
Eric (Broadhurst) Mori, PE
Philip N. Sanders, LEED AP
Thomas A. Schindler, PE
Durand R. Begault, PhD, FAES
Ken Graven, PE, RCDD, CTS-D
Anthony P. Nash, PE
Jason R. Duty, PE
Lloyd B. Ranola
Eric A. Yee
Joshua M. Roper, PE, LEED AP
Ethan C. Salter, PE, LEED AP
Alexander K. Salter, PE
Jeremy L. Decker, PE
Heather A. Salter
Thomas J. Corbett, CTS
Craig L. Gilian, RCDD
Rob Hammond, PSP, NICET III
Andrew J. McKee
Josh J. Harrison
Vinay C. Patel
Valerie C. Smith, PE
Benjamin D. Piper
Elisabeth S. Kelson, CTS
Ryan G. Raskop, AIA, NCARB
Diego Hernandez
Brian C. Wourms
Greg R. Enenstein
Felipe Tavera
Kenneth W. Lim
Ryan A. Schofield
Alex T. Schiefer
Abner E. Morales
Adrian L. Lu
Steve L. Leiby
Blake M. Wells, LEED GA
Katherine M. Moore
Jordan L. Roberts
Sybille M. Roth
Bryce M. Graven
Justin P. Reidling
Lauren von Blohn
Wilson Shao
Dee E. Garcia
Catherine F. Spurlock

California Building Code - CALGreen

Section 5.507.4 of the CALGreen Code¹ provides both prescriptive and performance based criteria for interior noise levels in occupied non-residential spaces where day/night or hourly average sound levels exceed DNL or $L_{eq}(h)$ 65 dB, which are summarized as follows:

- Prescriptive method: Wall and roof-ceiling assemblies exposed to the noise source shall have a composite STC rating of at least 50, with exterior windows having a minimum STC rating of 40.
- Performance method: Wall and roof-ceiling assemblies shall reduce average hourly noise levels to $L_{eq}(h)$ 50 dB, or lower, in occupied areas during any hour of operation.

This analysis uses the CALGreen performance based method to determine the necessary sound insulation at non-residential spaces.

We assumed that the hours of operation for the school would be from 7 am to 9 pm and used the loudest $L_{eq}(h)$ during that period as the basis of design.

City of Oakland General Plan

The Noise Element of the City of Oakland General Plan states an interior noise goal consistent with state noise standards. It also provides land use compatibility guidelines for environmental noise in the community in terms of Day/Night Average Sound Level, DNL². Table 1 below summarizes these guidelines for school land uses.

Table 1: Noise and land use compatibility guidelines for school uses

DNL Value in Decibels	Compatibility Level
Less than 60 dB ³	Normally Acceptable - Development may occur without an analysis of potential noise impacts to the proposed development (though it might still be necessary to analyze noise impacts that the project might have on its surroundings).
60 to 70 dB	Conditionally Acceptable - Development should be undertaken only after an analysis of noise-reduction requirements is conducted, and if necessary noise mitigating features are included in the design. Conventional construction will usually suffice as long as it incorporates air conditioning or forced fresh-air supply systems, though it will likely require that project occupants maintain their windows closed.

¹ California Code of Regulations, Part 11: 2013 California Green Building Standards Code, Nonresidential Mandatory Measures, Section 5.507.4.

² DNL (Day-Night Average Sound Level) – A descriptor for a 24-hour A-weighted average noise level. DNL accounts for the increased acoustical sensitivity of people to noise during the nighttime hours. DNL penalizes sound levels by 10 dB during the hours from 10 PM to 7 AM. For practical purposes, the DNL and CNEL are usually interchangeable. DNL is sometimes written as L_{dn} .

³ A-Weighted Sound Level – The A-weighted sound pressure level, expressed in decibels (dB). A-weighting is a standard weighting that accounts for the sensitivity of human hearing to the range of audible frequencies. People perceive a 10 dB increase in sound level to be twice as loud.

70 to 80 dB	Normally Unacceptable - Development should generally be discouraged; it may be undertaken only if a detailed analysis of the noise-reduction requirements is conducted, and if highly effective noise insulation, mitigation or abatement features are included in the design.
Greater than 80 dB	Unacceptable - Development should not be undertaken.

Discretionary Criteria

Beyond the CAL Green standard, the project does not plan to design per any acoustical or vibration standards. The following standards for exterior-to-interior noise attenuation are widely used by local schools and can assist in understanding how the results of our analysis and recommendations compare to the performance of other schools. For vibration, the following criteria illustrates acceptable ground-borne vibration to mitigate annoyance and activity interference.

School design standards include ANSI/ASA S12.60, LEED for Schools, and the California Collaborative for High Performance Schools Criteria, as summarized below

ANSI⁴/ASA⁵ S12.60-2010/Part 1 American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools

Section 5.2 "Performance criteria for background noise levels" and Section 5.4 "Noise isolation design requirements" specify background noise levels for classrooms due to exterior-source noise. Noise levels are not to exceed those shown in Table 2 below for the noisiest, continuous one-hour period during times when learning activities take place.

Table 2 – Limits on A- and C-weighted sound levels of background noise in unoccupied furnished learning spaces

Learning Space	Greatest one-hour average A- and C-weighted sound level of exterior-source background noise $L_{eq, max}(h)$, dB
Core learning space ⁶ with enclosed volume < 10,000 sqft	35/55
Core learning space with enclosed volume > 10,000 sqft and ≤ 20,000 sqft	35/55

⁴ American National Standards Institute.

⁵ Acoustical Society of America.

⁶ Core learning spaces. Spaces for educational activities where the primary functions are teaching and learning and where good speech communication is critical to a student's academic achievement. These spaces include, but are not limited to, classrooms (enclosed or open plan), instructional pods or activity areas, group instruction rooms, libraries, offices used for educational purposes, therapy rooms, and music rooms for instruction or practice.

Core learning space with enclosed
volume > 20,000 sqft and all ancillary
learning spaces⁷

40/60

In addition, Section 5.4.1.2 specifies minimum Outdoor-Indoor Transmission Class (OITC) ratings for the building shell unless it can be proven that lower ratings can be used to achieve the background noise criteria.

The following is specified for exterior walkways and playgrounds:

5.4.1.3 When there is an exterior walkway within 3 m (10 ft) or a playground within 9 to 15 m (30 to 50 ft) of the exterior wall of a core learning space, the basic wall shall have an STC rating of at least 45 and exterior doors shall have an STC rating of at least 30. If there are windows in such a wall within 3 m (10 ft) of an exterior walkway or within 9 to 15 m (30 to 50 ft) of a playground, the composite STC rating of the wall including the windows and doors shall be at least STC 40. If a playground is closer than 9 m (30 ft) to the wall of a core learning space, the composite STC rating of the exterior wall shall have a rating of at least STC 50, except that this requirement shall not apply where the playground is dedicated for use only by the adjacent learning space and will therefore not be active while learning activities are occurring in the core learning space.

Leadership in Energy & Environmental Design (LEED) for Schools New Construction and Major Renovations

Indoor Environmental Quality (IEQ) Credit 9: Enhanced Acoustical Performance prescribes the design of the building shell, except windows, to meet a Sound Transmission Class (STC) rating of at least STC 35.

California Collaborative for High Performance Schools (CHPS) Criteria

Prerequisite EQ 14.0 "Acoustical Performance" specifies that outdoor-to-indoor attenuation of airborne sound be designed per Sections 5.4.1.1 and 5.4.1.3 of ANSI/ASA Standard S12.60/2010/Part 1, which was described above. CHPS adopts a performance-based analysis to achieve a background noise criterion in core learning spaces of 45 dBA or less due to exterior-source background noise.

EQ 14.1 "Enhanced Acoustical Performance" specifies performance criteria for background noise in core learning spaces and spaces designated as Performance Arts Spaces or Audio/Video Production Spaces

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Floor 5
San Francisco, CA
94104
T 415.397.0442
F 415.397.0454
www.cmsalter.com

⁷ Ancillary learning spaces. Spaces where good communication is important to a student's educational progress but for which the primary educational functions are informal learning, social interaction, or similar activity other than formal instruction. For purposes of this part, ancillary learning spaces include corridors, cafeterias, and gymnasias but do not include natatoria, auditoria, music performance spaces, teleconferencing rooms, or special education rooms such as those for severely acoustically challenged students.

be 35 dBA or less due to exterior-source background noise. In ancillary learning spaces, exterior-source background A-weighted noise levels shall be 40 dBA or less.

Vibration

Federal Transportation Administration Guidelines

The Federal Transit Administration (FTA⁸) provides ground-borne vibration (GBV) guidelines for schools at various event frequencies. Table 3 below summarizes the FTA general assessment criteria for ground-borne vibration.

Table 3: FTA General Assessment Criteria

Land Use Category	GBV Impact Levels (VdB re 1 μ -in/sec)		
	Frequent Events ⁹	Occasional Events ¹⁰	Infrequent Events ¹¹
Category 2: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Frequent events are defined as more than 70 vibration events of the same source per day. Occasional events are defined as between 30 and 70 vibration events of the same source per day and infrequent events are fewer than 30 vibration events of the same source per day. Based on our long-term noise measurements and observations at the site, the site is within the infrequent events criterion, which means the 83 VdB criterion is applicable for the project.

EXISTING ENVIRONMENT

Noise

The project site is bounded by Edes Ave, 105th Ave, and two railway lines. To quantify the existing noise environment, we conducted two, multi-day continuous noise measurements at the project site between 13 and 15 February 2017. The short-term measurements were correlated with data from corresponding time periods at the long-term monitors to extrapolate noise levels across the site. Table 4 below summarizes existing noise levels at the site in terms of Day/Night Average Sound Level (DNL) and maximum hourly average noise level ($L_{eq}(h)$). Figure 1, attached, shows the approximate measurement locations.

⁸ Federal Transit Administration, "Transit Noise and Vibration Impact Assessment", May 2006.

⁹ "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category

¹⁰ "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

¹¹ "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

Table 4: Summary of Noise Measurement Results

Monitor	Location	$L_{eq, max}(h)$ / DNL
LT-1	70 feet northeast from Edes Ave, 330 feet northwest from 105 th Ave, and 12 feet above grade	$L_{eq, max}(h)$ 83 dB DNL 75 dB
LT-2	360 feet northeast from Edes Ave, 30 feet northwest from 105 th Ave, and 12 feet above grade	$L_{eq, max}(h)$ 79 dB DNL 80 dB
ST-1	180 feet northeast from Edes Ave, 315 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max}(h)$ 76 dB* DNL 66 dB*
ST-2	180 feet northeast from Edes Ave; 195 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max}(h)$ 78 dB* DNL 68 dB*
ST-3	180 feet northeast from Edes Ave; 25 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max}(h)$ 86 dB* DNL 77 dB*
ST-4	350 feet northeast from Edes Ave; 185 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max}(h)$ 82 dB* DNL 72 dB*

*Note: Noise level at this location is estimated and based on correlation with simultaneous measurement at long-term measurement locations.

Noise generated by train activity measured as loud as 109 dBA during our long-term noise measurements with between 10 and 20 train-noise events per day.

Vibration

To quantify the existing vibration environment, we measured train vibration levels on 15 February 2017. Figure 1 and Table 5 illustrate the measurement locations.

Table 5: Summary of Vibration Measurement Locations

Monitor	Location
V-1	65 feet northeast from Edes Ave, 300 feet northwest from 105 th Ave, and on grade.
V-2	335 feet northeast from Edes Ave, 320 feet northwest from 105 th Ave, and on grade.

During our vibration measurements, we measured four train passbys. Two passbys were from westbound Amtrak trains on the northern, straight track. The other two passbys were from freight trains, one eastbound and one westbound, on the southern, curved track. Table 6 and 7 below show the measured vibration levels.

Table 6: On-Site Measured Vibration Data, Northern Track (VdB re 1 μ -in/sec)

Train Event	Train Direction	60 ft setback (V1)	325 ft setback (V2)
Amtrak Train	Westbound	72	59
Amtrak Train	Westbound	78	61

Table 7: On-Site Measured Vibration Data, Southern Track (VdB re 1 μ -in/sec)

Train Event	Train Direction	145 ft setback (V2)	310 ft setback (V1)
Freight Train	Westbound	68	57
Freight Train	Eastbound	66	55

ANALYSIS AND RECOMMENDATIONS

Environmental Noise

The existing environmental noise levels at the site fall into the City's conditionally acceptable and *normally unacceptable* categories for school land use compatibility depending on the proximity to the train tracks. The project should consider the following measures to reduce transportation noise to City and State standards indoors, and attempt to meet the City's goal for environmental noise in outdoor use spaces.

Exterior-to-Interior Noise

Hourly Average Noise – The peak hourly average noise occurred along the north property line due to the train activity. Peak hour levels range from 79 dBA to 83 dBA at the exterior facades closest to the train tracks. The noise reduction provided by the existing window wall assembly would result in maximum interior noise levels of 50 dBA. These levels barely meet CAL Green requirements, but would exceed the suggested maximum 40 to 45 dBA interior noise level. If these buildings stay in the current interior configuration, consider adding interior storm windows to further reduce noise. Alternatively, see the discussion of Single Event Noise for more effective noise mitigation measures.

Single Event Noise – As expected, single event noise from trains account for the highest levels of noise on the site. Preliminary window and door sound insulation ratings, in the form of Sound Transmission

Class¹² (STC) ratings, intended to reduce exterior-environment noise to project goals indoors exceed STC 50 and cannot be practically achieved with normal windows or doors.

Reducing the measured 109 dBA to acceptable levels inside proposed classrooms would require specialized construction methods.

Instead of specialized construction, we recommend the following measures:

1. Minimize glazing along the facades facing the tracks.
2. Consider orienting most of the glazing to look inward to the project site.
3. Consider locating hallways along the facades facing train tracks to create an acoustical buffer thereby reducing noise from trains.
4. Where classrooms must be adjacent to tracks, incorporate a double CMU walls with minimal glazing.
5. Construct roof assemblies with double sheathing (i.e. at the roof and below the roof framing to create an insulated cavity at the roofing.
6. Retain an acoustical consultant to review specific design decisions regarding the exterior façade design.

Vibration

At both measurement locations, vibration levels from the trains were all below the 83 VdB criterion. Therefore, no mitigation measures are necessary to meet the project criterion. While the vibration does not trigger action per industry standards, staff should be aware that vibration levels along the north property line may be detectable when high speed trains pass the site.

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Audiovisual
Telecommunications
Security

130 Sutter Street
Floor 5
San Francisco, CA
94104
T 415.397.0442
F 415.397.0454
www.cmsalter.com

¹² STC (Sound Transmission Class) – A single-number rating defined in ASTM E90 that quantifies the airborne sound insulating performance of a partition under laboratory conditions. Increasing STC ratings correspond to improved airborne sound insulation.

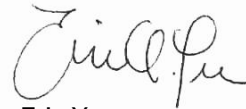
This concludes our comments and recommendations for the Lighthouse Charter School environmental noise and vibration study. Please let us know if you have any questions or comments.

Sincerely,

CHARLES M. SALTER ASSOCIATES



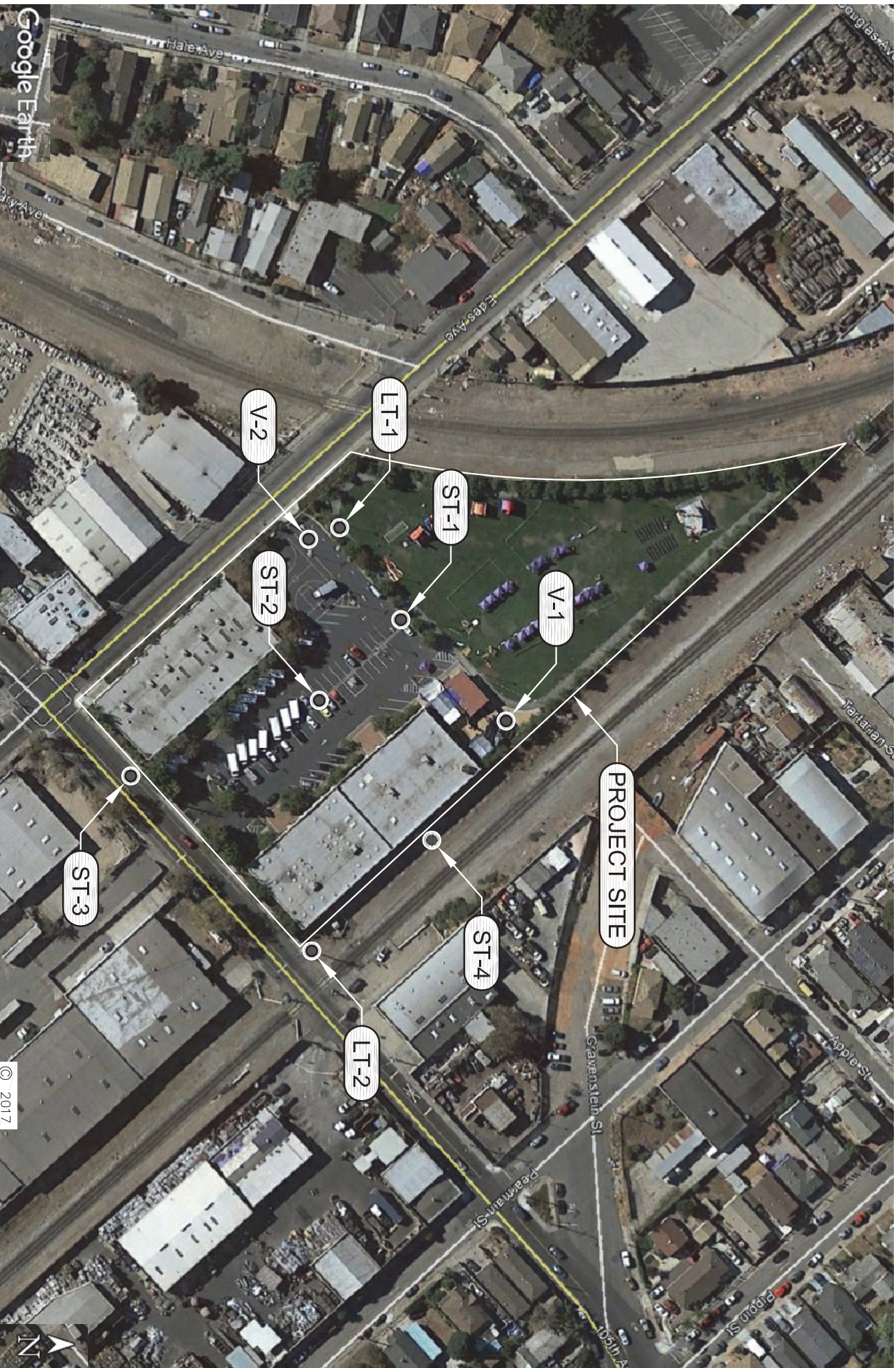
Adrian L. Lu
Consultant



Eric Yee
Vice President

Acoustics
Audiovisual
Telecommunications
Security

130 Sutter Street
Floor 5
San Francisco, CA
94104
T 415.397.0442
F 415.397.0454
www.cmsalter.com



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LIGHTHOUSE CHARTER SCHOOL MEASUREMENT LOCATIONS

FIGURE 1

Salter # 17-0089
ALL/EAY
24 FEB 2017

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19 July 2017

Whitney Rubin
Email: Whitney@pacificcharter.org

Subject: **Lighthouse Charter School 105th Ave, Oakland, CA –
Minimum Noise Insulation Requirements**
Salter Project: 17-0089

Dear Whitney:

As a follow up to our first report, we have prepared this supplemental letter for the Lighthouse Charter School 105th Ave project. This letter evaluates the current building design and compares it to the existing noise environment. Where necessary, it provides recommendations to meet the minimum State of California and City of Oakland noise insulation standards.

SUMMARY

1. The existing building façade will not meet the State of California CalGreen or City of Oakland standard.
2. At a minimum, the existing walls facing the railroad tracks need an insulated furred out stud with two layers of gypsum board.
3. For existing windows, an additional 3/8-inch laminated glass pane should be added with a minimum 3-inch air space between the glazing assemblies.

PROJECT CRITERIA

This project includes the additional of a third classroom building. As such, it will be subject to the State of California Building Code CAL Green acoustical requirements.

California Building Code - CalGreen

Section 5.507.4 of the CalGreen Code¹ provides both prescriptive and performance based criteria for interior noise levels in occupied non-residential spaces where day/night or hourly average sound levels exceed DNL or $L_{eq}(h)$ 65 dB, which are summarized as follows:

- Prescriptive method: Wall and roof-ceiling assemblies exposed to the noise source shall have a composite STC rating of at least 50, with exterior windows having a minimum STC rating of 40.
- Performance method: Wall and roof-ceiling assemblies shall reduce average hourly noise levels to $L_{eq}(h)$ 50 dB, or lower, in occupied areas during any hour of operation.

¹ California Code of Regulations, Part 11: 2013 California Green Building Standards Code, Nonresidential Mandatory Measures, Section 5.507.4.

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This analysis uses the CALGreen performance based method to determine the necessary sound insulation at non-residential spaces.

We assumed that the hours of operation for the school would be from 7 am to 5 pm and used the loudest $L_{eq}(h)$ during that period as the basis of design.

City of Oakland General Plan

The Noise Element of the City of Oakland General Plan provides land use compatibility guidelines for environmental noise in the community in terms of Day/Night Average Sound Level, DNL². Table 1 below summarizes these guidelines for school land uses.

Table 1: Noise and land use compatibility guidelines for school uses

DNL Value in Decibels	Compatibility Level
Less than 60 dB ³	Normally Acceptable - Development may occur without an analysis of potential noise impacts to the proposed development (though it might still be necessary to analyze noise impacts that the project might have on its surroundings).
60 to 70 dB	Conditionally Acceptable - Development should be undertaken only after an analysis of noise-reduction requirements is conducted, and if necessary noise mitigating features are included in the design. Conventional construction will usually suffice as long as it incorporates air conditioning or forced fresh-air supply systems, though it will likely require that project occupants maintain their windows closed.
70 to 80 dB	Normally Unacceptable - Development should generally be discouraged; it may be undertaken only if a detailed analysis of the noise-reduction requirements is conducted, and if highly effective noise insulation, mitigation or abatement features are included in the design.
Greater than 80 dB	Unacceptable - Development should not be undertaken.

EXISTING ENVIRONMENT

Noise

From our previous noise study, the maximum DNL and $L_{eq}(h)$ are listed in Table 1. The $L_{eq}(h)$ is only listed between the hours of 7:00 a.m. to 5:00 p.m. These are the operating hours that the school may be in session. Outside of this window of time, noise levels may exceed these reported values but would not impact classroom learning.

- ² DNL (Day-Night Average Sound Level) – A descriptor for a 24-hour A-weighted average noise level. DNL accounts for the increased acoustical sensitivity of people to noise during the nighttime hours. DNL penalizes sound levels by 10 dB during the hours from 10 PM to 7 AM. For practical purposes, the DNL and CNEL are usually interchangeable. DNL is sometimes written as L_{dn} .
- ³ A-Weighted Sound Level – The A-weighted sound pressure level, expressed in decibels (dB). A-weighting is a standard weighting that accounts for the sensitivity of human hearing to the range of audible frequencies. People perceive a 10 dB increase in sound level to be twice as loud.

Table 1: Summary of Noise Measurement Results

Monitor	Location	Leq, max(h)/ DNL
LT-1	70 feet northeast from Edes Ave, 330 feet northwest from 105 th Ave, and 12 feet above grade	Leq, max(h) 83 dB DNL 75 dB
LT-2	360 feet northeast from Edes Ave, 30 feet northwest from 105 th Ave, and 12 feet above grade	Leq, max(h) 79 dB DNL 80 dB
ST-1	180 feet northeast from Edes Ave, 315 feet northwest from 105 th Ave, and 4 feet above grade	Leq, max(h) 74 dB* DNL 66 dB*
ST-2	180 feet northeast from Edes Ave; 195 feet northwest from 105 th Ave, and 4 feet above grade	Leq, max(h) 74 dB* DNL 68 dB*
ST-3	180 feet northeast from Edes Ave; 25 feet northwest from 105 th Ave, and 4 feet above grade	Leq, max(h) 83 dB* DNL 77 dB*
ST-4	350 feet northeast from Edes Ave; 185 feet northwest from 105 th Ave, and 4 feet above grade	Leq, max(h) 75 dB* DNL 72 dB*

*Note: Noise level at this location is estimated and based on correlation with simultaneous measurement at long-term measurement locations.

Single event noise generated by train activity measured as loud as 109 dBA during our long-term noise measurements with between 10 and 20 train-noise events per day.

ANALYSIS AND RECOMMENDATIONS

Environmental Noise

The existing environmental noise levels at the site fall into the City's *conditionally acceptable* to *normally unacceptable* categories for school land use compatibility depending on the proximity to the train tracks. For classrooms to be compatible with the site noise, acoustical noise reducing measures are required.

Exterior-to-Interior Noise

DNL – The City of Oakland uses DNL to measure land use compatibility. However, schools operate within a limited time window and are not subject to the penalized nighttime hours that DNL provides for increased sleep sensitivity. Therefore, the project should not be evaluated based on DNL. Instead, we recommend evaluating the project based on the maximum hourly average Leq, max(h).

Hourly Average Noise – The peak hourly average noise occurred along the north property line due to the train activity. Peak hour levels range from 75 dBA to 80 dBA at the exterior facades closest to the train tracks. The noise reduction provided by the existing window wall assembly would result in maximum interior noise levels of 64 to 69 dBA. These levels do not meet CAL Green requirements of Leq(h) 50 dBA.

To achieve the maximum interior Leq(h) 50 dBA requirement, the following measures need to be implemented:

Existing Building

1. Add a furred interior stud to all walls facing railroad tracks. The stud should be spaced 1-inch away from the existing concrete masonry wall. Insulate the stud cavity and add two layers of gypsum board as the interior sheathing. Hold back the face layer of gypsum board from the floor and ceiling 1/4-inch and caulk the gap airtight with acoustical sealant.
2. If the existing windows remain, an additional 3/8-inch laminated glass pane must be added to the existing glazing. Provide at least 3-inches of air spaces between the two glazing assemblies.
3. Replace existing ceiling tiles with gypsum backed tiles for increased noise reduction and add insulation into the ceiling cavity.

New Building

1. Construct exterior walls as double stud walls with minimum 1-inch air space and two layers of gypsum board on each side of the wall. Hold back the interior face layer of gypsum board from the floor and ceiling 1/4-inch and caulk the gap airtight with acoustical sealant. Exterior construction should be standard 3-coat stucco finish.
2. Where possible, do not face windows out to the railroad tracks. If windows are required, use dual pane assemblies with minimum 3-inch air space and at least one laminated 3/8-inch pane of glass. Windows should not be operable.
3. For classroom ceilings, consider solid gypsum board lids with 1-inch acoustical panels facing into the room. Alternatively, specify gypsum backed ceiling tiles and add insulation into the ceiling cavity.

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Floor 5
San Francisco, CA
94104
T 415.397.0442
F 415.397.0454
www.cmsalter.com

This concludes our comments and recommendations for the Lighthouse Charter School environmental noise and vibration study. Please let us know if you have any questions or comments.

Sincerely,

CHARLES M. SALTER ASSOCIATES



Eric Yee
Vice President

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Audiovisual
Telecommunications
Security

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Floor 5
San Francisco, CA
94104
T 415.397.0442
F 415.397.0454
www.cmsalter.com

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15 September 2017

Whitney Rubin
Email: Whitney@pacificcharter.org

Subject: **Lighthouse Charter School 105th Ave, Oakland, CA –
Minimum Noise Insulation Requirements**
Salter Project: 17-0089

Dear Whitney:

As a follow up to our first report, we have prepared this supplemental letter for the Lighthouse Charter School 105th Ave project. This letter evaluates the current building design and compares it to the existing noise environment. Where necessary, it provides recommendations to meet the minimum State of California and City of Oakland noise insulation standards.

SUMMARY

1. The existing building façade will not meet the State of California CalGreen or City of Oakland standard.
2. At a minimum, the existing walls facing the railroad tracks need an insulated furred out stud with two layers of gypsum board.
3. For existing windows, an additional 3/8-inch laminated glass pane should be added with a minimum 3-inch air space between the glazing assemblies.
4. The school planned their times of outdoor use to avoid the scheduled Amtrak commuter trains. This scheduling significantly limits the students' exposure to train noise during school outdoor activities.

PROJECT CRITERIA

This project includes the addition of a third classroom building and two outdoor use areas (one new area and one existing area). As such, it will be subject to the State of California Building Code CAL Green acoustical requirements and the Oakland Land Use Compatibility Guidelines.

California Building Code - CalGreen

Section 5.507.4 of the CalGreen Code¹ provides both prescriptive and performance based criteria for interior noise levels in occupied non-residential spaces where day/night or hourly average sound levels exceed DNL or Leq(h) 65 dB, which are summarized as follows:

¹ California Code of Regulations, Part 11: 2013 California Green Building Standards Code, Nonresidential Mandatory Measures, Section 5.507.4.

Charles M. Salter, PE
David R. Schwind, FASA
Eric (Broadhurst) Mori, PE
Philip N. Sanders, LEED AP
Thomas A. Schindler, PE
Durand R. Begault, PhD, FAES
Ken Graven, PE, RCDD, CTS-D
Anthony P. Nash, PE
Jason R. Duty, PE
Lloyd B. Ranola
Eric A. Yee
Joshua M. Roper, PE, LEED AP
Ethan C. Salter, PE, LEED AP
Alexander K. Salter, PE
Jeremy L. Decker, PE
Heather A. Salter
Thomas J. Corbett, CTS
Craig L. Gilian, RCDD
Rob Hammond, PSP, NICET III
Andrew J. McKee
Josh J. Harrison
Vinay C. Patel
Valerie C. Smith, PE
Benjamin D. Piper
Elisabeth S. Kelson, CTS
Ryan G. Raskop, AIA, NCARB
Diego Hernandez
Brian C. Wourms
Greg R. Enenstein
Felipe Tavera
Kenneth W. Lim
Ryan A. Schofield
Alex T. Schiefer
Abner E. Morales
Adrian L. Lu
Steve L. Leiby
Blake M. Wells, LEED GA
Katherine M. Moore
Jordan L. Roberts
Sybille M. Roth
Bryce M. Graven
Justin P. Reidling
Lauren von Blohn
Wilson Shao
Dee E. Garcia
Catherine F. Spurlock

- Prescriptive method: Wall and roof-ceiling assemblies exposed to the noise source shall have a composite STC rating of at least 50, with exterior windows having a minimum STC rating of 40.
- Performance method: Wall and roof-ceiling assemblies shall reduce average hourly noise levels to $L_{eq}(h)$ 50 dB, or lower, in occupied areas during any hour of operation.

This analysis uses the CALGreen performance based method to determine the necessary sound insulation at non-residential spaces.

We assumed that the hours of operation for the school would be from 7 am to 5 pm and used the loudest $L_{eq}(h)$ during that period as the basis of design.

City of Oakland General Plan

The Noise Element of the City of Oakland General Plan provides land use compatibility guidelines for environmental noise in the community in terms of Day/Night Average Sound Level, DNL². Table 1 below summarizes these guidelines for school land uses.

Table 1: Noise and land use compatibility guidelines for school uses

DNL Value in Decibels	Compatibility Level
Less than 60 dB ³	Normally Acceptable - Development may occur without an analysis of potential noise impacts to the proposed development (though it might still be necessary to analyze noise impacts that the project might have on its surroundings).
60 to 70 dB	Conditionally Acceptable - Development should be undertaken only after an analysis of noise-reduction requirements is conducted, and if necessary noise mitigating features are included in the design. Conventional construction will usually suffice as long as it incorporates air conditioning or forced fresh-air supply systems, though it will likely require that project occupants maintain their windows closed.
70 to 80 dB	Normally Unacceptable - Development should generally be discouraged; it may be undertaken only if a detailed analysis of the noise-reduction requirements is conducted, and if highly effective noise insulation, mitigation or abatement features are included in the design.
Greater than 80 dB	Unacceptable - Development should not be undertaken.

EXISTING ENVIRONMENT

Noise

From our previous noise study, the maximum DNL and $L_{eq}(h)$ are listed in Table 1. The $L_{eq}(h)$ is only listed between the hours of 7:00 a.m. to 5:00 p.m. These are the operating hours that the school may

- ² DNL (Day-Night Average Sound Level) – A descriptor for a 24-hour A-weighted average noise level. DNL accounts for the increased acoustical sensitivity of people to noise during the nighttime hours. DNL penalizes sound levels by 10 dB during the hours from 10 PM to 7 AM. For practical purposes, the DNL and CNEL are usually interchangeable. DNL is sometimes written as L_{dn} .
- ³ A-Weighted Sound Level – The A-weighted sound pressure level, expressed in decibels (dB). A-weighting is a standard weighting that accounts for the sensitivity of human hearing to the range of audible frequencies. People perceive a 10 dB increase in sound level to be twice as loud.

be in session. Outside of this window of time, noise levels may exceed these reported values but would not impact classroom learning.

Table 1: Summary of Noise Measurement Results

Monitor	Location	$L_{eq, max(h)}/$ DNL
LT-1	70 feet northeast from Edes Ave, 330 feet northwest from 105 th Ave, and 12 feet above grade	$L_{eq, max(h)}$ 83 dB DNL 75 dB
LT-2	360 feet northeast from Edes Ave, 30 feet northwest from 105 th Ave, and 12 feet above grade	$L_{eq, max(h)}$ 79 dB DNL 80 dB
ST-1	180 feet northeast from Edes Ave, 315 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max(h)}$ 74 dB* DNL 66 dB*
ST-2	180 feet northeast from Edes Ave; 195 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max(h)}$ 73 dB* DNL 68 dB*
ST-3	180 feet northeast from Edes Ave; 25 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max(h)}$ 83 dB* DNL 77 dB*
ST-4	350 feet northeast from Edes Ave; 185 feet northwest from 105 th Ave, and 4 feet above grade	$L_{eq, max(h)}$ 75 dB* DNL 72 dB*

*Note: Noise level at this location is estimated and based on correlation with simultaneous measurement at long-term measurement locations.

Single event noise generated by train activity measured as loud as 109 dBA during our long-term noise measurements with between 10 and 20 train-noise events per day.

ANALYSIS AND RECOMMENDATIONS

Environmental Noise

The existing environmental noise levels at the site fall into the City's *conditionally acceptable* to *normally unacceptable* categories for school land use compatibility depending on the proximity to the train tracks. For classrooms to be compatible with the site noise, acoustical noise reducing measures are required.

Exterior-to-Interior Noise

DNL – The City of Oakland uses DNL to measure land use compatibility. However, schools operate within a limited time window and are not subject to the penalized nighttime hours that DNL provides

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F 415.397.0454
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for increased sleep sensitivity. Therefore, the project should not be evaluated based on DNL. Instead, we recommend evaluating the project based on the maximum hourly average Leq , $max(h)$.

Hourly Average Noise – The peak hourly average noise occurred along the north property line due to the train activity. Peak hour levels range from 75 dBA to 80 dBA at the exterior facades closest to the train tracks. The noise reduction provided by the existing window wall assembly would result in maximum interior noise levels of 64 to 69 dBA. These levels do not meet CAL Green requirements of $Leq(h)$ 50 dBA.

To achieve the maximum interior $Leq(h)$ 50 dBA requirement, the following measures need to be implemented:

Existing Building

1. Add a furred interior stud to all walls facing railroad tracks. The stud should be spaced 1-inch away from the existing concrete masonry wall. Insulate the stud cavity and add two layers of gypsum board as the interior sheathing. Hold back the face layer of gypsum board from the floor and ceiling 1/4-inch and caulk the gap airtight with acoustical sealant.
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2. Where possible, do not face windows out to the railroad tracks. If windows are required, use dual pane assemblies with minimum 3-inch air space and at least one laminated 3/8-inch pane of glass. Windows should not be operable.
3. For classroom ceilings, consider solid gypsum board lids with 1-inch acoustical panels facing into the room. Alternatively, specify gypsum backed ceiling tiles and add insulation into the ceiling cavity.

Exterior Noise

Criteria Adjustment

The land-use compatibility method uses the day-night average noise level (DNL) as the metric for comparison. However, DNL does not accurately depict the noise exposure nor the land-use

compatibility of the playfield because the school only uses the field during daytime hours. Nighttime train passbys unfairly penalize the DNL for daytime-only land uses.

We recommend comparing the playfield during the day using the hourly average noise level $L_{eq}(h)$ instead of the DNL for land-use compatibility. This metric examines the hour-by-hour noise variation due to single events and steady-state noise levels.

Measurement Analysis

Measurement locations ST-2 and ST-4 best approximate the exposure of outdoor play areas for the project. ST-2 represents the playground in the heart of campus. ST-4 represents the playfield on the northwest corner of campus.

We measured hourly noise levels $L_{eq}(h)$ on the project site between 58 dB to 75 dB during school hours. These levels are provided in Tables A1 and A2 in the Appendix and give the time-history measurement data for measurement locations ST-2 and ST-4. Hourly noise averages reach higher levels when a train(s) passes by on either track (Amtrak to the east, and freight to the west).

The highest $L_{eq}(h)$ measurements are summarized in Table 2.

Table 2: Maximum $L_{eq}(h)$ during school hours (8am to 5pm)

	ST-2	ST-4
$L_{eq}(h)$	73 dB	75 dB

Most of the time, the $L_{eq}(h)$ at outdoor use areas ranged between 58 to 67 dB, which the land-use compatibility guidelines categorize as "normally acceptable to "conditionally acceptable". This noise level is caused by the intermittent nature of train activity. On occasion, these noise levels did exceed the 70 dB "normally unacceptable" threshold. We suspect this variation occurs when the train engineer blows the horn at the 105 Street grade crossing.

The noise from train passbys lasts less than one minute. However, during that time, levels can exceed 100 dB (i.e., due to train horn blasts and engine rumble) at the closest locations to the train track. For example, the existing playfield is situated within 100 feet of the Amtrak rail line on the east side of the project site and 100 feet of the Union Pacific rail line to the west.

Amtrak trains passbys occur at regular intervals according to the train schedule while freight train passbys occur more at random.

Playground Noise Analysis

The addition of the new classroom building will decrease the outdoor noise exposure at the playground. Based on our calculations, the anticipated maximum noise level at this location could reach hourly noise levels, $L_{eq}(h)$ of 68 dB. The highest noise at the playground may reach "conditionally acceptable" levels according to the compatibility guidelines during train passbys. During all other times, noise levels would be considered normally acceptable to conditionally acceptable.

Playfield Noise Analysis

Noise levels at the playfield may reach “normally unacceptable levels” according to the compatibility guidelines during train passbys. During all other times, noise levels would be considered normally acceptable to conditionally acceptable.

Noise Reducing Measures

The school has implemented following measures to decrease student exposure to noise:

1. Recess at the playground has been scheduled to avoid Amtrak activity. Using the Amtrak train schedule, the following list of times has been generated to provide the times when the lowest daytime outdoor noise levels occur.

9:45 a.m.-10:45 a.m.
11:15 a.m.-12:00 p.m.
12:30 p.m.-1:45 p.m.
2:30 p.m.-5:15 p.m.
2. Playfield activities have also been scheduled to avoid Amtrak train activity.
3. Restricting times for outdoor use activities is far more effective than constructing noise barriers. For a barrier to reduce noise to “normally acceptable” levels, barriers would have to be 20 feet tall. Shorter barriers allow sound to pass right over the top and are acoustically ineffective. The barrier most likely would be concrete block wall and may be subject to graffiti and vandalism.

Vibration

At both measurement locations, vibration levels from the trains were all below the 83 VdB criterion. Therefore, no mitigation measures are necessary to meet the project criterion. While the vibration does not trigger action per industry standards, staff should be aware that vibration levels along the north property line may be detectable when high speed trains pass the site.

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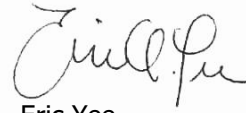
This concludes our comments and recommendations for the Lighthouse Charter School environmental noise and vibration study. Please let us know if you have any questions or comments.

Sincerely,

CHARLES M. SALTER ASSOCIATES



Adrian L. Lu
Consultant



Eric Yee
Vice President

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APPENDIX

Table A1: 1-Hour Time History at Playground (ST-2) and Playfield (ST-4) with school hours highlighted

Date	Time	ST-2 (dBA)	Remarks	ST-4 (dBA)	Remarks
13 Feb 2017	11:00:00	61		59	
13 Feb 2017	12:00:00	59		60	
13 Feb 2017	13:00:00	55		64	train passby
13 Feb 2017	14:00:00	69	train passby	69	train passby
13 Feb 2017	15:00:00	63		75	train passby
13 Feb 2017	16:00:00	59		65	train passby
13 Feb 2017	17:00:00	60		69	train passby
13 Feb 2017	18:00:00	69	train passby	66	train passby
13 Feb 2017	19:00:00	58		64	train passby
13 Feb 2017	20:00:00	56		65	train passby
13 Feb 2017	21:00:00	54		60	
13 Feb 2017	22:00:00	52		56	
13 Feb 2017	23:00:00	51		54	
14 Feb 2017	0:00:00	57	train passby	50	
14 Feb 2017	1:00:00	48		48	
14 Feb 2017	2:00:00	51		58	
14 Feb 2017	3:00:00	51		55	
14 Feb 2017	4:00:00	69	train passby	72	train passby
14 Feb 2017	5:00:00	58		56	
14 Feb 2017	6:00:00	61		67	train passby
14 Feb 2017	7:00:00	59		66	train passby
14 Feb 2017	8:00:00	57		67	train passby
14 Feb 2017	9:00:00	73	freight train passby	65	train passby
14 Feb 2017	10:00:00	60	train passby	65	train passby
14 Feb 2017	11:00:00	55		59	
14 Feb 2017	12:00:00	65	train passby	61	
14 Feb 2017	13:00:00	54		64	train passby
14 Feb 2017	14:00:00	57		64	train passby
14 Feb 2017	15:00:00	55		62	
14 Feb 2017	16:00:00	56		63	train passby
14 Feb 2017	17:00:00	61	train passby	74	train passby
14 Feb 2017	18:00:00	56		63	train passby
14 Feb 2017	19:00:00	67	freight train passby	67	train passby

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Date	Time	ST-2 (dBA)	Remarks	ST-4 (dBA)	Remarks
14 Feb 2017	20:00:00	55		68	train passby
14 Feb 2017	21:00:00	54		61	
14 Feb 2017	22:00:00	57		64	train passby
14 Feb 2017	23:00:00	52		53	
15 Feb 2017	0:00:00	50		52	
15 Feb 2017	1:00:00	51		49	
15 Feb 2017	2:00:00	55	train passby	63	train passby
15 Feb 2017	3:00:00	50		55	
15 Feb 2017	4:00:00	51		58	
15 Feb 2017	5:00:00	55		55	
15 Feb 2017	6:00:00	58		62	train passby
15 Feb 2017	7:00:00	58		68	train passby
15 Feb 2017	8:00:00	72	train passby	67	train passby
15 Feb 2017	9:00:00	67	train passby	66	train passby
15 Feb 2017	10:00:00	56		63	train passby
15 Feb 2017	11:00:00	55		58	
15 Feb 2017	12:00:00	68	train passby	65	
15 Feb 2017	13:00:00	72	train passby	65	train passby
15 Feb 2017	14:00:00	57		67	train passby

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F 415.397.0454
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APPENDIX SCA STANDARD CONDITIONS OF APPROVAL



STANDARD CONDITIONS OF APPROVAL

**Department of Planning and Building
Bureau of Planning**

**Adopted by City Council on 11/03/08 (Ordinance No. 12899 C.M.S.)
Revised April 11, 2017**

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INTRODUCTION

Generally, projects of the same type should have the same conditions of approval. Variations in conditions of approval should only occur if two projects have different characteristics such as different sizes, locations, environmental settings, or other considerations. The City of Oakland has developed Standard Conditions of Approval contained in this document to achieve this consistency. These Conditions are applied to projects when they receive discretionary planning-related approval (including permits issued under the Planning Code and Subdivision Regulations, Creek Protection Permits, and Development-Related Tree Permits). The Conditions should be applied to projects based on the guidance in this document. Variations in the application of the Conditions should only occur in special circumstances.

Part 1 contains General Administrative Conditions. These Conditions pertain to the administrative aspects of the project approval and are attached to every project approval.

Part 2 contains Environmental Protection Measures. These Conditions are Uniformly Applied Development Standards that substantially mitigate environmental effects. The Conditions are incorporated into a project regardless of the project's environmental determination, pursuant, in part, to CEQA Guidelines sections 15183 and 15183.3. As applicable, the Conditions are adopted as requirements of an individual project when the project is approved by the City and are designed to, and will, substantially mitigate environmental effects. In reviewing project applications, the City determines which of the Conditions are applied, based upon the project's characteristics and location, zoning district, applicable plans, and type(s) of permit(s)/approvals(s) required for the project. For example, Conditions related to creek protection permits are applied to projects on creekside properties.

The Standard Conditions of Approval were initially and formally adopted by the Oakland City Council on November 3, 2008 (Ordinance No. 12899 C.M.S.), pursuant to Public Resources Code section 21083.3 and CEQA Guidelines section 15183 (and now section 15183.3), and incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) requirements, Housing Element and other General Plan Element-related mitigation measures, California Building Code, Uniform Fire Code, Energy and Climate Action Plan, Complete Streets Policy, and Green Building Ordinance, among others), which have been found to substantially mitigate environmental effects.

Where there are peculiar circumstances associated with a project or project site that will result in significant environmental impacts despite implementation of the Standard Conditions of Approval the City will determine whether there are feasible mitigation measures to reduce the impact to less than significant levels in the course of appropriate CEQA review (mitigated negative declaration or EIR).

Instructions for Use

As stated above, the Standard Conditions of Approval are applied to projects depending upon the circumstances surrounding the project. This document provides guidance concerning when each Condition should be applied. In both Parts 1 and 2, bracketed text in gray should be deleted from the final document.

In a CEQA document, the Standard Conditions of Approval applicable to the project are considered requirements of the project and not mitigation. In an EIR, the Standard Conditions of Approval should be included in the discussion concerning the regulatory setting of the applicable environmental topic. In the event that Standard Conditions of Approval do not substantially mitigate an environmental effect, the City will determine if there are feasible mitigation measures to reduce the impact to a less-than-significant level.

Many of the Standard Conditions of Approval require technical studies to be prepared. In the case of a project subject to detailed CEQA review, the technical studies may be required to be performed during the course of the CEQA review (and the results of the studies incorporated into the CEQA document) rather than after project approval. In cases where a technical study required by a Standard Condition of Approval is conducted prior to project approval and includes project-specific recommendations for mitigating an environmental effect, these recommendations are considered implementation measures for the Standard Condition of Approval rather than separate mitigation measures.

Part 1: Standard Conditions of Approval– General Administrative Conditions

1. Approved Use

The project shall be constructed and operated in accordance with the authorized use as described in the approved application materials, **[insert staff report if applicable,]** and the approved plans **[identify final approved plans by date of plans and/or date plans received]**, as amended by the following conditions of approval and mitigation measures, if applicable (“Conditions of Approval” or “Conditions”).

2. Effective Date, Expiration, Extensions and Extinguishment

This Approval shall become effective immediately, unless the Approval is appealable, in which case the Approval shall become effective in ten calendar days unless an appeal is filed. Unless a different termination date is prescribed, this Approval shall expire **[insert one calendar year for code enforcement cases; two years for all other cases]** from the Approval date, or from the date of the final decision in the event of an appeal, unless within such period all necessary permits for construction or alteration have been issued, or the authorized activities have commenced in the case of a permit not involving construction or alteration. Upon written request and payment of appropriate fees submitted no later than the expiration date of this Approval, the Director of City Planning or designee may grant a one-year extension of this date, with additional extensions subject to approval by the approving body. Expiration of any necessary building permit or other construction-related permit for this project may invalidate this Approval if said Approval has also expired. If litigation is filed challenging this Approval, or its implementation, then the time period stated above for obtaining necessary permits for construction or alteration and/or commencement of authorized activities is automatically extended for the duration of the litigation.

3. Compliance with Other Requirements

The project applicant shall comply with all other applicable federal, state, regional, and local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City’s Bureau of Building, Fire Marshal, and Public Works Department. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition #4.

4. Minor and Major Changes

- a. Minor changes to the approved project, plans, Conditions, facilities, or use may be approved administratively by the Director of City Planning **[If known, insert examples of minor changes that may be applicable to the project, such as reduction of a certain limited number of units in a residential project.]**
- b. Major changes to the approved project, plans, Conditions, facilities, or use shall be reviewed by the Director of City Planning to determine whether such changes require submittal and approval of a revision to the Approval by the original approving body or a new independent permit/approval. Major revisions shall be reviewed in accordance with the procedures

required for the original permit/approval. A new independent permit/approval shall be reviewed in accordance with the procedures required for the new permit/approval. **[If known, insert examples of major changes that may be applicable to the project that may require processing as a major revision to the Approval and/or a new independent permit/approval. Factors to consider when determining if a revision is major include, but are not limited to, the following: the permitted uses of the project, the density or intensity of uses in the project, substantial changes to height, design, envelope, massing or size of improvements or provisions for dedications associated with the project, or changes that will result in any of the circumstances requiring further environmental review pursuant to CEQA Guidelines section 15162 or 15163.]**

[Note to staff: Consider making a formal written administrative determination/interpretation with public notice of a ten (10) day appeal period to interested parties when making determinations for minor or major changes under this Condition. Factors to consider include the controversial nature of the project, potential impact(s) on surrounding neighbors, ongoing interest in the project, and if the project applicant and/or interested parties have requested such notice.]

5. Compliance with Conditions of Approval

- a. The project applicant and property owner, including successors, (collectively referred to hereafter as the “project applicant” or “applicant”) shall be responsible for compliance with all the Conditions of Approval and any recommendations contained in any submitted and approved technical report at his/her sole cost and expense, subject to review and approval by the City of Oakland.
- b. The City of Oakland reserves the right at any time during construction to require certification by a licensed professional at the project applicant’s expense that the as-built project conforms to all applicable requirements, including but not limited to, approved maximum heights and minimum setbacks. Failure to construct the project in accordance with the Approval may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension, or other corrective action.
- c. Violation of any term, Condition, or project description relating to the Approval is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approval or alter these Conditions if it is found that there is violation of any of the Conditions or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City’s Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Approval or Conditions.

6. Signed Copy of the Approval/Conditions

A copy of the Approval letter and Conditions shall be signed by the project applicant, attached to each set of permit plans submitted to the appropriate City agency for the project, and made available for review at the project job site at all times.

7. Blight/Nuisances

The project site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60 days of approval, unless an earlier date is specified elsewhere.

8. Indemnification

- a. To the maximum extent permitted by law, the project applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the Oakland Redevelopment Successor Agency, the Oakland City Planning Commission, and their respective agents, officers, employees, and volunteers (hereafter collectively called "City") from any liability, damages, claim, judgment, loss (direct or indirect), action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul this Approval or implementation of this Approval. The City may elect, in its sole discretion, to participate in the defense of said Action and the project applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.
- b. Within ten (10) calendar days of the filing of any Action as specified in subsection (a) above, the project applicant shall execute a Joint Defense Letter of Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Joint Defense Letter of Agreement shall survive termination, extinguishment, or invalidation of the Approval. Failure to timely execute the Letter of Agreement does not relieve the project applicant of any of the obligations contained in this Condition or other requirements or Conditions of Approval that may be imposed by the City.

9. Severability

The Approval would not have been granted but for the applicability and validity of each and every one of the specified Conditions, and if one or more of such Conditions is found to be invalid by a court of competent jurisdiction this Approval would not have been granted without requiring other valid Conditions consistent with achieving the same purpose and intent of such Approval.

10. Special Inspector/Inspections, Independent Technical Review, Project Coordination and Monitoring

The project applicant may be required to cover the full costs of independent third-party technical review and City monitoring and inspection, including without limitation, special inspector(s)/inspection(s) during times of extensive or specialized plan-check review or construction, and inspections of potential violations of the Conditions of Approval. The project applicant shall establish a deposit with the Bureau of Building, if directed by the Building Official, Director of City Planning, or designee, prior to the issuance of a construction-related permit and on an ongoing as-needed basis.

11. Public Improvements

The project applicant shall obtain all necessary permits/approvals, such as encroachment permits, obstruction permits, curb/gutter/sidewalk permits, and public improvement (“p-job”) permits from the City for work in the public right-of-way, including but not limited to, streets, curbs, gutters, sidewalks, utilities, and fire hydrants. Prior to any work in the public right-of-way, the applicant shall submit plans for review and approval by the Bureau of Planning, the Bureau of Building, and other City departments as required. Public improvements shall be designed and installed to the satisfaction of the City. **[Note to staff: If project-specific public improvements are known, they should be listed with the project-specific conditions.]**

[The following condition applies to all major development projects, specifically those involving any of the following:

- a. Construction of 50 or more residential dwelling units;**
- b. Construction of 50,000 sq. ft. or more of nonresidential floor area; or**
- c. CEQA review (e.g., negative declaration, mitigated negative declaration, or EIR).]**

12. Compliance Matrix

The project applicant shall submit a Compliance Matrix, in both written and electronic form, for review and approval by the Bureau of Planning and the Bureau of Building that lists each Condition of Approval (including each mitigation measure if applicable) in a sortable spreadsheet. The Compliance Matrix shall contain, at a minimum, each required Condition of Approval, when compliance with the Condition is required, and the status of compliance with each Condition. For multi-phased projects, the Compliance Matrix shall indicate which Condition applies to each phase. The project applicant shall submit the initial Compliance Matrix prior to the issuance of the first construction-related permit and shall submit an updated matrix upon request by the City.

[The following condition applies to all major development projects, specifically those involving any of the following:

- a. Construction of 50 or more residential dwelling units;**
- b. Construction of 50,000 sq. ft. or more of nonresidential floor area; or**
- c. CEQA review (e.g., negative declaration, mitigated negative declaration, or EIR).]**

13. Construction Management Plan

Prior to the issuance of the first construction-related permit, the project applicant and his/her general contractor shall submit a Construction Management Plan (CMP) for review and approval by the Bureau of Planning, Bureau of Building, and other relevant City departments such as the Fire Department and the Public Works Department as directed. The CMP shall contain measures to minimize potential construction impacts including measures to comply with all construction-related Conditions of Approval (and mitigation measures if applicable) such as dust control, construction emissions, hazardous materials, construction days/hours, construction traffic control, waste reduction and recycling, stormwater pollution prevention, noise control, complaint management, and cultural resource management (see applicable Conditions below). The CMP

shall provide project-specific information including descriptive procedures, approval documentation, and drawings (such as a site logistics plan, fire safety plan, construction phasing plan, proposed truck routes, traffic control plan, complaint management plan, construction worker parking plan, and litter/debris clean-up plan) that specify how potential construction impacts will be minimized and how each construction-related requirement will be satisfied throughout construction of the project.

[The following condition applies to all projects requiring a Mitigation Monitoring and Reporting Program]

14. Standard Conditions of Approval / Mitigation Monitoring and Reporting Program (SCAMMRP)

- a. All mitigation measures identified in the **[insert the name of the EIR/MND]** are included in the Standard Condition of Approval / Mitigation Monitoring and Reporting Program (SCAMMRP) which is included in these Conditions of Approval and are incorporated herein by reference, as Attachment **[insert attachment letter, and attach the SCAMMRP at the end of the Conditions of Approval]**, as Conditions of Approval of the project. The Standard Conditions of Approval identified in the **[insert the name of the EIR/MND]** are also included in the SCAMMRP, and are, therefore, incorporated into these Conditions by reference but are not repeated in these Conditions **[note to staff: the standard conditions of approval should be listed in the SCAMMRP so they do not need to be listed again in the conditions of approval]**. To the extent that there is any inconsistency between the SCAMMRP and these Conditions, the more restrictive Conditions shall govern. In the event a Standard Condition of Approval or mitigation measure recommended in the **[insert name of the EIR/MND]** has been inadvertently omitted from the SCAMMRP, that Standard Condition of Approval or mitigation measure is adopted and incorporated from the **[insert name of the EIR/MND]** into the SCAMMRP by reference, and adopted as a Condition of Approval. The project applicant and property owner shall be responsible for compliance with the requirements of any submitted and approved technical reports, all applicable mitigation measures adopted, and with all Conditions of Approval set forth herein at his/her sole cost and expense, unless otherwise expressly provided in a specific mitigation measure or Condition of Approval, and subject to the review and approval by the City of Oakland. The SCAMMRP identifies the timeframe and responsible party for implementation and monitoring for each Standard Condition of Approval and mitigation measure. Monitoring of compliance with the Standard Conditions of Approval and mitigation measures will be the responsibility of the Bureau of Planning and the Bureau of Building, with overall authority concerning compliance residing with the Environmental Review Officer. Adoption of the SCAMMRP will constitute fulfillment of the CEQA monitoring and/or reporting requirement set forth in section 21081.6 of CEQA.
- b. Prior to the issuance of the first construction-related permit, the project applicant shall pay the applicable mitigation and monitoring fee to the City in accordance with the City's Master Fee Schedule.

Part 2: Standard Conditions of Approval – Environmental Protection Measures

GENERAL

[The following condition applies to all projects requiring a permit or authorization from any regional, state, or federal resource or permitting agency (e.g., Regional Water Quality Control Board, Bay Area Air Quality Management District, Bay Conservation and Development Commission, California Dept. of Fish and Wildlife, U.S. Fish and Wildlife Service, and/or Army Corps of Engineers).]

15. Regulatory Permits and Authorizations from Other Agencies

Requirement: The project applicant shall obtain all necessary regulatory permits and authorizations from applicable resource/regulatory agencies including, but not limited to, the Regional Water Quality Control Board, Bay Area Air Quality Management District, Bay Conservation and Development Commission, California Department of Fish and Wildlife, U. S. Fish and Wildlife Service, and Army Corps of Engineers and shall comply with all requirements and conditions of the permits/authorizations. The project applicant shall submit evidence of the approved permits/authorizations to the City, along with evidence demonstrating compliance with any regulatory permit/authorization conditions of approval.

When Required: Prior to activity requiring permit/authorization from regulatory agency

Initial Approval: Approval by applicable regulatory agency with jurisdiction; evidence of approval submitted to Bureau of Planning

Monitoring/Inspection: Applicable regulatory agency with jurisdiction

AESTHETICS

[The following condition applies to all projects.]

16. Graffiti Control

Requirement:

- a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation:
 - i. Installation and maintenance of landscaping to discourage defacement of and/or protect likely graffiti-attracting surfaces.
 - ii. Installation and maintenance of lighting to protect likely graffiti-attracting surfaces.
 - iii. Use of paint with anti-graffiti coating.

- iv. Incorporation of architectural or design elements or features to discourage graffiti defacement in accordance with the principles of Crime Prevention Through Environmental Design (CPTED).
- v. Other practices approved by the City to deter, protect, or reduce the potential for graffiti defacement.
- b. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following:
 - i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system.
 - ii. Covering with new paint to match the color of the surrounding surface.
 - iii. Replacing with new surfacing (with City permits if required).

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects requiring a landscape plan, specifically:

- a. Establishment of one or more new residential units (excluding secondary units of 500 sq. ft. of floor area or less);**
- b. Residential additions over 500 sq. ft. of floor area;**
- c. Establishment of new nonresidential facilities; or**
- d. Nonresidential additions over 1,000 sq. ft. of floor area.]**

17. Landscape Plan

a. Landscape Plan Required

Requirement: The project applicant shall submit a final Landscape Plan for City review and approval that is consistent with the approved Landscape Plan. The Landscape Plan shall be included with the set of drawings submitted for the construction-related permit and shall comply with the landscape requirements of chapter 17.124 of the Planning Code.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

b. Landscape Installation

Requirement: The project applicant shall implement the approved Landscape Plan unless a bond, cash deposit, letter of credit, or other equivalent instrument acceptable to the Director of City Planning, is provided. The financial instrument shall equal the greater of \$2,500 or the estimated cost of implementing the Landscape Plan based on a licensed contractor's bid.

When Required: Prior to building permit final

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

c. *Landscape Maintenance*

Requirement: All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. The property owner shall be responsible for maintaining planting in adjacent public rights-of-way. All required fences, walls, and irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects containing new exterior lighting.]

18. Lighting

Requirement: Proposed new exterior lighting fixtures shall be adequately shielded to a point below the light bulb and reflector to prevent unnecessary glare onto adjacent properties.

When Required: Prior to building permit final

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

AIR QUALITY

[The following condition applies to all projects involving construction activities.]

19. Construction-Related Air Pollution Controls (Dust and Equipment Emissions)

Requirement: The project applicant shall implement all of the following applicable air pollution control measures during construction of the project:

[BASIC CONTROLS (apply to ALL construction sites)]

- a. Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible.
- b. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- d. Pave all roadways, driveways, sidewalks, etc. within one month of site grading or as soon as feasible. In addition, building pads should be laid within one month of grading or as soon as feasible unless seeding or soil binders are used.
- e. Enclose, cover, water twice daily, or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).

- f. Limit vehicle speeds on unpaved roads to 15 miles per hour.
- g. Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points.
- h. Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations").
- i. All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- j. Portable equipment shall be powered by electricity if available. If electricity is not available, propane or natural gas shall be used if feasible. Diesel engines shall only be used if electricity is not available and it is not feasible to use propane or natural gas.

[ENHANCED CONTROLS: All "Basic" controls listed above plus the following controls if the project involves:

- **114 or more single-family dwelling units;**
- **240 or more multi-family units;**
- **Nonresidential uses that exceed the applicable screening size listed in the Bay Area Air Quality Management District's CEQA Guidelines;**
- **Demolition permit;**
- **Simultaneous occurrence of more than two construction phases (e.g., grading and building construction occurring simultaneously);**
- **Extensive site preparation (i.e., the construction site is four acres or more in size); or**
- **Extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export).]**

- k. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- l. All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph.
- m. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- n. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).
- o. Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

- p. Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.
- q. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- r. Activities such as excavation, grading, and other ground-disturbing construction activities shall be phased to minimize the amount of disturbed surface area at any one time.
- s. All trucks and equipment, including tires, shall be washed off prior to leaving the site.
- t. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- u. All equipment to be used on the construction site and subject to the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") must meet emissions and performance requirements one year in advance of any fleet deadlines. Upon request by the City, the project applicant shall provide written documentation that fleet requirements have been met.
- v. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).
- w. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.
- x. Off-road heavy diesel engines shall meet the California Air Resources Board's most recent certification standard.
- y. Post a publicly-visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that meet all of the following criteria:

a. The project involves any of the following sensitive land uses:

- i. Residential uses (new dwelling units); or**
- ii. New or expanded schools, daycare centers, parks, nursing homes, or medical facilities; and**

b. The project is located within 1,000' (or other distance as specified below) of one or more of the following sources of air pollution:

- i. Freeway;**
- ii. Roadway with significant traffic (at least 10,000 vehicles/day);**
- iii. Rail line (except BART) with over 30 trains per day;**

- iv. Distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating Transportation Refrigeration Units (TRU) per day, or where the TRU unit operations exceed 300 hours per week;
 - v. Major rail or truck yard (such as the Union Pacific rail yard adjacent to the Port of Oakland);
 - vi. Ferry terminal;
 - vii. Stationary pollutant source requiring a permit from BAAQMD (such as a diesel generator);
 - viii. Within 0.5 miles of the Port of Oakland or Oakland Airport;
 - ix. Within 300 feet of a gas station; or
 - x. Within 300 feet of a dry cleaner with a machine using PERC (or within 500 feet of a dry cleaner with two or more machines using PERC); and
- c. The project exceeds the health risk screening criteria after a screening analysis is conducted in accordance with the Bay Area Air Quality Management (BAAQMD) CEQA Guidelines.]

20. Exposure to Air Pollution (Toxic Air Contaminants)

a. *Health Risk Reduction Measures*

Requirement: The project applicant shall incorporate appropriate measures into the project design in order to reduce the potential health risk due to exposure to toxic air contaminants. The project applicant shall choose one of the following methods:

- i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk of exposure of project residents/occupants/users to air pollutants. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes that the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City.
- or -
- ii. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:
 - Installation of air filtration to reduce cancer risks and Particulate Matter (PM) exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated MERV-13 [insert MERV-16 for projects located in the West Oakland Specific Plan area] or higher. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.
 - Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph).

- Phasing of residential developments when proposed within 500 feet of freeways such that homes nearest the freeway are built last, if feasible.
- The project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible. If near a distribution center, residents shall be located as far away as feasible from a loading dock or where trucks concentrate to deliver goods.
- Sensitive receptors shall be located on the upper floors of buildings, if feasible.
- Planting trees and/or vegetation between sensitive receptors and pollution source, if feasible. Trees that are best suited to trapping PM shall be planted, including one or more of the following: Pine (*Pinus nigra* var. *maritima*), Cypress (*Cupressocyparis leylandii*), Hybrid poplar (*Populus deltoids X trichocarpa*), and Redwood (*Sequoia sempervirens*).
- Sensitive receptors shall be located as far away from truck activity areas, such as loading docks and delivery areas, as feasible.
- Existing and new diesel generators shall meet CARB's Tier 4 emission standards, if feasible.
- Emissions from diesel trucks shall be reduced through implementing the following measures, if feasible:
 - Installing electrical hook-ups for diesel trucks at loading docks.
 - Requiring trucks to use Transportation Refrigeration Units (TRU) that meet Tier 4 emission standards.
 - Requiring truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels.
 - Prohibiting trucks from idling for more than two minutes.
 - Establishing truck routes to avoid sensitive receptors in the project. A truck route program, along with truck calming, parking, and delivery restrictions, shall be implemented.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

b. *Maintenance of Health Risk Reduction Measures*

Requirement: The project applicant shall maintain, repair, and/or replace installed health risk reduction measures, including but not limited to the HVAC system (if applicable), on an ongoing and as-needed basis. Prior to occupancy, the project applicant shall prepare and then distribute to the building manager/operator an operation and maintenance manual for the HVAC system and filter including the maintenance and replacement schedule for the filter.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that involve a stationary pollutant source requiring a permit from BAAQMD, including but not limited to back-up diesel generators. The California Building Code requires back-up diesel generators for all buildings over 70 feet tall.]

21. Stationary Sources of Air Pollution (Toxic Air Contaminants)

Requirement: The project applicant shall incorporate appropriate measures into the project design in order to reduce the potential health risk due to on-site stationary sources of toxic air contaminants. The project applicant shall choose one of the following methods:

- a. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk associated with proposed stationary sources of pollution in the project. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City.

- or -

- b. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:
 - i. Installation of non-diesel fueled generators, if feasible, or;
 - ii. Installation of diesel generators with an EPA-certified Tier 4 engine or engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy, if feasible.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that involve new truck loading docks or a truck fleet of any size registered to the project applicant/operator.]

22. Truck-Related Risk Reduction Measures (Toxic Air Contaminants)

a. Truck Loading Docks

Requirement: The project applicant shall locate proposed truck loading docks as far from nearby sensitive receptors as feasible.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

b. Truck Fleet Emission Standards

Requirement: The project applicant shall comply with all applicable California Air Resources Board (CARB) requirements to control emissions from diesel engines and demonstrate compliance to the satisfaction of the City. Methods to comply include, but are not limited to, new clean diesel trucks, lower-tier diesel engine trucks with added Particulate Matter (PM)

filters, hybrid trucks, alternative energy trucks, or other methods that achieve the applicable CARB emission standard. Compliance with this requirement shall be verified through CARB's Verification Procedures for In-Use Strategies to Control Emissions from Diesel Engines.

When Required: Prior to building permit final; ongoing

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving either of the following:

a. Demolition of structures; or

b. Renovation of structures known to contain or may contain asbestos.]

23. Asbestos in Structures

Requirement: The project applicant shall comply with all applicable laws and regulations regarding demolition and renovation of Asbestos Containing Materials (ACM), including but not limited to California Code of Regulations, Title 8; California Business and Professions Code, Division 3; California Health and Safety Code sections 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended. Evidence of compliance shall be submitted to the City upon request.

When Required: Prior to approval of construction-related permit

Initial Approval: Applicable regulatory agency with jurisdiction

Monitoring/Inspection: Applicable regulatory agency with jurisdiction

[The following condition applies to all projects involving both of the following:

a. Construction, grading, or mining activities; and

b. Located in an area of naturally-occurring asbestos, serpentine soils, and/or ultramafic rock (generally above Highway 13 between Shepherd Canyon Rd. and Keller Ave.; staff can refer to the map on the City server).]

24. Naturally-Occurring Asbestos

Requirement: The project applicant shall comply with all applicable laws and regulations regarding construction in areas of naturally-occurring asbestos, including but not limited to, the Bay Area Air Quality Management District's (BAAQMD) Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations (implementing California Code of Regulations, section 93105, as may be amended) requiring preparation and implementation of an Asbestos Dust Mitigation Plan to minimize public exposure to naturally-occurring asbestos. Evidence of compliance shall be submitted to the City upon request.

When Required: Prior to approval of construction-related permit

Initial Approval: Applicable regulatory agency with jurisdiction

Monitoring/Inspection: Applicable regulatory agency with jurisdiction

BIOLOGICAL RESOURCES

[The following condition applies to all construction projects which include glass as part of the building's exterior AND at least one of the following:

- a. The project is located immediately adjacent to a substantial water body (e.g., Oakland Estuary, San Francisco Bay, Lake Merritt or other lake, reservoir, or wetland);
- b. The project is located immediately adjacent to recreation area or park larger than one acre and which contains substantial vegetation;
- c. The project includes a substantial vegetated or green roof (roofs with growing medium and plants taking the place of conventional roofing, such as asphalt, tile, gravel, or shingles), but excluding container gardens; or
- d. The project includes an existing or proposed substantial vegetated area (generally contiguous one acre in size or larger) located directly adjacent to project buildings.]

25. Bird Collision Reduction Measures

Requirement: The project applicant shall submit a Bird Collision Reduction Plan for City review and approval to reduce potential bird collisions to the maximum feasible extent. The Plan shall include all of the following mandatory measures, as well as applicable and specific project Best Management Practice (BMP) strategies to reduce bird strike impacts to the maximum feasible extent. The project applicant shall implement the approved Plan. Mandatory measures include all of the following:

- i. For large buildings subject to federal aviation safety regulations, install minimum intensity white strobe lighting with three second flash instead of solid red or rotating lights.
- ii. Minimize the number of and co-locate rooftop-antennas and other rooftop structures.
- iii. Monopole structures or antennas shall not include guy wires.
- iv. Avoid the use of mirrors in landscape design.
- v. Avoid placement of bird-friendly attractants (i.e., landscaped areas, vegetated roofs, water features) near glass unless shielded by architectural features taller than the attractant that incorporate bird friendly treatments no more than two inches horizontally, four inches vertically, or both (the “two-by-four” rule), as explained below.
- vi. Apply bird-friendly glazing treatments to no less than 90 percent of all windows and glass between the ground and 60 feet above ground or to the height of existing adjacent landscape or the height of the proposed landscape. Examples of bird-friendly glazing treatments include the following:
 - Use opaque glass in window panes instead of reflective glass.
 - Uniformly cover the interior or exterior of clear glass surface with patterns (e.g., dots, stripes, decals, images, abstract patterns). Patterns can be etched, fritted, or on films and shall have a density of no more than two inches horizontally, four inches vertically, or both (the “two-by-four” rule).
 - Install paned glass with fenestration patterns with vertical and horizontal mullions no more than two inches horizontally, four inches vertically, or both (the “two-by-four” rule).

- Install external screens over non-reflective glass (as close to the glass as possible) for birds to perceive windows as solid objects.
 - Install UV-pattern reflective glass, laminated glass with a patterned UV-reflective coating, or UV-absorbing and UV-reflecting film on the glass since most birds can see ultraviolet light, which is invisible to humans.
 - Install decorative grilles, screens, netting, or louvers, with openings no more than two inches horizontally, four inches vertically, or both (the “two-by-four” rule).
 - Install awnings, overhangs, sunshades, or light shelves directly adjacent to clear glass which is recessed on all sides.
 - Install opaque window film or window film with a pattern/design which also adheres to the “two-by-four” rule for coverage.
- vi. Reduce light pollution. Examples include the following:
- Extinguish night-time architectural illumination treatments during bird migration season (February 15 to May 15 and August 15 to November 30).
 - Install time switch control devices or occupancy sensors on non-emergency interior lights that can be programmed to turn off during non-work hours and between 11:00 p.m. and sunrise.
 - Reduce perimeter lighting whenever possible.
 - Install full cut-off, shielded, or directional lighting to minimize light spillage, glare, or light trespass.
 - Do not use beams of lights during the spring (February 15 to May 15) or fall (August 15 to November 30) migration.
- vii. Develop and implement a building operation and management manual that promotes bird safety. Example measures in the manual include the following:
- Donation of discovered dead bird specimens to an authorized bird conservation organization or museums (e.g., UC Berkeley Museum of Vertebrate Zoology) to aid in species identification and to benefit scientific study, as per all federal, state and local laws.
 - Distribution of educational materials on bird-safe practices for the building occupants. Contact Golden Gate Audubon Society or American Bird Conservancy for materials.
 - Asking employees to turn off task lighting at their work stations and draw office blinds, shades, curtains, or other window coverings at end of work day.
 - Install interior blinds, shades, or other window coverings in windows above the ground floor visible from the exterior as part of the construction contract, lease agreement, or CC&Rs.
 - Schedule nightly maintenance during the day or to conclude before 11 p.m., if possible.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

The following condition applies to all projects that involve removal of a tree (either protected or unprotected tree).]

26. Tree Removal During Bird Breeding Season

Requirement: To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of birds shall not occur during the bird breeding season of February 1 to August 15 (or during December 15 to August 15 for trees located in or near marsh, wetland, or aquatic habitats). If tree removal must occur during the bird breeding season, all trees to be removed shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. Pre-removal surveys shall be conducted within 15 days prior to the start of work and shall be submitted to the City for review and approval. If the survey indicates the potential presence of nesting raptors or other birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the California Department of Fish and Wildlife, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 200 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

When Required: Prior to removal of trees

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

The following condition applies to all projects requiring a tree permit per the City's Tree Protection Ordinance (OMC Chap. 12.36).]

27. Tree Permit

a. Tree Permit Required

Requirement: Pursuant to the City's Tree Protection Ordinance (OMC chapter 12.36), the project applicant shall obtain a tree permit and abide by the conditions of that permit.

When Required: Prior to approval of construction-related permit

Initial Approval: Permit approval by Public Works Department, Tree Division; evidence of approval submitted to Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Tree Protection During Construction

Requirement: Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:

- i. Before the start of any clearing, excavation, construction, or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the project's consulting arborist. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established

for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree.

- ii. Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the project's consulting arborist from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.
- iii. No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the project's consulting arborist from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the project's consulting arborist. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.
- iv. Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.
- v. If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Department and the project's consulting arborist shall make a recommendation to the City Tree Reviewer as to whether the damaged tree can be preserved. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.
- vi. All debris created as a result of any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.

When Required: During construction

Initial Approval: Public Works Department, Tree Division

Monitoring/Inspection: Bureau of Building

c. *Tree Replacement Plantings*

Requirement: Replacement plantings shall be required for tree removals for the purposes of erosion control, groundwater replenishment, visual screening, wildlife habitat, and preventing excessive loss of shade, in accordance with the following criteria:

- i. No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered.

- ii. Replacement tree species shall consist of *Sequoia sempervirens* (Coast Redwood), *Quercus agrifolia* (Coast Live Oak), *Arbutus menziesii* (Madrone), *Aesculus californica* (California Buckeye), *Umbellularia californica* (California Bay Laurel), or other tree species acceptable to the Tree Division.
- iii. Replacement trees shall be at least twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.
- iv. Minimum planting areas must be available on site as follows:
 - For *Sequoia sempervirens*, three hundred fifteen (315) square feet per tree;
 - For other species listed, seven hundred (700) square feet per tree.
- v. In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee in accordance with the City's Master Fee Schedule may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians.
- vi. The project applicant shall install the plantings and maintain the plantings until established. The Tree Reviewer of the Tree Division of the Public Works Department may require a landscape plan showing the replacement plantings and the method of irrigation. Any replacement plantings which fail to become established within one year of planting shall be replanted at the project applicant's expense.

When Required: Prior to building permit final

Initial Approval: Public Works Department, Tree Division

Monitoring/Inspection: Bureau of Building

The following condition applies to all projects located within the area mapped as critical habitat for the Alameda Whipsnake by the U.S. Fish & Wildlife Service and confirmed as habitat by a biological report prior to project approval. This area (in Oakland) is generally bounded by the Alameda/Contra Costa border to the north, Oakland/Berkeley border to the west, Snake Road to the east, and above Tunnel Road/Highway 13 (staff can refer to the City's GIS map). (*NOTE: PRESENCE OF HABITAT GENERALLY PRECLUDES USE OF A CEQA CATEGORICAL EXEMPTION***)]**

28. Alameda Whipsnake Protection Measures

a. Pre-Construction Survey Required

Requirement: The project applicant shall hire a qualified biologist to conduct an Alameda whipsnake survey to identify the potential presence of Alameda whipsnakes at the project site. If the presence of Alameda whipsnakes is confirmed, the whipsnakes shall be captured and relocated away from the construction area by a qualified biologist in accordance with all applicable regulations and guidelines. The biologist shall submit the results of the survey (and capture/relocation if applicable) to the City for review and approval.

When Required: Prior to any construction-related activity

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

b. *Information and Protocols for Construction Workers*

Requirement: The biologist from section (a) above shall instruct the project superintendent and the construction crews (primarily the clearing, demolition, and foundation crews) of the potential presence, status, and identification of Alameda whipsnakes. The biologist shall also establish a set of protocols for use during construction concerning the steps to take if a whipsnake is seen on the project site, including who to contact, to ensure that whipsnakes are not harmed or killed. The project applicant shall submit evidence of compliance with these requirements to the City for review and approval.

When Required: Prior to any construction-related activity

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

c. *Alameda Whipsnake Exclusion Fence*

Requirement: Unless alternative (equivalent or more effective) measures are recommended by the biologist, the project applicant shall install a solid fence to prevent whipsnakes from entering the work site. The snake exclusion fence shall be constructed as follows:

- i. Plywood sheets at least three feet in height, above ground. Heavy duty geotextile fabric approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife may also be used for the snake exclusion fence;
- ii. Buried four to six inches into the ground;
- iii. Soil back-filled against the plywood fence to create a solid barrier at the ground;
- iv. Plywood sheets maintained in an upright position with wooden or masonry stakes;
- v. Ends of each plywood sheet overlapped to ensure a continuous barrier; and
- vi. Work site or construction area shall be completely enclosed by the exclusion fence or approved traps shall be installed at the ends of exclusion fence segments to allow capture and relocation of Alameda whipsnake away from the construction area by a qualified biologist.

The location and design of the proposed exclusion fence shall be submitted for review and approval by the City and be included on plans for all construction-related permits.

When Required: Prior to any construction-related activity

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

d. *Alameda Whipsnake Protection During Construction*

Requirement: The project applicant shall comply with the requirements in the above sections during construction activities. The approved protocol from section (b) above shall be followed in the event Alameda whipsnakes are encountered. The snake exclusion fence from section (c) above shall be installed and remain in place throughout the construction period. All construction activities and equipment/materials/debris storage shall take place on the project-side of the exclusion fence.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[See Hydrology and Water Quality section for other conditions related to biological resources.]

CULTURAL RESOURCES

[The following condition applies to all projects involving construction.]

29. Archaeological and Paleontological Resources – Discovery During Construction

Requirement: Pursuant to CEQA Guidelines section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find. In the case of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented.

In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods. Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense.

In the event of excavation of paleontological resources, the project applicant shall submit an excavation plan prepared by a qualified paleontologist to the City for review and approval. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards and at the expense of the project applicant.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that involve construction and are located in archaeologically sensitive areas. Archaeologically sensitive areas are areas in which previous CEQA documents or other sources of information identify a higher likelihood of archaeological finds.]

30. Archaeologically Sensitive Areas – Pre-Construction Measures

Requirement: The project applicant shall implement either Provision A (Intensive Pre-Construction Study) or Provision B (Construction ALERT Sheet) concerning archaeological resources.

Provision A: Intensive Pre-Construction Study.

The project applicant shall retain a qualified archaeologist to conduct a site-specific, intensive archaeological resources study for review and approval by the City prior to soil-disturbing activities occurring on the project site. The purpose of the site-specific, intensive archaeological resources study is to identify early the potential presence of history-period archaeological resources on the project site. At a minimum, the study shall include:

- a. Subsurface presence/absence studies of the project site. Field studies may include, but are not limited to, auguring and other common methods used to identify the presence of archaeological resources.
- b. A report disseminating the results of this research.
- c. Recommendations for any additional measures that could be necessary to mitigate any adverse impacts to recorded and/or inadvertently discovered cultural resources.

If the results of the study indicate a high potential presence of historic-period archaeological resources on the project site, or a potential resource is discovered, the project applicant shall hire a qualified archaeologist to monitor any ground disturbing activities on the project site during construction and prepare an ALERT sheet pursuant to Provision B below that details what could potentially be found at the project site. Archaeological monitoring would include briefing construction personnel about the type of artifacts that may be present (as referenced in the ALERT sheet, required per Provision B below) and the procedures to follow if any artifacts are encountered, field recording and sampling in accordance with the Secretary of Interior's Standards and Guidelines for Archaeological Documentation, notifying the appropriate officials if human remains or cultural resources are discovered, and preparing a report to document negative findings after construction is completed if no archaeological resources are discovered during construction.

Provision B: Construction ALERT Sheet.

The project applicant shall prepare a construction "ALERT" sheet developed by a qualified archaeologist for review and approval by the City prior to soil-disturbing activities occurring on the project site. The ALERT sheet shall contain, at a minimum, visuals that depict each type of artifact that could be encountered on the project site. Training by the qualified archaeologist shall be provided to the project's prime contractor, any project subcontractor firms (including demolition, excavation, grading, foundation, and pile driving), and utility firms involved in soil-disturbing activities within the project site.

The ALERT sheet shall state, in addition to the basic archaeological resource protection measures contained in other standard conditions of approval, all work must stop and the City's Environmental Review Officer contacted in the event of discovery of the following cultural materials: concentrations of shellfish remains; evidence of fire (ashes, charcoal, burnt earth, fire-

cracked rocks); concentrations of bones; recognizable Native American artifacts (arrowheads, shell beads, stone mortars [bowls], humanly shaped rock); building foundation remains; trash pits, privies (outhouse holes); floor remains; wells; concentrations of bottles, broken dishes, shoes, buttons, cut animal bones, hardware, household items, barrels, etc.; thick layers of burned building debris (charcoal, nails, fused glass, burned plaster, burned dishes); wood structural remains (building, ship, wharf); clay roof/floor tiles; stone walls or footings; or gravestones. Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, and supervisory personnel. The ALERT sheet shall also be posted in a visible location at the project site.

When Required: Prior to approval of construction-related permit; during construction

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving construction.]

31. Human Remains – Discovery During Construction

Requirement: Pursuant to CEQA Guidelines section 15064.5(e)(1), in the event that human skeletal remains are uncovered at the project site during construction activities, all work shall immediately halt and the project applicant shall notify the City and the Alameda County Coroner. If the County Coroner determines that an investigation of the cause of death is required or that the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made. In the event that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of section 7050.5 of the California Health and Safety Code. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously and at the expense of the project applicant.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that involve demolition of a Potential Designated Historic Property (PDHP) or a CEQA Historic Resource.]

32. Property Relocation

Requirement: Pursuant to Policy 3.7 of the Historic Preservation Element of the Oakland General Plan, the project applicant shall make a good faith effort to relocate the historic resource to a site acceptable to the City. A good faith effort includes, at a minimum, all of the following:

- a. Advertising the availability of the building by: (1) posting of large visible signs (such as banners, at a minimum of 3' x 6' size or larger) at the site; (2) placement of advertisements in Bay Area news media acceptable to the City; and (3) contacting neighborhood associations and for-profit and not-for-profit housing and preservation organizations;

- b. Maintaining a log of all the good faith efforts and submitting that along with photos of the subject building showing the large signs (banners) to the City;
- c. Maintaining the signs and advertising in place for a minimum of 90 days; and
- d. Making the building available at no or nominal cost (the amount to be reviewed by the Oakland Cultural Heritage Survey) until removal is necessary for construction of a replacement project, but in no case for less than a period of 90 days after such advertisement.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning (including Oakland Cultural Resource Survey)

Monitoring/Inspection: N/A

GEOLOGY AND SOILS

[The following condition applies to all projects requiring a construction-related permit.]

33. Construction-Related Permit(s)

Requirement: The project applicant shall obtain all required construction-related permits/approvals from the City. The project shall comply with all standards, requirements and conditions contained in construction-related codes, including but not limited to the Oakland Building Code and the Oakland Grading Regulations, to ensure structural integrity and safe construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving 1) a subdivision (except condominium subdivisions and subdivisions between existing buildings with no new structures) per OMC sections 16.20.060 and 16.24.090 or 2) a grading permit per OMC section 15.04.660. The condition does not apply to projects located in an Earthquake Fault Zone or a Seismic Hazards Zone (see other conditions applicable to those projects).]

34. Soils Report

Requirement: The project applicant shall submit a soils report prepared by a registered geotechnical engineer for City review and approval. The soils report shall contain, at a minimum, field test results and observations regarding the nature, distribution and strength of existing soils, and recommendations for appropriate grading practices and project design. The project applicant shall implement the recommendations contained in the approved report during project design and construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects located in an Earthquake Fault Zone per the State Alquist-Priolo Fault Zoning Act and OMC chap. 15.20 (staff can refer to the City's GIS map) and involve at least one of the following:

- a. New structures (except single-family wood or steel frame dwellings not exceeding two stories and not located within 100 feet of a potentially active fault);**
- b. Major additions or alterations (defined as exceeding 50% of the value of the structure or 50% of the floor area of the structure); or**
- c. Subdivisions (except condominium subdivisions and subdivisions between existing buildings with no new structures).**

NOTE: The report referenced in this condition is typically required prior to project approval.]

35. Earthquake Fault Zone

Requirement: The project applicant shall submit a site-specific fault location investigation, as defined in California Geological Survey Note 49 (as amended), prepared by a certified engineering geologist for City review and approval containing at a minimum the results of subsurface investigations, locations of hazardous faults adjacent to the project site, recommended setback distances of proposed structures from hazardous faults, and additional recommended measures to accommodate warping and distributive deformation associated with faulting (e.g., strengthened foundations, engineering design, flexible utility connections). The project applicant shall implement the recommendations contained in the approved report during project design and construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects located in a Seismic Hazards Zone per the State Seismic Hazards Mapping Act (pertaining to seismically-induced liquefaction and landslides) (staff can refer to the City's GIS map) and involve at least one of the following:

- a. New structures (except single-family dwellings not part of a development of four or more dwellings);**
- b. Major additions or alterations (defined as exceeding 50% of the value of the structure or 50% of the floor area of the structure); or**
- c. Subdivisions (except condominium subdivisions and subdivisions between existing buildings with no new structures).**

NOTE: The report referenced in this condition is typically required prior to project approval.]

36. Seismic Hazards Zone (Landslide/Liquefaction)

Requirement: The project applicant shall submit a site-specific geotechnical report, consistent with California Geological Survey Special Publication 117 (as amended), prepared by a registered geotechnical engineer for City review and approval containing at a minimum a description of the geological and geotechnical conditions at the site, an evaluation of site-specific seismic hazards based on geological and geotechnical conditions, and recommended measures to reduce potential impacts related to liquefaction and/or slope stability hazards. The project applicant shall

implement the recommendations contained in the approved report during project design and construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that meet all of the following criteria:

- a. Newly constructed land use facility (residential, civic, commercial, or industrial);**
- b. Geologic hazard present, as defined in California Public Resources Code section 26507 as an actual or threatened landslide, land subsidence, soil erosion, earthquake, fault movement, or any other natural or unnatural movement of land or earth; and**
- c. Technical report pertaining to the actual or threatened geologic hazard specifies the need for a Geologic Hazards Abatement District (GHAD) or a substantial degree of construction attention, site monitoring, or maintenance of project improvements.**

37. Oakland Area Geologic Hazard Abatement District (GHAD)

Requirement: Prior to approval of the final map or issuance of a building permit (whichever occurs first), the project applicant shall provide to the City 1) all required resolutions from the GHAD and City Council showing that the project property has been annexed into the GHAD, and 2) a statement from the GHAD Manager stating that an adequate funding mechanism is in place to fund the GHAD operations for the annexed property. To begin the annexation process, the project applicant shall submit a petition for annexation to the GHAD Manager which shall include but is not limited to a proposed Plan of Control as defined in Public Resource Code Section 26509, specifying all anticipated operations and maintenance responsibilities of the GHAD for the annexed property. The project applicant will be required to pay to the GHAD costs and fees associated with the annexation request, which includes the preparation and review of all necessary documents and resolutions by the GHAD Manager and/or GHAD Attorney. The GHAD Manager may require the project applicant to provide initial funding to allow the GHAD to operate with respect to the annexed property during the time a secure and stable financing source is obtained to ultimately fund the long term operations of the GHAD for the annexed property. If a real property assessment is proposed as a financing mechanism, the project applicant shall prepare an engineer's report identifying the projected costs and budget for GHAD operations for the annexed property and comply with all assessment voting requirements and other requirements in Proposition 218. If annexation is not approved by the GHAD and/or City Council, the project applicant shall demonstrate to the City's satisfaction that 1) another entity will and has assumed the responsibilities proposed for the GHAD ("Other Responsible Entity") and 2) there is an adequate financing mechanism in place to carry out those responsibilities.

The project applicant shall defend, hold harmless, and indemnify the GHAD, its officers, and agents against any and all liability, damages, claims, demands, judgments, losses, or other forms of legal or equitable relief relating to the GHAD annexation process and the securing/approval of funding sources by the GHAD and in the case of the City Council members, actions taken by said members while acting as the GHAD Board of Directors.

The project applicant shall request the GHAD or Other Responsible Entity to defend, hold harmless, and indemnify the Indemnified Parties (as defined in these Conditions of Approval) and

their insurers against any and all liability, damages, claims, demands, judgments, losses, or other forms of legal or equitable relief related to the responsibilities and operation of the GHAD or Other Responsible Entity (including, without limitation, maintenance of GHAD/Other Responsibility Entity owned property) relating to the annexed property (“Indemnified Geologic Claims”) and in the case of the City Council members, actions taken by said members while acting as the GHAD Board of Directors. This indemnity shall include, without limitation, payment of litigation expenses relating to the qualified Indemnified Geologic Claims. The Indemnified Parties shall take all reasonable steps to promptly notify the GHAD/Other Responsible Entity of any claim, demand, or legal actions that may create a claim for indemnification under this condition of approval. Within 90 days of the annexation to the GHAD or acceptance by the Other Responsible Entity, the applicant shall request the GHAD or Other Responsible Entity to enter into an Indemnification Agreement to establish in more specific detail the terms and conditions of the indemnification obligations set forth herein. The parties acknowledge that the GHAD can only provide indemnification as allowed by law. Any failure of any party to timely execute such Indemnification Agreement shall not be construed to limit any right or obligation otherwise specified in these Conditions of Approval.

When Required: Ongoing as specified in the condition

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Planning

GREENHOUSE GAS EMISSIONS / GLOBAL CLIMATE CHANGE

[The following condition applies under any of the following scenarios for projects which result in a net increase in greenhouse gas (GHG) emissions:

- a. Scenario A: Projects which (a) involve a land use development (i.e., a project that does not require a permit from the Bay Area Air Quality Management District [BAAQMD] to operate), (b) exceed the GHG emissions screening criteria contained in the BAAQMD CEQA Guidelines,¹ and (c) after a GHG analysis is prepared would produce total GHG emissions of more than 1,100 metric tons of CO₂e annually and more than 4.6 metric tons of CO₂e per service population annually (with “service population” defined as the total number of employees and residents of the project).**
- b. Scenario B: Projects which (a) involve a land use development, (b) exceed the GHG emissions screening criteria contained in the BAAQMD CEQA Guidelines,² (c) after a GHG analysis is**

¹ For residential development projects, refer to the City’s Housing Element EIR screening criteria. The Housing Element EIR’s analysis showed that residential development projects of less than 172 units would not result in a significant climate change impact and, therefore, no project-specific GHG analysis is required for such projects. Under an alternative approach in the Housing Element EIR, the analysis found that **ANY** residential development project (including those containing 172 or more units) would not result in a significant climate change impact and that no project-specific GHG analysis would be required. For residential projects containing 172 or more units, please consult with City Planning staff and the City Attorney’s office on the appropriate GHG review. For nonresidential development projects and mixed-use development projects, the nonresidential component of the project must be compared to the BAAQMD screening criteria and the applicable threshold if the screening criteria are exceeded, independently from any residential component the project.

² See footnote #1 above.

prepared would exceed at least one of the BAAQMD Thresholds of Significance (more than 1,100 metric tons of CO₂e annually OR more than 4.6 metric tons of CO₂e per service population annually), and (d) are considered to be “Very Large Projects.”³

- c. **Scenario C: Projects which (a) involve a stationary source of GHG (i.e., a project that requires a permit from BAAQMD to operate) and (b) after a GHG analysis is prepared would produce total GHG emissions of more than 10,000 metric tons of CO₂e annually.]**

38. Greenhouse Gas (GHG) Reduction Plan

a. *Greenhouse Gas (GHG) Reduction Plan Required*

Requirement: The project applicant shall retain a qualified air quality consultant to develop a Greenhouse Gas (GHG) Reduction Plan for City review and approval and shall implement the approved GHG Reduction Plan.

The goal of the GHG Reduction Plan shall be to increase energy efficiency and reduce GHG emissions to below [INCLUDE THIS LANGUAGE IF SCENARIO A OR B:] at least one of the Bay Area Quality Management District’s (BAAQMD’s) CEQA Thresholds of Significance (1,100 metric tons of CO₂e per year or 4.6 metric tons of CO₂e per year per service population) [INCLUDE THIS LANGUAGE IF SCENARIO C:] the Bay Area Quality Management District’s (BAAQMD’s) CEQA Thresholds of Significance (10,000 metric tons of CO₂e per year) [INCLUDE THIS LANGUAGE IF SCENARIO B] AND to reduce GHG emissions by 36 percent below the project’s “adjusted” baseline GHG emissions (as explained below) to help achieve the City’s goal of reducing GHG emissions. The GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a “business-as-usual” scenario with no consideration of project design features, or other energy efficiencies, (b) an “adjusted” baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including the City’s Standard Conditions of Approval, proposed mitigation measures, project design features, and other City requirements), (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions, and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction Plan shall provide GHG emission scenarios by phase.

Potential GHG reduction measures to be considered include, but are not be limited to, measures recommended in BAAQMD’s latest CEQA Air Quality Guidelines, the California

³ A “Very Large Project” is defined as any of the following:

- (A) Residential development of more than 500 dwelling units;
- (B) Shopping center or business establishment employing more than 1,000 persons or encompassing more than 500,000 square feet of floor space;
- (C) Commercial office building employing more than 1,000 persons or encompassing more than 250,000 square feet of floor space;
- (D) Hotel/motel development of more than 500 rooms;
- (E) Industrial, manufacturing, processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or encompassing more than 650,000 square feet of floor area; or
- (F) Any combination of smaller versions of the above that when combined result in equivalent annual GHG emissions as the above.

Air Resources Board Scoping Plan (December 2008, as may be revised), the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures (August 2010, as may be revised), the California Attorney General's website, and Reference Guides on Leadership in Energy and Environmental Design (LEED) published by the U.S. Green Building Council.

The types of allowable GHG reduction measures include the following (listed in order of City preference): (1) physical design features; (2) operational features; and (3) the payment of fees to fund GHG-reducing programs (i.e., the purchase of "carbon credits") as explained below.

The allowable locations of the GHG reduction measures include the following (listed in order of City preference): (1) the project site; (2) off-site within the City of Oakland; (3) off-site within the San Francisco Bay Area Air Basin; (4) off-site within the State of California; then (5) elsewhere in the United States.

As with preferred locations for the implementation of all GHG reductions measures, the preference for carbon credit purchases include those that can be achieved as follows (listed in order of City preference): (1) within the City of Oakland; (2) within the San Francisco Bay Area Air Basin; (3) within the State of California; then (4) elsewhere in the United States. The cost of carbon credit purchases shall be based on current market value at the time purchased and shall be based on the project's operational emissions estimated in the GHG Reduction Plan or subsequent approved emissions inventory, which may result in emissions that are higher or lower than those estimated in the GHG Reduction Plan.

For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

b. *GHG Reduction Plan Implementation During Construction*

Requirement: The project applicant shall implement the GHG Reduction Plan during construction of the project. For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be implemented during construction. For physical GHG reduction measures to be incorporated into off-site projects, the project applicant shall obtain all necessary permits/approvals and the measures shall be included on drawings and submitted to the City Planning Director or his/her designee for review and approval. These off-site improvements shall be installed prior to completion of the subject project (or prior to completion of the project phase for phased projects). For GHG reduction measures involving the purchase of carbon credits, evidence of the payment/purchase shall be submitted to the City for review and approval prior to completion of the project (or prior to completion of the project phase, for phased projects).

When Required: During construction

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

c. *GHG Reduction Plan Implementation After Construction*

Requirement: The project applicant shall implement the GHG Reduction Plan after construction of the project (or at the completion of the project phase for phased projects). For

operational GHG reduction measures to be incorporated into the project or off-site projects, the measures shall be implemented on an indefinite and ongoing basis.

The project applicant shall satisfy the following requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. The GHG Reduction Plan requires regular periodic evaluation over the life of the project (generally estimated to be at least 40 years) to determine how the Plan is achieving required GHG emissions reductions over time, as well as the efficacy of the specific additional GHG reduction measures identified in the Plan.

Annual Report. Implementation of the GHG reduction measures and related requirements shall be ensured through compliance with Conditions of Approval adopted for the project. Generally, starting two years after the City issues the first Certificate of Occupancy for the project, the project applicant shall prepare each year of the useful life of the project an Annual GHG Emissions Reduction Report (“Annual Report”), for review and approval by the City Planning Director or his/her designee. The Annual Report shall be submitted to an independent reviewer of the City’s choosing, to be paid for by the project applicant.

The Annual Report shall summarize the project’s implementation of GHG reduction measures over the preceding year, intended upcoming changes, compliance with the conditions of the Plan, and include a brief summary of the previous year’s Annual Report results (starting the second year). The Annual Report shall include a comparison of annual project emissions to the baseline emissions reported in the GHG Plan.

The GHG Reduction Plan shall be considered fully attained when project emissions are less than either applicable numeric BAAQMD CEQA Thresholds [INCLUDE THIS LANGUAGE IF SCENARIO B:] AND GHG emissions are 36 percent below the project’s “adjusted” baseline GHG emissions, as confirmed by the City through an established monitoring program. Monitoring and reporting activities will continue at the City’s discretion, as discussed below.

Corrective Procedure. If the third Annual Report, or any report thereafter, indicates that, in spite of the implementation of the GHG Reduction Plan, the project is not achieving the GHG reduction goal, the project applicant shall prepare a report for City review and approval, which proposes additional or revised GHG measures to better achieve the GHG emissions reduction goals, including without limitation, a discussion on the feasibility and effectiveness of the menu of other additional measures (“Corrective GHG Action Plan”). The project applicant shall then implement the approved Corrective GHG Action Plan.

If, one year after the Corrective GHG Action Plan is implemented, the required GHG emissions reduction target is still not being achieved, or if the project applicant fails to submit a report at the times described above, or if the reports do not meet City requirements outlined above, the City may, in addition to its other remedies, (a) assess the project applicant a financial penalty based upon actual percentage reduction in GHG emissions as compared to the percent reduction in GHG emissions established in the GHG Reduction Plan; or (b) refer the matter to the City Planning Commission for scheduling of a compliance hearing to determine whether the project’s approvals should be revoked, altered or additional conditions of approval imposed.

The penalty as described in (a) above shall be determined by the City Planning Director or his/her designee and be commensurate with the percentage GHG emissions reduction not

achieved (compared to the applicable numeric significance thresholds) or required percentage reduction from the “adjusted” baseline.

In determining whether a financial penalty or other remedy is appropriate, the City shall not impose a penalty if the project applicant has made a good faith effort to comply with the GHG Reduction Plan.

The City would only have the ability to impose a monetary penalty after a reasonable cure period and in accordance with the enforcement process outlined in Planning Code Chapter 17.152. If a financial penalty is imposed, such penalty sums shall be used by the City solely toward the implementation of the GHG Reduction Plan.

Timeline Discretion and Summary. The City shall have the discretion to reasonably modify the timing of reporting, with reasonable notice and opportunity to comment by the applicant, to coincide with other related monitoring and reporting required for the project.

When Required: Ongoing

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Planning

HAZARDS AND HAZARDOUS MATERIALS

[The following condition applies to all projects involving construction activities.]

39. Hazardous Materials Related to Construction

Requirement: The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential negative effects on groundwater, soils, and human health. These shall include, at a minimum, the following:

- a. Follow manufacture’s recommendations for use, storage, and disposal of chemical products used in construction;
- b. Avoid overtopping construction equipment fuel gas tanks;
- c. During routine maintenance of construction equipment, properly contain and remove grease and oils;
- d. Properly dispose of discarded containers of fuels and other chemicals;
- e. Implement lead-safe work practices and comply with all local, regional, state, and federal requirements concerning lead (for more information refer to the Alameda County Lead Poisoning Prevention Program); and
- f. If soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the project applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notifying the City and applicable regulatory agency(ies) and implementation of the actions described in the City’s Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until

the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving (a) redevelopment or change of use of a historically industrial or commercial site; (b) a contaminated site as identified in City records; or (c) a site listed on the State Cortese List; and site remediation activities are required based on an environmental site assessment. (Note 1: Presence on the Cortese List precludes use of a Categorical Exemption under CEQA, but a Statutory Exemption {such as section 15183} may apply. In that case, staff should consult first with a supervisor and then with the City Attorney's Office. Note 2: The environmental site assessment referenced in this condition is typically required prior to project approval.)]

40. Hazardous Building Materials and Site Contamination

a. Hazardous Building Materials Assessment

Requirement: The project applicant shall submit a comprehensive assessment report to the Bureau of Building, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACMs), lead-based paint, polychlorinated biphenyls (PCBs), and any other building materials or stored materials classified as hazardous materials by State or federal law. If lead-based paint, ACMs, PCBs, or any other building materials or stored materials classified as hazardous materials are present, the project applicant shall submit specifications prepared and signed by a qualified environmental professional, for the stabilization and/or removal of the identified hazardous materials in accordance with all applicable laws and regulations. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.

When Required: Prior to approval of demolition, grading, or building permits

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Environmental Site Assessment Required

Requirement: The project applicant shall submit a Phase I Environmental Site Assessment report, and Phase II Environmental Site Assessment report if warranted by the Phase I report, for the project site for review and approval by the City. The report(s) shall be prepared by a qualified environmental assessment professional and include recommendations for remedial action, as appropriate, for hazardous materials. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.

When Required: Prior to approval of construction-related permit

Initial Approval: Applicable regulatory agency with jurisdiction

Monitoring/Inspection: Applicable regulatory agency with jurisdiction

c. *Health and Safety Plan Required*

Requirement: The project applicant shall submit a Health and Safety Plan for the review and approval by the City in order to protect project construction workers from risks associated with hazardous materials. The project applicant shall implement the approved Plan.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

d. *Best Management Practices (BMPs) Required for Contaminated Sites*

Requirement: The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential soil and groundwater hazards. These shall include the following:

- i. Soil generated by construction activities shall be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state, and federal requirements.
- ii. Groundwater pumped from the subsurface shall be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving the handling, storage, or transportation of hazardous materials during business operations.]

41. Hazardous Materials Business Plan

Requirement: The project applicant shall submit a Hazardous Materials Business Plan for review and approval by the City, and shall implement the approved Plan. The approved Plan shall be kept on file with the City and the project applicant shall update the Plan as applicable. The purpose of the Hazardous Materials Business Plan is to ensure that employees are adequately trained to handle hazardous materials and provides information to the Fire Department should emergency response be required. Hazardous materials shall be handled in accordance with all applicable local, state, and federal requirements. The Hazardous Materials Business Plan shall include the following:

- a. The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.
- b. The location of such hazardous materials.
- c. An emergency response plan including employee training information.

- d. A plan that describes the manner in which these materials are handled, transported, and disposed.

When Required: Prior to building permit final

Initial Approval: Oakland Fire Department

Monitoring/Inspection: Oakland Fire Department

[The following condition applies to all projects to be constructed in phases and the furthest structure is over 150' from the nearest fire hydrant.]

42. Fire Safety Phasing Plan

Requirement: The project applicant shall submit a Fire Safety Phasing Plan for City review and approval, and shall implement the approved Plan. The Fire Safety Phasing Plan shall include all of the fire safety features incorporated into each phase of the project and the schedule for implementation of the features.

When Required: Prior to approval of construction-related permit

Initial Approval: Oakland Fire Department

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving construction of new facilities (e.g., new primary dwellings, new commercial buildings) located in the Oakland Wildfire Prevention District (staff can refer to the map on the City server).]

43. Wildfire Prevention Assessment District – Vegetation Management

a. *Vegetation Management Plan Required*

Requirement: The project applicant shall submit a Vegetation Management Plan for City review and approval, and shall implement the approved Plan prior to, during, and after construction of the project. The Vegetation Management Plan may be combined with the Landscape Plan otherwise required by the Conditions of Approval. The Vegetation Management Plan shall include, at a minimum, the following measures:

- i. Removal of dead vegetation overhanging roof and chimney areas;
- ii. Removal of leaves and needles from roofs;
- iii. Planting and placement of fire-resistant plants around the house and phasing out flammable vegetation;
- iv. Trimming back vegetation around windows;
- v. Removal of flammable vegetation on hillside slopes greater than 20%;
- vi. Pruning the lower branches of tall trees;
- vii. Clearing out ground-level brush and debris; and
- viii. Stacking woodpiles away from structures.

When Required: Prior to approval of construction-related permit

Initial Approval: Oakland Fire Department

Monitoring/Inspection: Oakland Fire Department

b. Fire Safety During Construction

Requirement: The project applicant shall require the construction contractor to implement spark arrestors on all construction vehicles and equipment to minimize accidental ignition of dry construction debris and surrounding dry vegetation.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

HYDROLOGY AND WATER QUALITY

[The following condition applies to all projects involving construction activities, except projects : a) requiring a grading permit; b) located on a hillside property (20% or greater slope); or c) requiring a category III or IV creek protection permit (see other conditions applicable to these other projects).]

44. Erosion and Sedimentation Control Measures for Construction

Requirement: The project applicant shall implement Best Management Practices (BMPs) to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. At a minimum, the project applicant shall provide filter materials deemed acceptable to the City at nearby catch basins to prevent any debris and dirt from flowing into the City's storm drain system and creeks.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving construction activities that require a grading permit per OMC sec. 15.04.660 or are located on a hillside property (20% or greater slope), except projects requiring a category III or IV creek protection permit (see other conditions for creek protection permits).]

45. Erosion and Sedimentation Control Plan for Construction

a. Erosion and Sedimentation Control Plan Required

Requirement: The project applicant shall submit an Erosion and Sedimentation Control Plan to the City for review and approval. The Erosion and Sedimentation Control Plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading and/or construction operations. The Plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes

as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the City. The Plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

b. Erosion and Sedimentation Control During Construction

Requirement: The project applicant shall implement the approved Erosion and Sedimentation Control Plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Bureau of Building.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that disturb one acre or more of surface area.]

46. State Construction General Permit

Requirement: The project applicant shall comply with the requirements of the Construction General Permit issued by the State Water Resources Control Board (SWRCB). The project applicant shall submit a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other required Permit Registration Documents to SWRCB. The project applicant shall submit evidence of compliance with Permit requirements to the City.

When Required: Prior to approval of construction-related permit

Initial Approval: State Water Resources Control Board; evidence of compliance submitted to Bureau of Building

Monitoring/Inspection: State Water Resources Control Board

[The following condition applies to all projects involving construction activities on hillside properties (20% or greater slopes), except projects considered Regulated Projects under the NPDES C.3 requirements (see other condition for NPDES C.3 Regulated Projects).]

47. Drainage Plan for Post-Construction Stormwater Runoff on Hillside Properties

Requirement: The project applicant shall submit and implement a Drainage Plan to be reviewed and approved by the City. The Drainage Plan shall include measures to reduce the volume and velocity of post-construction stormwater runoff to the maximum extent practicable. Stormwater runoff shall not be augmented to adjacent properties, creeks, or storm drains. The Drainage Plan shall be included with the project drawings submitted to the City for site improvements.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that create or replace (any amount) of impervious surface, except projects considered Regulated Projects under the NPDES C.3 requirements (see other condition for NPDES C.3 Regulated Projects).]

48. Site Design Measures to Reduce Stormwater Runoff

Requirement: Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES), the project applicant is encouraged to incorporate appropriate site design measures into the project to reduce the amount of stormwater runoff. These measures may include, but are not limited to, the following:

- a. Minimize impervious surfaces, especially directly connected impervious surfaces and surface parking areas;
- b. Utilize permeable paving in place of impervious paving where appropriate;
- c. Cluster structures;
- d. Direct roof runoff to vegetated areas;
- e. Preserve quality open space; and
- f. Establish vegetated buffer areas.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: N/A

[The following condition applies to all projects, except projects considered Regulated Projects under the NPDES C.3 requirements (see other condition for NPDES C.3 Regulated Projects).]

49. Source Control Measures to Limit Stormwater Pollution

Requirement: Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES), the project applicant is encouraged to incorporate appropriate source control measures to limit pollution in stormwater runoff. These measures may include, but are not limited to, the following:

- a. Stencil storm drain inlets “No Dumping – Drains to Bay;”
- b. Minimize the use of pesticides and fertilizers;
- c. Cover outdoor material storage areas, loading docks, repair/maintenance bays and fueling areas;
- d. Cover trash, food waste, and compactor enclosures; and
- e. Plumb the following discharges to the sanitary sewer system, subject to City approval:
- f. Discharges from indoor floor mats, equipment, hood filter, wash racks, and, covered outdoor wash racks for restaurants;
- g. Dumpster drips from covered trash, food waste, and compactor enclosures;
- h. Discharges from outdoor covered wash areas for vehicles, equipment, and accessories;
- i. Swimming pool water, if discharge to on-site vegetated areas is not feasible; and
- j. Fire sprinkler test water, if discharge to on-site vegetated areas is not feasible.

When Required: Ongoing

Initial Approval: N/A
Monitoring/Inspection: N/A

[The following condition applies to all projects considered Regulated Projects under the NPDES C.3 requirements. Regulated Projects are:]

- a. Projects that create or replace 10,000 square feet or more of new or existing impervious surface area; and**
- b. The following projects that create or replace 5,000 square feet or more of new or impervious surface area:**
 - i. Auto servicing, auto repair, and gas stations;**
 - ii. Restaurants (full service, limited service, and fast-food); and**
 - iii. Uncovered surface parking lots (including stand-alone parking lots, parking lots serving an activity, and the uncovered portion of parking structures unless drainage from the uncovered portion of the parking structure is connected to the sanitary sewer system).**

Regulated Projects do not include individual single-family dwellings (that are not part of a larger multi-unit development) or routine maintenance activities.]

50. NPDES C.3 Stormwater Requirements for Regulated Projects

a. Post-Construction Stormwater Management Plan Required

Requirement: The project applicant shall comply with the requirements of Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES). The project applicant shall submit a Post-Construction Stormwater Management Plan to the City for review and approval with the project drawings submitted for site improvements, and shall implement the approved Plan during construction. The Post-Construction Stormwater Management Plan shall include and identify the following:

- i. Location and size of new and replaced impervious surface;
- ii. Directional surface flow of stormwater runoff;
- iii. Location of proposed on-site storm drain lines;
- iv. Site design measures to reduce the amount of impervious surface area;
- v. Source control measures to limit stormwater pollution;
- vi. Stormwater treatment measures to remove pollutants from stormwater runoff, including the method used to hydraulically size the treatment measures; and
- vii. Hydromodification management measures, if required by Provision C.3, so that post-project stormwater runoff flow and duration match pre-project runoff.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning; Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Maintenance Agreement Required

Requirement: The project applicant shall enter into a maintenance agreement with the City, based on the Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement, in accordance with Provision C.3, which provides, in part, for the following:

- i. The project applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment

measures being incorporated into the project until the responsibility is legally transferred to another entity; and

- ii. Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary.

The maintenance agreement shall be recorded at the County Recorder's Office at the applicant's expense.

When Required: Prior to building permit final

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving either of the following:

- a. Projects that create or replace at least 2,500 square feet, but less than 10,000 square feet, of new or existing impervious, except projects considered Regulated Projects under the NPDES C.3 requirements (see other condition for NPDES C.3 Regulated Projects); or**
- b. Individual single-family home projects that create or replace at least 2,500 square feet of new or existing impervious.]**

51. NPDES C.3 Stormwater Requirements for Small Projects

Requirement: Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES), the project applicant shall incorporate one or more of the following site design measures into the project:

- a. Direct roof runoff into cisterns or rain barrels for reuse;
- b. Direct roof runoff onto vegetated areas;
- c. Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas;
- d. Direct runoff from driveways and/or uncovered parking lots onto vegetated areas;
- e. Construct sidewalks, walkways, and/or patios with permeable surfaces; or
- f. Construct bike lanes, driveways, and/or uncovered parking lots with permeable surfaces.

The project drawings submitted for construction-related permits shall include the proposed site design measure(s) and the approved measure(s) shall be installed during construction. The design and installation of the measure(s) shall comply with all applicable City requirements.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning; Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving new architectural copper.]

52. Architectural Copper

Requirement: The project applicant shall implement Best Management Practices (BMPs) concerning the installation, treatment, and maintenance of exterior architectural copper during and after construction of the project in order to reduce potential water quality impacts in accordance with Provision C.13 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES). The required BMPs include, but are not limited to, the following:

- a. If possible, use copper materials that have been pre-patinated at the factory;
- b. If patination is done on-site, ensure rinse water is not discharged to the storm drain system by protecting storm drain inlets and implementing one or more of the following:
- c. Discharge rinse water to landscaped area;
- d. Collect rinse water in a tank and discharge to the sanitary sewer, with approval by the City; or haul off-site for proper disposal;
- e. During maintenance activities, protect storm drain inlets to prevent wash water discharge into storm drains; and
- f. Consider coating the copper with an impervious coating that prevents further corrosion.

When Required: During construction; ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects located on creekside properties.]

53. Vegetation Management on Creekside Properties

Requirement: The project applicant shall comply with the following requirements when managing vegetation prior to, during, and after construction of the project:

- a. Identify and leave “islands” of vegetation in order to prevent erosion and landslides and protect habitat;
- b. Trim tree branches from the ground up (limbing up) and leave tree canopy intact;
- c. Leave stumps and roots from cut down trees to prevent erosion;
- d. Plant fire-appropriate, drought-tolerant, preferably native vegetation;
- e. Provide erosion and sediment control protection if cutting vegetation on a steep slope;
- f. Fence off sensitive plant habitats and creek areas if implementing goat grazing for vegetation management;
- g. Obtain a Tree Permit before removing a Protected Tree (any tree 9 inches dbh or greater and any oak tree 4 inches dbh or greater, except eucalyptus and Monterey pine);
- h. Do not clear-cut vegetation. This can lead to erosion and severe water quality problems and destroy important habitat;
- i. Do not remove vegetation within 20 feet of the top of the creek bank. If the top of bank cannot be identified, do not cut within 50 feet of the centerline of the creek or as wide a buffer as possible between the creek centerline and the development;
- j. Do not trim/prune branches that are larger than 4 inches in diameter;
- k. Do not remove tree canopy;

- l. Do not dump cut vegetation in the creek;
- m. Do not cut tall shrubbery to less than 3 feet high; and
- n. Do not cut short vegetation (e.g., grasses, ground-cover) to less than 6 inches high.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects requiring a category III or IV creek protection permit.]

54. Creek Protection Plan

a. Creek Protection Plan Required

Requirement: The project applicant shall submit a Creek Protection Plan for review and approval by the City. The Plan shall be included with the set of project drawings submitted to the City for site improvements and shall incorporate the contents required under section 13.16.150 of the Oakland Municipal Code including Best Management Practices (“BMPs”) during construction and after construction to protect the creek. Required BMPs are identified below in sections (b), (c), and (d).

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

b. Construction BMPs

Requirement: The Creek Protection Plan shall incorporate all applicable erosion, sedimentation, debris, and pollution control BMPs to protect the creek during construction. The measures shall include, but are not limited to, the following:

- i. On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the creek.
- ii. The project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent biodegradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.
- iii. Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.
- iv. All work in or near creek channels must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be repacked and native vegetation planted.

- v. Install filter materials (such as sandbags, filter fabric, etc.) acceptable to the City at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.
- vi. Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains.
- vii. Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek.
- viii. Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the creek or storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site.
- ix. Gather all construction debris on a regular basis and place it in a dumpster or other container which is emptied or removed at least on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.
- x. Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.
- xi. Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, or storm drains.
- xii. All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Control Board (RWQCB).
- xiii. Temporary fencing is required for sites without existing fencing between the creek and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek if applicable) at the maximum practical distance from the creek centerline. This area shall not be disturbed during construction without prior approval of the City.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

c. *Post-Construction BMPs*

Requirement: The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains. The Creek Protection Plan shall include site design measures to reduce the amount of impervious surface to maximum extent practicable.

New drain outfalls shall include energy dissipation to slow the velocity of the water at the point of outflow to maximize infiltration and minimize erosion.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

d. *Creek Landscaping*

Requirement: The project applicant shall include final landscaping details for the site on the Creek Protection Plan, or on a Landscape Plan, for review and approval by the City. Landscaping information shall include a planting schedule, detailing plant types and locations, and a system to ensure adequate irrigation of plantings for at least one growing season.

Plant and maintain only drought-tolerant plants on the site where appropriate as well as native and riparian plants in and adjacent to riparian corridors. Along the riparian corridor, native plants shall not be disturbed to the maximum extent feasible. Any areas disturbed along the riparian corridor shall be replanted with mature native riparian vegetation and be maintained to ensure survival.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

e. *Creek Protection Plan Implementation*

Requirement: The project applicant shall implement the approved Creek Protection Plan during and after construction. During construction, all erosion, sedimentation, debris, and pollution control measures shall be monitored regularly by the project applicant. The City may require that a qualified consultant (paid for by the project applicant) inspect the control measures and submit a written report of the adequacy of the control measures to the City. If measures are deemed inadequate, the project applicant shall develop and implement additional and more effective measures immediately.

When Required: During construction; ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving creek dewatering or diversion (generally required when there is work within the creek channel).]

55. Creek Dewatering/Diversion

Requirement: The project applicant shall submit a Dewatering and Diversion Plan for review and approval by the City, and shall implement the approved Plan. The Plan shall comply, at a minimum, with the following:

- a. All dewatering and diversion activities shall comply with the requirements of all necessary regulatory permits and authorizations from other agencies (e.g., Regional Water Quality Control Board, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and Army Corps of Engineers).
- b. All native aquatic life (e.g., fish, amphibians, and turtles) within the work site shall be relocated by a qualified biologist prior to dewatering, in accordance with applicable regional,

state, and federal requirements. Captured native aquatic life shall be moved to the nearest appropriate site on the stream channel downstream. The biologist shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured aquatic life shall be released immediately in the nearest appropriate downstream site. This condition does not allow the take or disturbance of any state or federally listed species, nor state-listed species of special concern, unless the applicant obtains a project specific authorization from the California Department of Fish and Wildlife and/or the U.S. Fish and Wildlife Service, as applicable.

- c. If any dam or other artificial obstruction is constructed, maintained, or placed in operation within the stream channel, ensure that sufficient water is allowed to pass down channel at all times to maintain native aquatic life below the dam or other artificial obstruction.
- d. Construction and operation of dewatering/diversion devices shall meet the standards contained in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Control Board.
- e. Cofferdams and/or water diversion system shall be constructed of a non-erodable material which will cause little or no siltation. Cofferdams and the water diversion system shall be maintained in place and functional throughout the construction period. If the cofferdams or water diversion systems fail, they shall be repaired immediately based on the recommendations of a qualified environmental consultant. The devices shall be removed after construction is complete and the site is stabilized.
- f. Pumped water shall be passed through a sediment settling device before returning to the stream channel. Velocity dissipation measures are required at the outfall to prevent erosion.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning; Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that involve new construction within a 100-year flood zone as mapped on a Federal Hazard Boundary map, Flood Insurance Rate Map, or other flood hazard delineation map. Staff can refer to the City's GIS map.]

56. Structures in a Flood Zone

Requirement: The project shall be designed to ensure that new structures within a 100-year flood zone do not interfere with the flow of water or increase flooding. The project applicant shall submit plans and hydrological calculations for City review and approval with the construction-related drawings that show finished site grades and floor elevations elevated above the Base Flood Elevation (BFE).

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that require a permit from the Bay Conservation and Development Commission (BCDC). BCDC's jurisdiction is generally limited to the first 100 feet inland from the shoreline of San Francisco Bay and the Oakland Estuary. Projects in BCDC's jurisdiction requiring a permit include placing material in the Bay/Estuary, dredging material from the Bay/Estuary, substantially changing the use of a structure or area, constructing or repairing a structure, or grading land.]

57. Bay Conservation and Development Commission (BCDC) Approval

Requirement: The project applicant shall obtain the necessary permit/approval, if required, from the Bay Conservation and Development Commission (BCDC) for work within BCDC's jurisdiction to address issues such as but not limited to shoreline public access and sea level rise. The project applicant shall submit evidence of the permit/approval to the City and comply with all requirements and conditions of the permit/approval.

When Required: Prior to activity requiring permit/approval from BCDC

Initial Approval: Approval by BCDC; evidence of approval submitted to Bureau of Planning

Monitoring/Inspection: BCDC

[See Biological Resources section for other conditions related to hydrology and water quality.]

NOISE

[The following condition applies to all projects involving construction.]

58. Construction Days/Hours

Requirement: The project applicant shall comply with the following restrictions concerning construction days and hours:

- a. Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m.
- b. Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday.
- c. No construction is allowed on Sunday or federal holidays.

Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.

Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of

nearby residents'/occupants' preferences. The project applicant shall notify property owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving construction.]

59. Construction Noise

Requirement: The project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following:

- a. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible.
- b. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
- c. Applicant shall use temporary power poles instead of generators where feasible.
- d. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.
- e. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving construction.]

60. Extreme Construction Noise

- a. *Construction Noise Management Plan Required*

Requirement: Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The project applicant shall implement the approved Plan during construction. Potential attenuation measures include, but are not limited to, the following:

- i. Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;
- ii. Implement “quiet” pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
- iii. Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;
- iv. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and
- v. Monitor the effectiveness of noise attenuation measures by taking noise measurements.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Public Notification Required

Requirement: The project applicant shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the project applicant shall submit to the City for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise generating activities and describe noise attenuation measures to be implemented.

When Required: During construction

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects for which a noise study was prepared during the project review process that contained recommended noise reduction measures.]

61. Project-Specific Construction Noise Reduction Measures

Requirement: The project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction noise impacts. The project applicant shall implement the approved Plan during construction

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all major development projects, specifically those involving:

- a. Construction of 50 or more residential dwelling units;**
- b. Construction of 50,000 sq. ft. or more of nonresidential floor area; or**
- c. CEQA review (e.g., negative declaration, mitigated negative declaration, or EIR).]**

62. Construction Noise Complaints

Requirement: The project applicant shall submit to the City for review and approval a set of procedures for responding to and tracking complaints received pertaining to construction noise, and shall implement the procedures during construction. At a minimum, the procedures shall include:

- a. Designation of an on-site construction complaint and enforcement manager for the project;
- b. A large on-site sign near the public right-of-way containing permitted construction days/hours, complaint procedures, and phone numbers for the project complaint manager and City Code Enforcement unit;
- c. Protocols for receiving, responding to, and tracking received complaints; and
- d. Maintenance of a complaint log that records received complaints and how complaints were addressed, which shall be submitted to the City for review upon the City's request.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects for which a noise study was performed during the project review process and the project exposure to community noise is Conditionally Acceptable, Normally Unacceptable, or Clearly Unacceptable per the land use compatibility guidelines of the Noise Element of the Oakland General Plan.]

63. Exposure to Community Noise

Requirement: The project applicant shall submit a Noise Reduction Plan prepared by a qualified acoustical engineer for City review and approval that contains noise reduction measures (e.g., sound-rated window, wall, and door assemblies) to achieve an acceptable interior noise level in accordance with the land use compatibility guidelines of the Noise Element of the Oakland General Plan. The applicant shall implement the approved Plan during construction. To the maximum extent practicable, interior noise levels shall not exceed the following:

- a. 45 dBA: Residential activities, civic activities, hotels
- b. 50 dBA: Administrative offices; group assembly activities
- c. 55 dBA: Commercial activities
- d. 65 dBA: Industrial activities

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects.]

64. Operational Noise

Requirement: Noise levels from the project site after completion of the project (i.e., during project operation) shall comply with the performance standards of chapter 17.120 of the Oakland Planning Code and chapter 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the City.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving new residential facilities or new dwelling units located adjacent to an active rail line.]

65. Exposure to Vibration

Requirement: The project applicant shall submit a Vibration Reduction Plan prepared by a qualified acoustical consultant for City review and approval that contains vibration reduction measures to reduce groundborne vibration to acceptable levels per Federal Transit Administration (FTA) standards. The applicant shall implement the approved Plan during construction. Potential vibration reduction measures include, but are not limited to, the following:

- a. Isolation of foundation and footings using resilient elements such as rubber bearing pads or springs, such as a “spring isolation” system that consists of resilient spring supports that can support the podium or residential foundations. The specific system shall be selected so that it can properly support the structural loads, and provide adequate filtering of groundborne vibration to the residences above.
- b. Trenching, which involves excavating soil between the railway and the project so that the vibration path is interrupted, thereby reducing the vibration levels before they enter the project’s structures. Since the reduction in vibration level is based on a ratio between trench depth and vibration wavelength, additional measurements shall be conducted to determine the vibration wavelengths affecting the project. Based on the resulting measurement findings, an adequate trench depth and, if required, suitable fill shall be identified (such as foamed styrene packing pellets [i.e., Styrofoam] or low-density polyethylene).

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving construction adjacent to an historical resource under CEQA or adjacent to vibration sensitive activities where vibration could substantially interfere with normal operations.]

66. Vibration Impacts on Adjacent Historic Structures or Vibration-Sensitive Activities

Requirement: The project applicant shall submit a Vibration Analysis prepared by an acoustical and/or structural engineer or other appropriate qualified professional for City review and approval that establishes pre-construction baseline conditions and threshold levels of vibration that could damage the structure and/or substantially interfere with activities located at **[ENTER ADDRESS OF ADJACENT HISTORICAL RESOURCE OR VIBRATION SENSITIVE ACTIVITY]**. The Vibration Analysis shall identify design means and methods of construction that shall be utilized in order to not exceed the thresholds. The applicant shall implement the recommendations during construction.

When Required: Prior to construction

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

POPULATION AND HOUSING

[The following condition applies to all projects per OMC chap. 15.68 involving new construction of office or warehousing activities containing at least 25,000 sq. ft. of floor area.]

67. Jobs/Housing Impact Fee

Requirement: The project applicant shall submit payment to the City in accordance with the requirements of the City of Oakland Jobs/Housing Impact Fee Program (chapter 15.68 of the Oakland Municipal Code).

When Required: Prior to construction

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

TRANSPORTATION/TRAFFIC

[The following condition applies to all construction projects.]

68. Construction Activity in the Public Right-of-Way

a. Obstruction Permit Required

Requirement: The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets and sidewalks.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Traffic Control Plan Required

Requirement: In the event of obstructions to vehicle or bicycle travel lanes, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian detours, including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The project applicant shall implement the approved Plan during construction.

When Required: Prior to approval of construction-related permit

Initial Approval Public Works Department, Transportation Services Division

Monitoring/Inspection: Bureau of Building

c. *Repair of City Streets*

Requirement: The project applicant shall repair any damage to the public right-of way, including streets and sidewalks caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.

When Required: Prior to building permit final

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects that require bicycle parking per chapter 17.117 of the Oakland Planning Code, such as:

- a. New nonresidential construction of a certain size (see Code for size thresholds);**
- b. Additions to existing nonresidential facilities (see Code for size thresholds);**
- c. New residential units (in multi-family dwellings, see Code); or**
- d. Remodeling of existing facilities involving 10,000 square feet and valued at \$250,000 or more.]**

69. Bicycle Parking

Requirement: The project applicant shall comply with the City of Oakland Bicycle Parking Requirements (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall demonstrate compliance with the requirements.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects for which a Transportation Impact Study was prepared during the project review process that contained recommended transportation improvements.]

70. Transportation Improvements

Requirement: The project applicant shall implement the recommended on- and off-site transportation-related improvements contained within the Transportation Impact Study for the project (e.g., signal timing adjustments, restriping, signalization, traffic control devices, roadway reconfigurations, and pedestrian and bicyclist amenities). The project applicant is responsible for funding and installing the improvements, and shall obtain all necessary permits and approvals from the City and/or other applicable regulatory agencies such as, but not limited to, Caltrans (for improvements related to Caltrans facilities) and the California Public Utilities Commission (for improvements related to railroad crossings), prior to installing the improvements. To implement this measure for intersection modifications, the project applicant shall submit Plans, Specifications, and Estimates (PS&E) to the City for review and approval. All elements shall be designed to applicable City standards in effect at the time of construction and all new or upgraded signals shall include these enhancements as required by the City. All other facilities supporting vehicle travel and alternative modes through the intersection shall be brought up to both City standards and ADA standards (according to Federal and State Access Board guidelines) at the time of construction. Current City Standards call for, among other items, the elements listed below:

- a. 2070L Type Controller with cabinet accessory
- b. GPS communication (clock)
- c. Accessible pedestrian crosswalks according to Federal and State Access Board guidelines with signals (audible and tactile)
- d. Countdown pedestrian head module switch out
- e. City Standard ADA wheelchair ramps
- f. Video detection on existing (or new, if required)
- g. Mast arm poles, full activation (where applicable)
- h. Polara Push buttons (full activation)
- i. Bicycle detection (full activation)
- j. Pull boxes
- k. Signal interconnect and communication with trenching (where applicable), or through existing conduit (where applicable), 600 feet maximum
- l. Conduit replacement contingency
- m. Fiber switch
- n. PTZ camera (where applicable)
- o. Transit Signal Priority (TSP) equipment consistent with other signals along corridor
- p. Signal timing plans for the signals in the coordination group

When Required: Prior to building permit final or as otherwise specified

Initial Approval: Bureau of Building; Public Works Department, Transportation Services Division

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects generating 50 or more net new a.m. or p.m. peak hour vehicle trips.]

71. Transportation and Parking Demand Management

a. Transportation and Parking Demand Management (TDM) Plan Required

Requirement: The project applicant shall submit a Transportation and Parking Demand Management (TDM) Plan for review and approval by the City.

- i. The goals of the TDM Plan shall be the following:
 - Reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable, consistent with the potential traffic and parking impacts of the project.
 - Achieve the following project vehicle trip reductions (VTR):
 - Projects generating 50-99 net new a.m. or p.m. peak hour vehicle trips: 10 percent VTR
 - Projects generating 100 or more net new a.m. or p.m. peak hour vehicle trips: 20 percent VTR
 - Increase pedestrian, bicycle, transit, and carpool/vanpool modes of travel. All four modes of travel shall be considered, as appropriate.
 - Enhance the City's transportation system, consistent with City policies and programs.
- ii. TDM strategies to consider include, but are not limited to, the following:
 - Inclusion of additional long-term and short-term bicycle parking that meets the design standards set forth in chapter five of the Bicycle Master Plan and the Bicycle Parking Ordinance (chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement.
 - Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority bikeways, on-site signage and bike lane striping.
 - Installation of safety elements per the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project.
 - Installation of amenities such as lighting, street trees, and trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.
 - Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements.
 - Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency).
 - Provision of a transit subsidy to employees or residents, determined by the project applicant and subject to review by the City, if employees or residents use transit or commute by other alternative modes.
 - Provision of an ongoing contribution to transit service to the area between the project and nearest mass transit station prioritized as follows: 1) Contribution to AC

Transit bus service; 2) Contribution to an existing area shuttle service; and 3) Establishment of new shuttle service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario 3).

- Guaranteed ride home program for employees, either through 511.org or through separate program.
- Pre-tax commuter benefits (commuter checks) for employees.
- Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants.
- On-site carpooling and/or vanpool program that includes preferential (discounted or free) parking for carpools and vanpools.
- Distribution of information concerning alternative transportation options.
- Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties.
- Parking management strategies including attendant/valet parking and shared parking spaces.
- Requiring tenants to provide opportunities and the ability to work off-site.
- Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week).
- Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours.

The TDM Plan shall indicate the estimated VTR for each strategy, based on published research or guidelines where feasible. For TDM Plans containing ongoing operational VTR strategies, the Plan shall include an ongoing monitoring and enforcement program to ensure the Plan is implemented on an ongoing basis during project operation. If an annual compliance report is required, as explained below, the TDM Plan shall also specify the topics to be addressed in the annual report.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

b. TDM Implementation – Physical Improvements

Requirement: For VTR strategies involving physical improvements, the project applicant shall obtain the necessary permits/approvals from the City and install the improvements prior to the completion of the project.

When Required: Prior to building permit final

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

c. TDM Implementation – Operational Strategies

Requirement: For projects that generate 100 or more net new a.m. or p.m. peak hour vehicle trips and contain ongoing operational VTR strategies, the project applicant shall submit an annual compliance report for the first five years following completion of the project (or completion of each phase for phased projects) for review and approval by the City. The annual report shall document the status and effectiveness of the TDM program, including the actual VTR achieved by the project during operation. If deemed necessary, the City may elect to have a peer review consultant, paid for by the project applicant, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the project applicant has failed to implement the TDM Plan, the project will be considered in violation of the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval. The project shall not be considered in violation of this Condition if the TDM Plan is implemented but the VTR goal is not achieved.

When Required: Ongoing

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Planning

[The following condition applies to all projects per OMC chapter 10.70 located in the Southeast Oakland Traffic Impact Fee Program Area (generally along both sides of I-580 between Seminary Ave. and 98th Ave.; staff can refer to the map on the L drive) and involve either of the following:

a. Residential: New dwelling units (except affordable housing); or

b. Nonresidential: New development and change of use/remodeling that results in an increase in the number of peak hour vehicle trips.

Reconstruction of a razed structure is exempt if proof of destruction is submitted that demonstrates the razed structure existed at the time the Fee Program became effective (April 21, 2007).]

72. Southeast Oakland Traffic Impact Program

Requirement: The project applicant shall submit payment to the City in accordance with chapter 10.70 of the Oakland Municipal Code for funding capital improvement projects to accommodate future traffic demand in the Southeast Oakland area.

When Required: Prior to building permit final

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

[The following condition applies to all projects located within ¼-mile of an at-grade railroad crossing that generate substantial vehicle, bicyclist, and/or pedestrian traffic and a Transportation Impact Study otherwise required to be prepared for the project identifies potentially substantially dangerous crossing conditions at the at-grade crossing caused by the project.]

73. Railroad Crossings

Requirement: The project applicant shall submit for City review and approval a Diagnostic Review to evaluate potential impacts to at-grade railroad crossings resulting from project-related traffic. In general, the major types of impacts to consider are collisions between trains and vehicles, trains and pedestrians, and trains and bicyclists. The Diagnostic Review shall include specific traffic elements, such as roadway and rail description, accident history, traffic volumes (all modes, including pedestrian and bicyclist crossing movements), train volumes, vehicular speeds, train speeds, and existing rail and traffic control.

Where the Diagnostic Review identifies potentially substantially dangerous crossing conditions at at-grade railroad crossings caused by the project, measures relative to the project's traffic contribution to the crossings shall be applied through project redesign and/or incorporation of the appropriate measures to reduce potential adverse impacts at the crossings. These measures may include, without limitation, the following:

- a. Installation of grade separations at crossings, i.e., physically separating roads and railroad tracks by constructing overpasses or underpasses
- b. Improvements to warning devices at existing highway rail crossings that are impacted by project traffic
- c. Installation of additional warning signage
- d. Improvements to traffic signaling at intersections adjacent to crossings, e.g., signal preemption
- e. Installation of median separation to prevent vehicles from driving around railroad crossing gates
- f. Where sound walls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains
- g. Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains
- h. Construction of pull-out lanes for buses and vehicles transporting hazardous materials
- i. Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way
- j. Elimination of driveways near crossings
- k. Increased enforcement of traffic laws at crossings
- l. Rail safety awareness programs to educate the public about the hazards of highway-rail grade crossings

Any proposed improvements must be coordinated with California Public Utility Commission (CPUC) and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings). The project applicant shall implement the approved measures during construction of the project.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

UTILITY AND SERVICE SYSTEMS

[The following condition applies to all construction projects.]

74. Construction and Demolition Waste Reduction and Recycling

Requirement: The project applicant shall comply with the City of Oakland Construction and Demolition Waste Reduction and Recycling Ordinance (chapter 15.34 of the Oakland Municipal Code) by submitting a Construction and Demolition Waste Reduction and Recycling Plan (WRRP) for City review and approval, and shall implement the approved WRRP. Projects subject to these requirements include all new construction, renovations/alterations/modifications with construction values of \$50,000 or more (except R-3 type construction), and all demolition (including soft demolition) except demolition of type R-3 construction. The WRRP must specify the methods by which the project will divert construction and demolition debris waste from landfill disposal in accordance with current City requirements. The WRRP may be submitted electronically at www.greenhalosystems.com or manually at the City's Green Building Resource Center. Current standards, FAQs, and forms are available on the City's website and in the Green Building Resource Center.

When Required: Prior to approval of construction-related permit

Initial Approval: Public Works Department, Environmental Services Division

Monitoring/Inspection: Public Works Department, Environmental Services Division

[The following condition applies to all construction projects.]

75. Underground Utilities

Requirement: The project applicant shall place underground all new utilities serving the project and under the control of the project applicant and the City, including all new gas, electric, cable, and telephone facilities, fire alarm conduits, street light wiring, and other wiring, conduits, and similar facilities. The new facilities shall be placed underground along the project's street frontage and from the project structures to the point of service. Utilities under the control of other agencies, such as PG&E, shall be placed underground if feasible. All utilities shall be installed in accordance with standard specifications of the serving utilities.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects per chapter of 17.118 of the Oakland Planning Code that involve any of the following:]

- a. New residential development of five or more units;**
- b. Alterations to existing residential development of five or more units that increase the floor area by 30% or more;**
- c. New commercial or industrial development;**
- d. Alterations to existing commercial or industrial development that increase the floor area by 30% or more;**

e. New public facilities; or

f. Alterations to areas of existing public facilities used for collecting and loading solid waste.]

76. Recycling Collection and Storage Space

Requirement: The project applicant shall comply with the City of Oakland Recycling Space Allocation Ordinance (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall contain recycling collection and storage areas in compliance with the Ordinance. For residential projects, at least two cubic feet of storage and collection space per residential unit is required, with a minimum of ten cubic feet. For nonresidential projects, at least two cubic feet of storage and collection space per 1,000 square feet of building floor area is required, with a minimum of ten cubic feet.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving any the following:

Residential

a. New Construction of a One or Two Family Dwelling

b. New Construction of a Multi-Family Dwelling (3+ units);

c. Additions or Alterations to a One or Two Family Dwelling over 1,000 sq. ft. of total floor area; or

d. Construction of or Alteration to Residential Units (any amount) that Receive City Funding (NOFA projects)

Non-Residential

a. New Construction of Non-Residential Building over 25,000 sq. ft. of total floor area; or

b. Major Alterations (see Green Building Definitions) over 25,000 sq. ft. of total floor area to a Non-Residential Building.]

77. Green Building Requirements

a. Compliance with Green Building Requirements During Plan-Check

Requirement: The project applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the City of Oakland Green Building Ordinance (chapter 18.02 of the Oakland Municipal Code).

- i. The following information shall be submitted to the City for review and approval with the application for a building permit:
 - Documentation showing compliance with Title 24 of the current version of the California Building Energy Efficiency Standards.
 - Completed copy of the final green building checklist approved during the review of the Planning and Zoning permit.
 - Copy of the Unreasonable Hardship Exemption, if granted, during the review of the Planning and Zoning permit.

- Permit plans that show, in general notes, detailed design drawings, and specifications as necessary, compliance with the items listed in subsection (ii) below.
 - Copy of the signed statement by the Green Building Certifier approved during the review of the Planning and Zoning permit that the project complied with the requirements of the Green Building Ordinance.
 - Signed statement by the Green Building Certifier that the project still complies with the requirements of the Green Building Ordinance, unless an Unreasonable Hardship Exemption was granted during the review of the Planning and Zoning permit.
 - Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.
- ii. The set of plans in subsection (i) shall demonstrate compliance with the following:
- CALGreen mandatory measures.
 - **[INSERT: Green building point level/certification requirement: (See Green Building Summary Table; for New Construction of Residential or Non-residential projects that remove a Historic Resource (as defined by the Green Building Ordinance) the point level certification requirement is 53 points for residential and LEED Gold for non-residential)]** per the appropriate checklist approved during the Planning entitlement process.
 - All green building points identified on the checklist approved during review of the Planning and Zoning permit, unless a Request for Revision Plan-check application is submitted and approved by the Bureau of Planning that shows the previously approved points that will be eliminated or substituted.
 - The required green building point minimums in the appropriate credit categories.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

b. *Compliance with Green Building Requirements During Construction*

Requirement: The project applicant shall comply with the applicable requirements of CALGreen and the Oakland Green Building Ordinance during construction of the project.

The following information shall be submitted to the City for review and approval:

- i. Completed copies of the green building checklists approved during the review of the Planning and Zoning permit and during the review of the building permit.
- ii. Signed statement(s) by the Green Building Certifier during all relevant phases of construction that the project complies with the requirements of the Green Building Ordinance.
- iii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

c. *Compliance with Green Building Requirements After Construction*

Requirement: Prior to the finaling the Building Permit, the Green Building Certifier shall submit the appropriate documentation to City staff and attain the minimum required point level.

When Required: Prior to Final Approval

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving any of the following and are rated using the Small Commercial or Bay Friendly Basic Landscape Checklists:

- a. New Construction of Non-Residential Buildings between 5,000 and 25,000 sq. ft. of total floor area;**
- b. Additions/Alterations 5,000 and 25,000 sq. ft. of total floor area to a Non-Residential Building;**
- c. Additions/Alterations (not meeting the Major Alteration Definition) over 25,000 sq. ft. of total floor area to a Non-Residential Building;**
- d. Alterations/Alterations 5,000 and 25,000 sq. ft. of total floor area to a Historic Non-Residential Building;**
- e. Additions/Alterations (not meeting the Major Alteration Definition) over 25,000 sq. ft. of total floor area to a Historic Non-Residential Building; or**
- f. Construction projects with over 25,000 sq. ft. of total floor area of new construction requiring a landscape plan.]**

78. Green Building Requirements – Small Projects

a. *Compliance with Green Building Requirements During Plan-Check*

The project applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the City of Oakland Green Building Ordinance (chapter 18.02 of the Oakland Municipal Code) for projects using the **[INSERT: StopWaste.Org Small Commercial Checklist or Bay Friendly Basic Landscape Checklist]**.

- i. The following information shall be submitted to the City for review and approval with application for a building permit:
 - Documentation showing compliance with Title 24 of the current version of the California Building Energy Efficiency Standards.
 - Completed copy of the green building checklist approved during the review of a Planning and Zoning permit.
 - Permit plans that show in general notes, detailed design drawings and specifications as necessary compliance with the items listed in subsection (b) below.
 - Other documentation to prove compliance.
- ii. The set of plans in subsection (a) shall demonstrate compliance with the following:
 - CALGreen mandatory measures.

- All applicable green building measures identified on the checklist approved during the review of a Planning and Zoning permit, or submittal of a Request for Revision Plan-check application that shows the previously approved points that will be eliminated or substituted.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

b. Compliance with Green Building Requirements During Construction

Requirement: The project applicant shall comply with the applicable requirements of CALGreen and the Green Building Ordinance during construction.

The following information shall be submitted to the City for review and approval:

- Completed copy of the green building checklists approved during review of the Planning and Zoning permit and during the review of the Building permit.
- Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

[The following condition applies to all major development projects, specifically those involving any of the following:]

a. Construction of 50 or more residential dwelling units;

b. Construction of 50,000 sq. ft. or more of nonresidential floor area; or

c. CEQA review (e.g., negative declaration, mitigated negative declaration, or EIR).]

79. Sanitary Sewer System

Requirement: The project applicant shall prepare and submit a Sanitary Sewer Impact Analysis to the City for review and approval in accordance with the City of Oakland Sanitary Sewer Design Guidelines. The Impact Analysis shall include an estimate of pre-project and post-project wastewater flow from the project site. In the event that the Impact Analysis indicates that the net increase in project wastewater flow exceeds City-projected increases in wastewater flow in the sanitary sewer system, the project applicant shall pay the Sanitary Sewer Impact Fee in accordance with the City's Master Fee Schedule for funding improvements to the sanitary sewer system.

When Required: Prior to approval of construction-related permit

Initial Approval: Public Works Department, Department of Engineering and Construction

Monitoring/Inspection: N/A

[The following condition applies to all major development projects, specifically those involving any of the following:]

a. Construction of 50 or more residential dwelling units;

- b. Construction of 50,000 sq. ft. or more of nonresidential floor area; or**
- c. CEQA review (e.g., negative declaration, mitigated negative declaration, or EIR).]**

80. Storm Drain System

Requirement: The project storm drainage system shall be designed in accordance with the City of Oakland's Storm Drainage Design Guidelines. To the maximum extent practicable, peak stormwater runoff from the project site shall be reduced by at least 25 percent compared to the pre-project condition.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects per OMC section 16.08.030 involving a tentative map approval (tentative parcel map or tentative tract map) for a land subdivision or condominium subdivision located in the EBMUD Recycled Water Project area (generally portions of West Oakland, Downtown, and Jack London Square; staff can refer to the map on the City server).]

81. Recycled Water

Requirement: Pursuant to section 16.08.030 of the Oakland Municipal Code, the project applicant shall provide for the use of recycled water in the project for landscape irrigation purposes unless the City determines that there is a higher and better use for the recycled water, the use of recycled water is not economically justified for the project, or the use of recycled water is not financially or technically feasible for the project. The project applicant shall contact the New Business Office of the East Bay Municipal Utility District (EBMUD) for a recycled water feasibility assessment by the Office of Water Recycling. If recycled water is to be provided in the project, the project drawings submitted for construction-related permits shall include the proposed recycled water system and the project applicant shall install the recycled water system during construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning; Bureau of Building

Monitoring/Inspection: Bureau of Building

[Insert the following with the Approval letter (pertinent to Condition #6).]

Applicant Statement

I have read and accept responsibility for the Conditions of Approval. I agree to abide by and conform to the Conditions of Approval, as well as to all provisions of the Oakland Planning Code and Oakland Municipal Code pertaining to the project.

Name of Project Applicant

Signature of Project Applicant

Date

**APPENDIX TRANS
TRANSPORTATION AND PARKING
MANAGEMENT PLAN**

Lighthouse School Transportation Impact Analysis

Oakland, California

FINAL REPORT

October 11, 2017

Lighthouse School Transportation Impact Analysis Final Report

Oakland, California

Prepared For:

City of Oakland

Planning and Building Department
250 Frank H Ogawa Plaza
Oakland, CA 94612

Prepared By:

Kittelson & Associates, Inc.

155 Grand Avenue, Suite 900
Oakland, California 94612
(510) 839-1742

Project Analysts: Kelwalee Jutipanya, Amy López

Project Manager: Amanda Leahy, AICP

Project Principal: Mike Aronson, PE

KAI Project No. 21061

October 11, 2017



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APPENDICES

Appendix A: Scope of Work

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Appendix F: Doorway and Driveway Counts at SUM

Appendix G: Off-Site Improvements Cost Estimates and Project Contribution to Traffic at Railroad Crossings

Section 1 Introduction



1. INTRODUCTION

Kittelson & Associates, Inc. prepared this transportation impact analysis (TIA) report for the proposed Lighthouse School's Lodestar Campus (project) for Lighthouse Community Schools (project sponsor). This transportation study was prepared consistent with the City of Oakland's *Transportation Impact Review Guidelines* (TIRG) (April 14, 2017). The scope of work is included as Appendix A.

The topics addressed in this transportation analysis include:

- Existing conditions for people walking, biking, driving, and taking transit near the project site;
- Site access and circulation for people walking, biking, driving, and taking transit;
- Crash history for study intersections and streets within the study area;
- Project multimodal trip generation estimates and vehicle-miles traveled;
- Travel demand management program strategies and anticipated vehicle trip reductions;
- Student drop-off and pick-up activity and circulation;
- Oakland Municipal Code compliance and consistency with local plans and policies; and,
- Temporary conditions during the project construction period.

1.1. PROJECT DESCRIPTION

The Lighthouse School's Lodestar Campus is proposed to be located at 735 105th Avenue in Oakland, CA at the current location of the School of Urban Missions Bible College & Theological Seminary (SUM), as presented in Figure 1. The SUM is an active post-graduate institution with on-site enrollment of approximately 70 students. The site is zoned as Business Mix (CIX-2).

The proposed project is a K-12 charter school with a maximum enrollment of 850 students. Approximately 65-70 students are planned for each grade level. The project will be constructed in two phases. Phase 1, occurring from fall 2017 through 2019, involves improvement of the existing buildings on the campus and construction of a new parking lot in the northwestern portion of the site (number of parking spaces yet to be determined). Student enrollment during Phase 1 will be 500 students, and enrollment will increase by 350 students for Phase 2. Phase 2 of the project involves construction of a third building at the northwest side of the existing parking lot and construction of an outdoor recreation area within the southern portion of the existing parking lot.

Table 1 presents the current on-site enrollment of the SUM and the proposed enrollment for the Lodestar project. The table also presents the current gross square footage of the SUM buildings and the proposed gross square footage after completion of Phase 2. Figure 2 presents the project site plan.

Table 1: Gross Square Footage and Student Enrollment

Building or Parking	Size of Buildings	Unit	On-Site Enrollment
Existing SUM			
Post Graduate School, Building 1	15,176	Sq. Ft.	70
Post Graduate School, Building 2	20,160	Sq. Ft.	-
Gross Area/Total Students			70
Project			
Building I Elementary	15,176	Sq. Ft.	333
Building II Middle & Admin	20,160	Sq. Ft.	167
Building III High School	23,600	Sq. Ft.	350
Gross Area/Total Students	58,936	Sq. Ft.	850
Parking, Phase 1	76 ¹	Spaces	-
Parking, Phase 2	To be determined	Spaces	-

Source: Hibser Yamaichi Architects, Inc., project site plan dated June 7th, 2017

¹ 72 standard spaces, 4 Accessible Spaces; 24' drive aisle

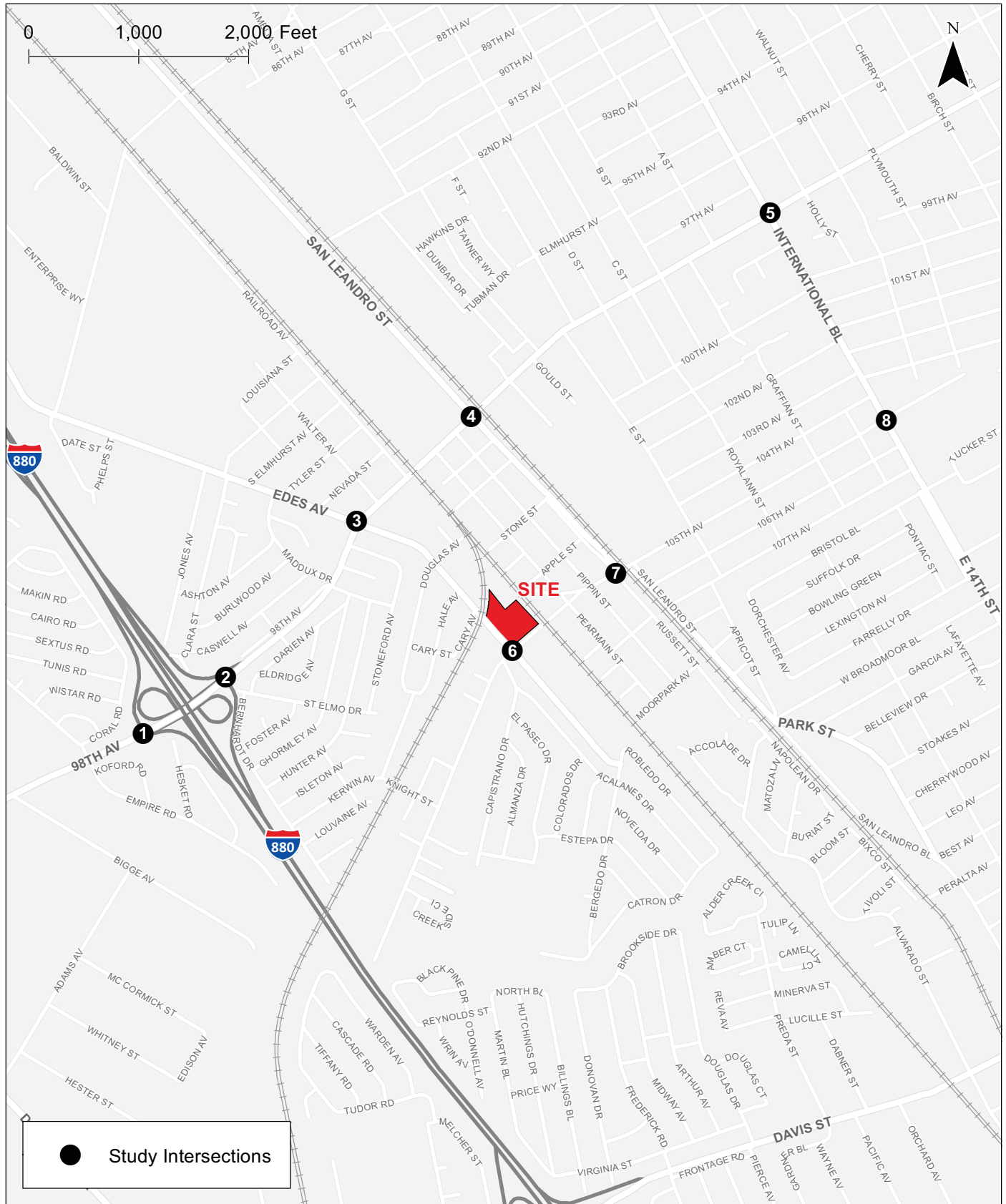
Sq. Ft. = square feet

1.1.1. Transportation and Parking Demand Management Plan

The project sponsor developed a transportation and parking demand management (TDM) plan for the project. The TDM plan includes measures identified in the City of Oakland *Transportation Impact Report Guidelines* and Standard Conditions of Approval, as applicable. The project incorporates the following TDM measures to reduce the estimated number of vehicle trips generated by the project:

- TDM-1: TDM Coordinator
- TDM-2: Bike parking
- TDM-3: Transit and bicycle incentives
- TDM-4: School pool program
- TDM-5: Pedestrian network improvements

Other, or alternative, TDM measures may be employed in the future should the project not meet the estimated vehicle trip reductions. These vehicle trip reduction estimates are presented in Table 12 in Section 4.6.2.



**Site Vicinity Map
Oakland, California**

**Figure
1**

H:\2121061 - Oakland Lighthouse School TIA\dwgs\figs\21061 figure_site plan & vicinity map.dwg Oct 02, 2017 - 11:44am - alopez Layout Tab: Conceptual Site Plan



Conceptual Site Plan

Figure
2

Section 2 Existing Conditions

2. EXISTING CONDITIONS

This section describes transportation characteristics near the project site. Included in this section are descriptions of the site and adjacent land uses; existing roadway, transit, pedestrian, and bicycle networks; and documentation of the existing traffic, transit, pedestrian, bicycle, commercial loading, railroad crossing, and emergency vehicle access conditions.

2.1. SITE CONDITIONS AND ADJACENT LAND USES

The project site is located on 735 105th Avenue, Oakland, CA, and currently is occupied by the School of Urban Mission Bible College & Theological Seminary (SUM), an active post-graduate institution.

The site has two existing vehicular access points: a full access (entry/exit, all-movement) driveway on 105th Avenue and a gated exit-only (right- and left-out) driveway on Edes Avenue. The existing curb cuts for the 105th Avenue and Edes Avenue driveways are 33 feet and 26 feet wide, respectively.

The site is zoned Business Mix (CIX-2/S-19). The site primarily is surrounded by single-family homes and one- to two-story multifamily developments (zoned RD-1, Detached Unit Residential). Along Edes Avenue and 105th Avenue, retail and light industrial/manufacturing uses are present (zoned CIX-2/S-19, Business Mix).

2.2. DATA COLLECTION

Vehicle, pedestrian, and bicycle counts were collected on Wednesday, May 23, 2017 at eight key intersections in the vicinity of the project site for the weekday a.m. (7:00 a.m. to 9:00 a.m.) and weekday p.m. (4:00 p.m. to 6:00 p.m.) peak periods. The study intersections are identified in Table 2. Study intersection and driveway count locations are presented in Figure 1, and multimodal counts are presented in Figure 3. Detailed multimodal intersection count data are included as Appendix B.

Table 2: Multimodal Count Locations

#	Count Location	Traffic Control
1	98th Avenue/I-880 SB Ramps	Signal
2	98th Avenue/I-880 NB Ramps	Signal
3	98th Avenue/Edes Avenue	Signal
4	98th Avenue/San Leandro Street	Signal
5	98th Avenue/International Boulevard	Signal
6	105th Avenue/Edes Avenue	Signal
7	105th Avenue/San Leandro Street	Signal
8	105th Avenue/International Boulevard	Signal

Source: Quality Counts, 2017; Kittelson & Associates, Inc. 2017.

Notes: Counts were collected on Thursday May 25, 2017. Detailed count data are included in Appendix B.

Intersection and driveway count data were supplemented with field observations to characterize current transportation conditions in and around the project site. Field observations were collected at the project site and along the project frontages (i.e., 105th Avenue and Edes Avenue) on Tuesday, February 7, 2017. Field observations included doorway and driveway counts at the campus access points during the weekday a.m. and weekday p.m. peak periods as well as a review of pedestrian, bicycle, and vehicle access and amenities. During the observation periods on February 7, 2017, only the driveway on 105th Avenue was active; the gate for the Edes Avenue driveway was closed. Observations of the operational and safety considerations for the two nearby at-grade railroad crossings also were conducted on February 7, 2017.

2.1. ROADWAY NETWORK

This section describes the regional and local vehicle access to the project site. The section identifies several types of street classifications according to the City's Land Use and Transportation Element.

2.1.1. Regional Access

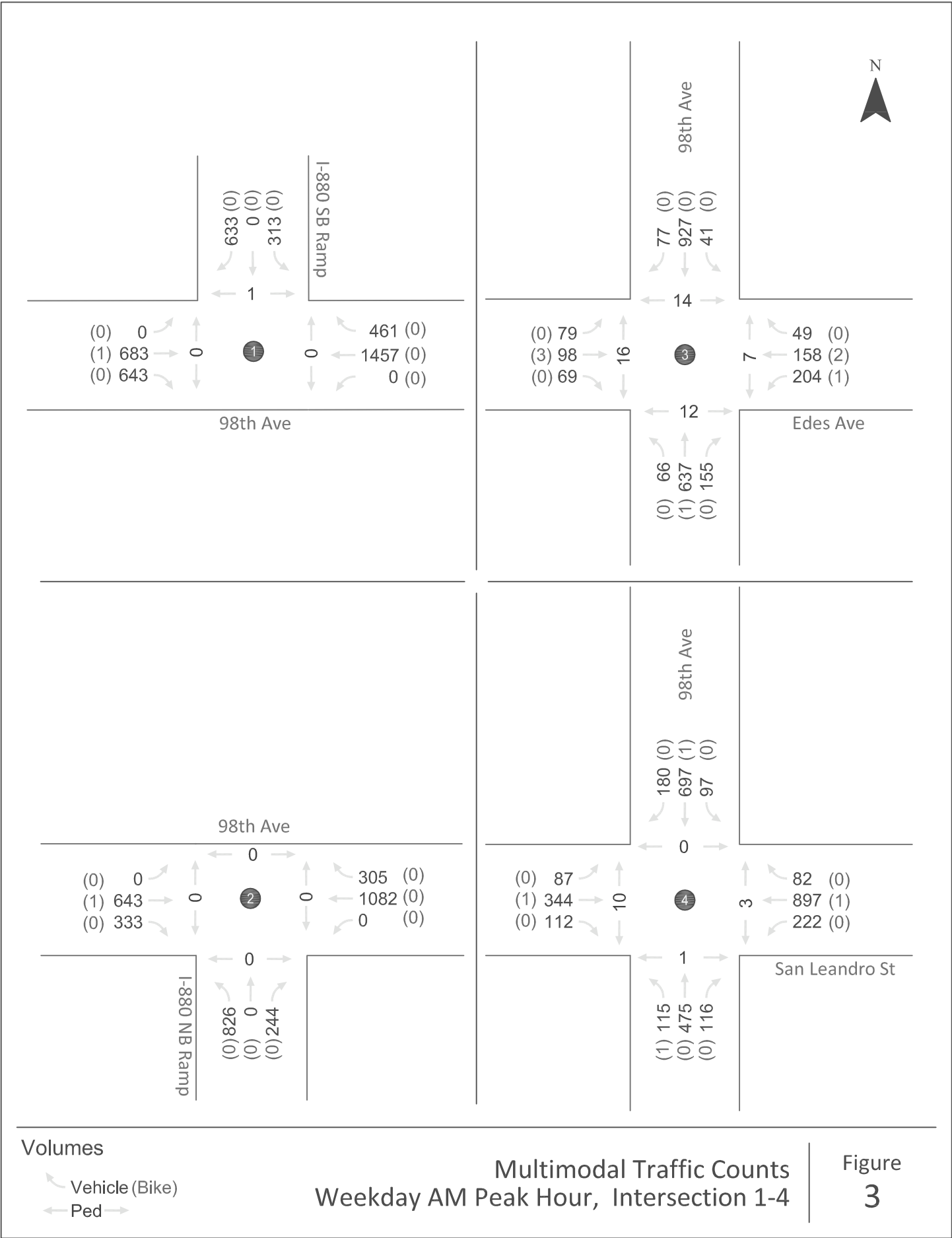
Regional access to and from the project site is provided by Interstate 880 (I-880).

Interstate 880: I-880 is an eight-lane freeway that generally runs in the north-south direction. Access from I-880 to the project site is provided at the 98th Avenue interchange via northbound and southbound ramps.

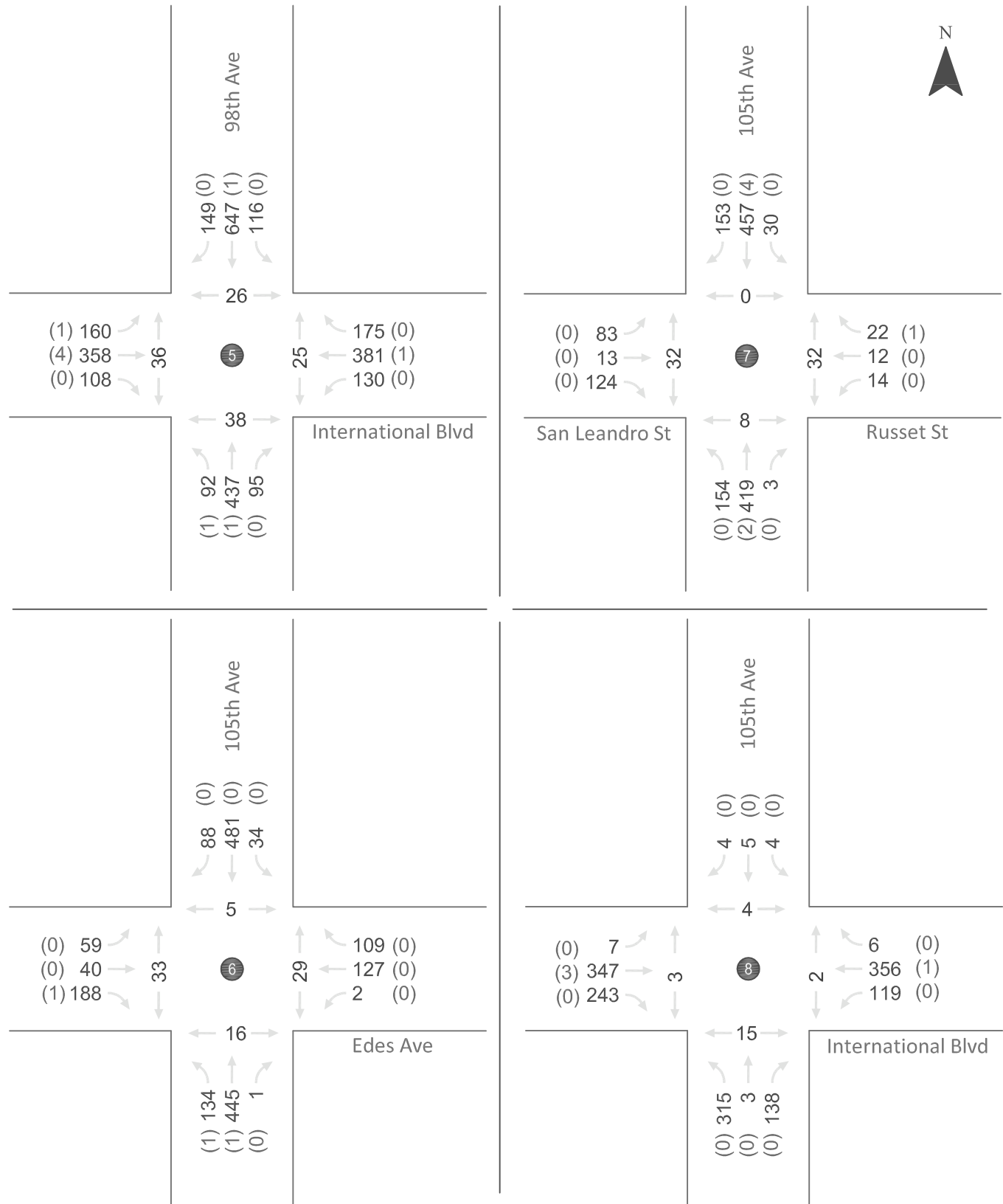
2.1.2. Local Access

Local access to and from the project site is described in this section.

105th Avenue. One Hundred Fifth Avenue is a north-south local street passing through residential areas near the project site. Single-family homes and one- to two-story multifamily developments front directly on 105th Avenue. Near the project site and to the south, the street has a 36-foot cross section with one vehicle travel lane in each direction and on-street parallel parking with no restrictions on both sides of the street. To the north of Pippin Street, 105th Avenue has a 60-foot cross section with one vehicle travel lane in each direction, a two-way center left-turn lane, class II bike lanes, and on-street parallel parking with no restrictions on both sides of the street. Sidewalks are present on both sides of the street with widths of approximately seven feet. Utility poles and trees are present within the width of the sidewalks, which narrows the effective sidewalk width to less than five feet at most locations. At the railroad crossing to the north of the project site, the sidewalk does not continue through the crossing. (Other pedestrian considerations at this crossing are discussed later in the railroad crossings section.) The posted speed limit is 30 mph.



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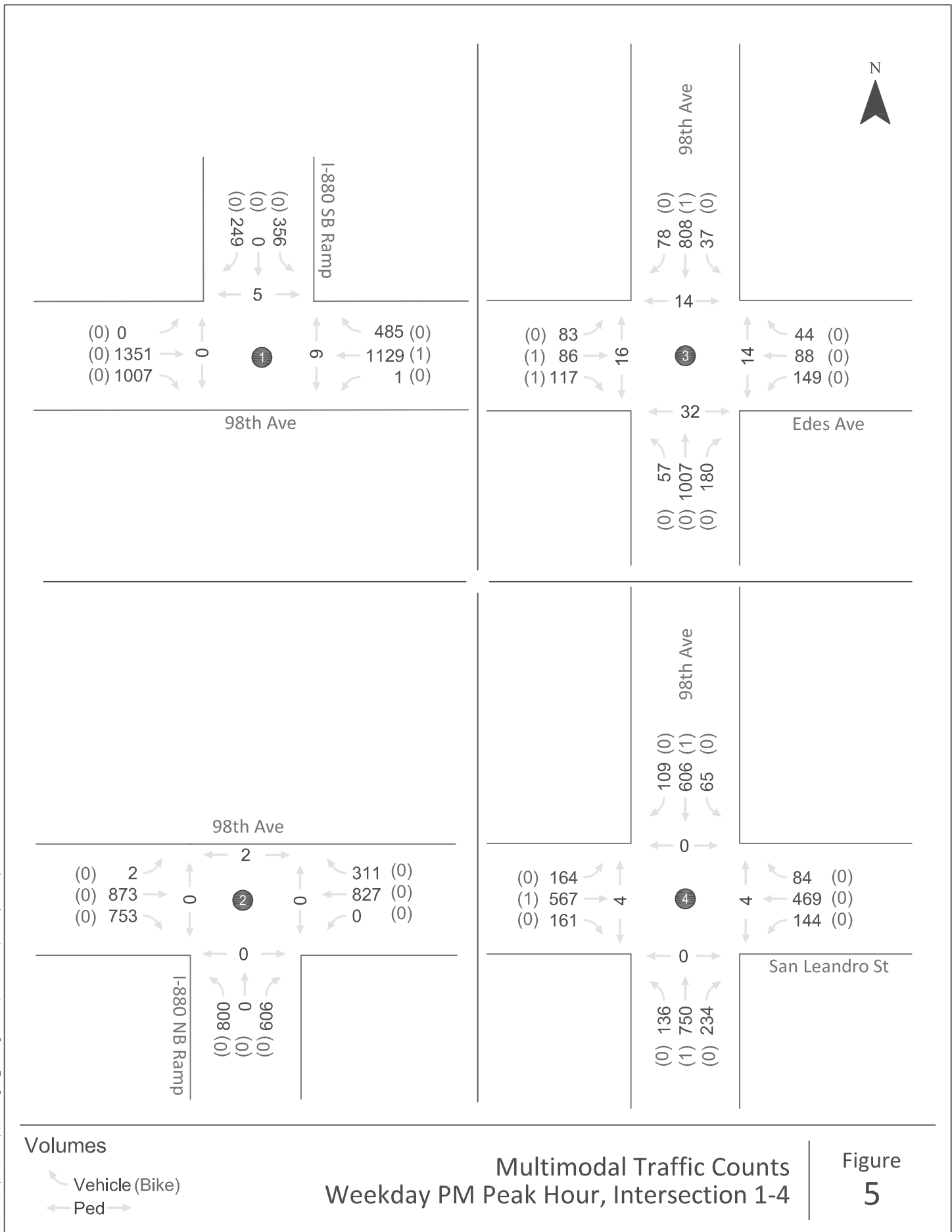
Volumes

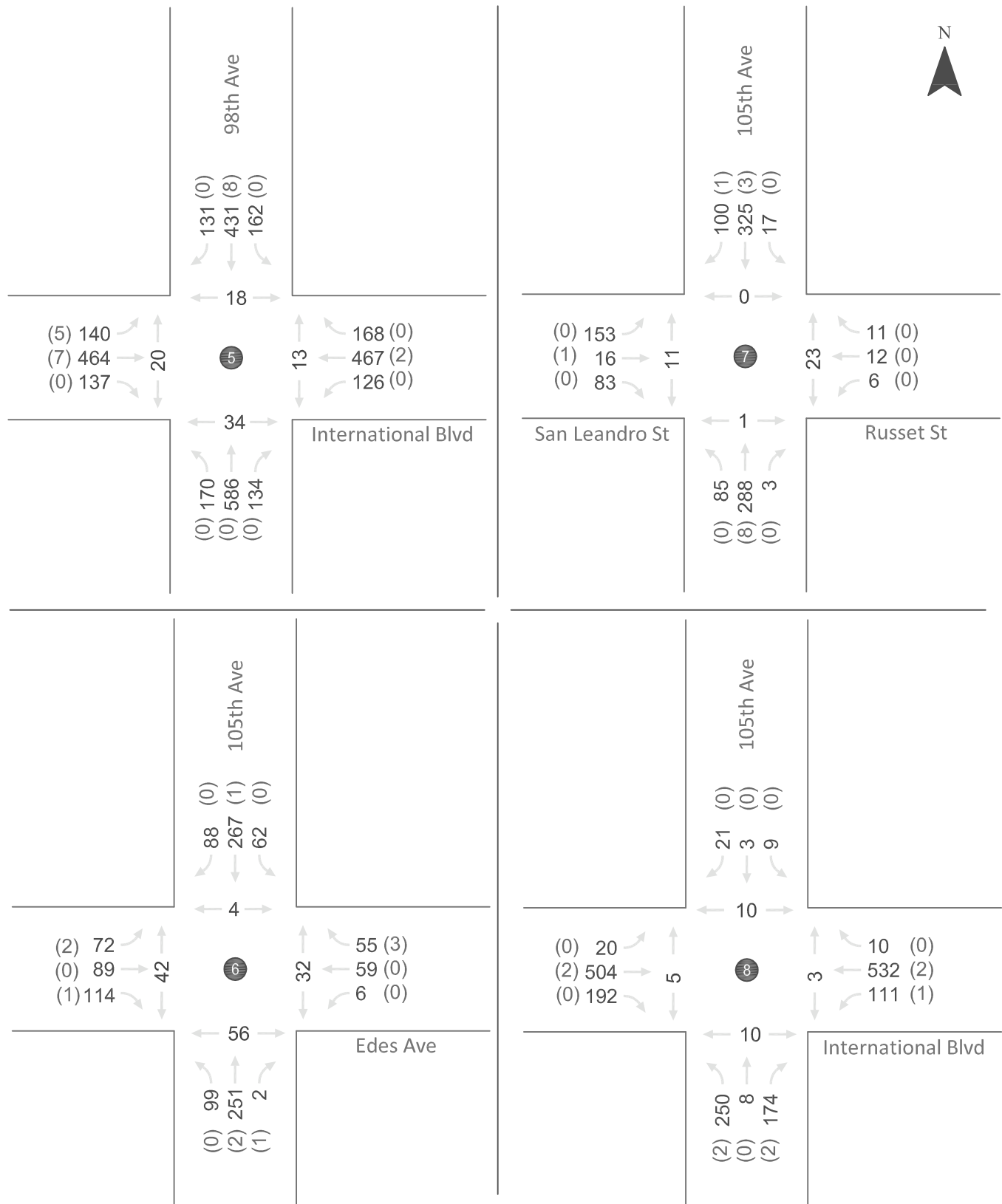
Vehicle (Bike)
Ped

Multimodal Traffic Counts

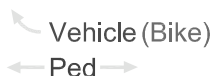
Weekday AM Peak Hour, Intersection 5-8

Figure
4





Volumes



Multimodal Traffic Counts
Weekday PM Peak Hour, Intersection 5-8

Figure
6

During the morning observation period (7:30 a.m. to 9:00 a.m.), heavy southbound traffic was observed along 105th Avenue with a queue backing up from the traffic signal at Edes Avenue to the north side of the railroad crossing. During the same period, northbound traffic was light. Minimal queuing was observed during the afternoon period (3:00 p.m. to 5:00 p.m.).

Edes Avenue. Edes Avenue is an east-west local street passing through residential and commercial areas to the east and west of the project site. Single-family homes front directly on Edes Avenue to the east of the project site. Retail, light industrial/manufacturing uses, and single-family homes front on Edes Avenue to the west of the project site. The street has a 36-foot cross section with one vehicle travel lane in each direction and unrestricted on-street parallel parking on both sides of the street. The City of Oakland identifies an existing class III bike route on approximately 0.35 miles of Edes Avenue from south of 98th Avenue to north of 105th Avenue. However, no existing bicycle facilities were observed during the field review. There are sidewalks on both sides of street that are approximately six feet wide. The posted speed limit is 25 mph.

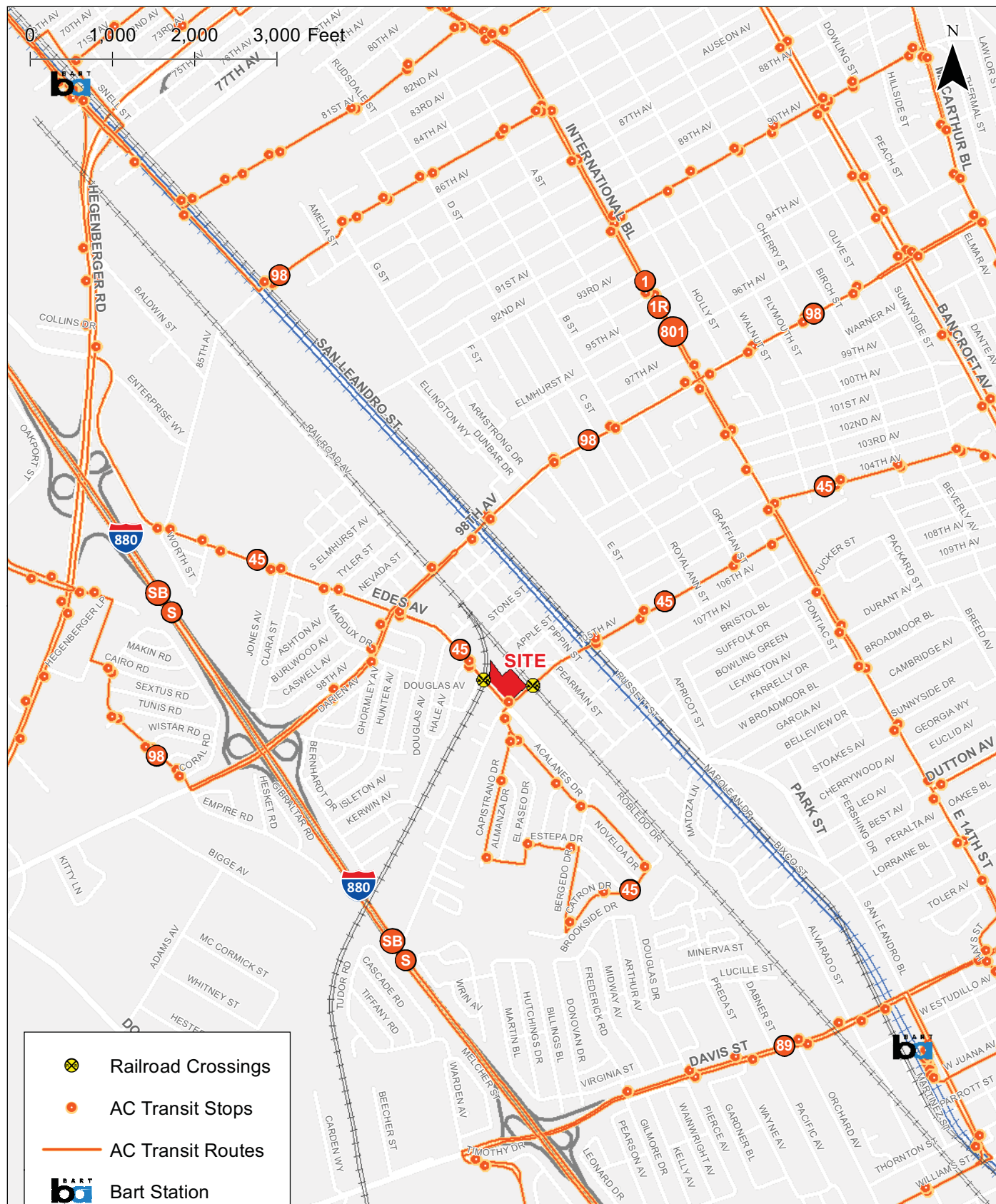
98th Avenue. Ninety-Eighth Avenue is a north-south regional transit street providing access to I-880 to the southwest and I-580 to the northeast of the project site. Near the project site, 98th Avenue has two lanes in each direction with unrestricted on-street parallel parking on both sides of the street and a concrete median. Sidewalks ranging from 7 feet to 10 feet in width are provided along both sides of the road. The sidewalk on the north side of 98th Avenue is wider than the one located on the south side. There are no existing bicycle facilities. The posted speed limit is 30 mph.

2.2. TRANSIT SERVICE

2.2.1. AC Transit

The transit system in the study area includes bus services provided by the Alameda-Contra Costa Transit District (AC Transit), as presented in Table 3 and shown in Figure 7. Routes 45 and 98 provide service within one-quarter mile of the project site.

Route 45 operates daily and on holidays and runs along 105th Avenue to and from the east, along Edes Avenue to and from the north, and makes a loop through the residential neighborhood to the south of the project site along 105th Avenue and Acalanes Drive. The transit stops nearest to the project site serve Route 45 and are located on 105th Avenue at Edes Avenue (Stop ID: 54020) and on Acalanes Drive at 105th Avenue (Stop ID: 58288). The stops are marked by a sign post; no amenities, such as benches or shelters, are present for people waiting for the bus. It is a 13 minute (9 stop) bus ride between the Coliseum BART Station and the project site.



**Transit Map
Oakland, California**

**Figure
7**

Route 98 operates daily and on holidays and runs east-west along 98th Avenue, connecting to the Coliseum BART Station and the Eastmont Transit Center. The transit stops nearest to the project site serving Route 98 are located on 98th Avenue at Edes Avenue (Stop ID: 59833 and 50167), about a five minute walk from the project site. The stops are marked by a sign post; no amenities, such as benches or shelters, are present for people waiting for the bus. It is a 21 minute (16 stop) bus ride between the Coliseum BART Station and the nearest bus stop and a five minute walk to the project site.

Table 3: AC Transit Bus Routes

Route Number	Route Description	Service Frequency
45	Between Foothill Square and Eastmont Transit Center via San Leandro Street/Coliseum BART Station	Approx. every 20 minutes between 5:30 a.m. and 10:30 p.m. daily and every 40 minutes on weekends and holidays
98	Coliseum BART to Eastmont Transit Center via Oakport Street, Edgewater Drive, 98th Avenue, and MacArthur Boulevard	Approx. every 20 minutes between 6:00 a.m. and 11:30 p.m. daily and every 30 minutes on weekends and holidays

Source: AC Transit website <http://www.actransit.org/rider-info/printable-timetables/>; accessed February 14, 2017

2.3. PEDESTRIAN CONDITIONS

2.3.1. Pedestrian Facilities

Edes Avenue and 105th Avenue provide direct pedestrian access to the project site. Sidewalks are present on both sides of Edes Avenue and 105th Avenue and have a width of five feet. Utility poles and trees narrow the effective width of the sidewalks to approximately three feet wide at locations near the project site, which is the minimum width for a path of travel allowed by the Americans with Disabilities Act (ADA) of 1990. Figure 8 and Figure 9 illustrate the constrained conditions along the sidewalks resulting from the landscaping and utility poles.

The nearest marked crosswalks are located at the 105th Avenue/Edes Avenue signalized intersection adjacent to the project site. The crosswalks are standard transverse stripes. Two of the four corners have curb ramps with contrasting tactile domes, and one of the corners has directional curb ramps. Pedestrian phases are programmed to be on pedestrian recall; therefore, pedestrian push buttons are not present. The crossing distances for the four legs of the intersection range from 32 to 40 feet in length, which correspond to flashing don't walk crossing times of 9 to 12 seconds for a walking pace of 3.5 feet per second, per the Manual on Uniform Traffic Control Devices California supplement (CA-MUTCD). Countdown signal heads are present, and the flashing don't walk (FDW) crossing time is set at five seconds for all directions at this intersection, which is not sufficient pedestrian clearance time.

Figure 8: Sidewalk along 105th Avenue, Photo 1



Source: Kittelson & Associates, Inc., 2017

Figure 9: Sidewalk along 105th Avenue, Photo 2



Source: Kittelson & Associates, Inc., 2017

The other nearby marked crosswalk is across Acalanes Drive at the side-street stop-controlled 105th Avenue/Acalanes Drive intersection. The crosswalk markings are standard transverse stripes. The markings are faded.

The 98th Avenue/Edes Avenue signalized intersection is located to the northwest of the project site. This intersection has pedestrian push buttons and countdown signal heads. Sidewalks are present on both sides of 98th Avenue and Edes Avenue with widths of eight to ten feet. Curb ramps at the intersection are aligned diagonally, and they do not have high visibility tactile domes. The crosswalk markings are standard transverse stripes.

Observations of conditions for people crossing at the two railroad crossings (at 105th Avenue and at Edes Avenue) are documented in the railroad crossing section.

2.3.2. Pedestrian Activity

Pedestrian counts were conducted at study locations during the weekday a.m. (7:00 a.m. to 9:00 a.m.) and weekday p.m. (4:00 p.m. to 6:00 p.m.) peak periods on Wednesday, May 23, 2017. Observations of pedestrian conditions in the study area were conducted during the a.m. (7:30 a.m. to 9:00 a.m.) and weekday p.m. (4:00 p.m. to 6:00 p.m.) peak periods on Tuesday February 7, 2017. Pedestrian weekday a.m. peak hour and weekday p.m. peak hour counts are shown in Figure 3 and are included in Appendix B.

Pedestrian activity at the study intersections ranged from low to moderately high by location. As presented in Figure 3, pedestrian activity was highest during weekday a.m. and weekday p.m. peak hours, with pedestrian crossings during one or both peak hours ranging from approximately 50 to 135 crossings, at the following intersections:

- 105th Avenue/Edes Avenue (adjacent to the project site)
- 105th Avenue/San Leandro Street/Russet Street
- 98th Avenue/Edes Avenue
- 98th Avenue/International Boulevard

The I-880 ramp terminals had the least amount of pedestrian activity with zero to 11 total crossings during a peak hour.

2.4. BICYCLE CONDITIONS

2.4.1. Bicycle Facilities

Bicycle facilities are defined by the following four classes in Chapter 1000 of the California Department of Transportation (Caltrans) *Highway Design Manual* and *Design Information Bulletin 89*:

Class I bikeway (bike path) – This is a dedicated path for bicyclists and/or pedestrians that does not permit motorized travel.

Class II bikeway (bike lane) – This is a portion of the roadway network that has been striped and signed for bicycle use. Implementation of class II bicycle facilities requires sufficient right-of-way between the vehicle stream and the curb or curbside parking. Bicycle lanes are typically used along collector or arterial streets with medium to high traffic volumes, providing additional travel space for bicyclists along busy roadway segments.

Class III bikeway (bike route) – This is a bikeway that primarily serves to connect other facilities and destinations in the bikeway network. These routes include signage but do not have roadway markings or striping to indicate reserved space for the bicyclists. Bicyclists traveling on class III facilities must share travel lanes with vehicle traffic.

Class IV bikeway (cycle track) – This is a dedicated, separated and protected on-street lane for bicyclists. Cycle tracks (or protected bike lanes) typically are used along streets with high traffic volumes and high speeds, providing additional protection for bicyclists using vertical separation, such as concrete curb or safe-hit posts.

2.4.2. Existing Bicycle Facilities

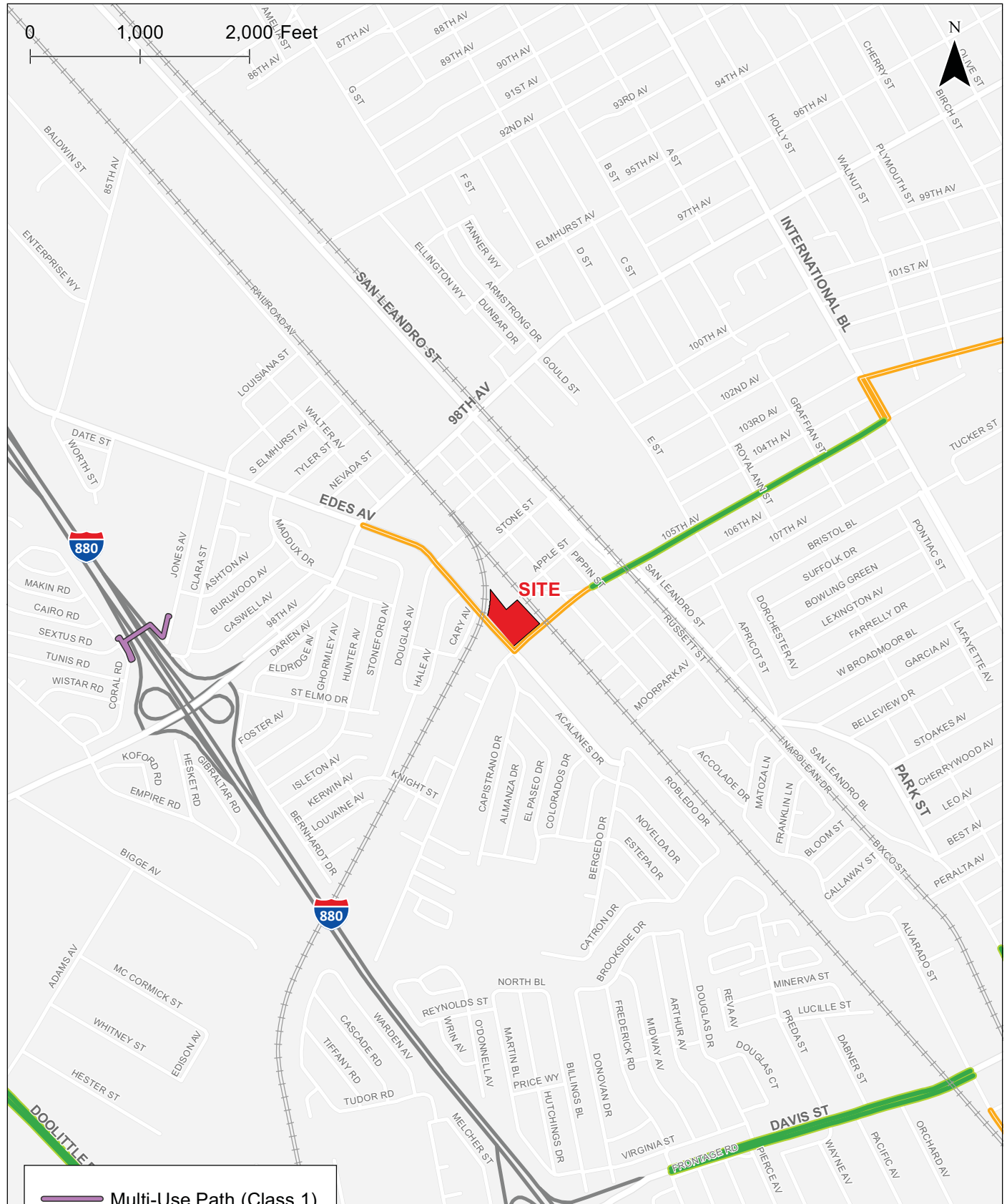
Existing citywide bicycle routes and bicycle parking facilities and other amenities within the study area are described in this section. Figure 10 presents the bicycle facilities network in the study area.

The City of Oakland Bicycle Master Plan (2007) identifies 105th Avenue to the north of Edes Avenue and Edes Avenue to the west of 105th Avenue as class III bike routes. Neither bike route signage nor pavement markings were observed along either street near the project site. Class II bike lanes are present to the north along 105th Avenue beginning at Pippin Street, which is approximately 1,000 feet north of Edes Avenue.

The existing SUM campus provides secure on-site bicycle racks for approximately ten bikes. These bike racks are uncovered and are suitable for short-term parking.

2.4.3. Bicycle Activity

Bicycle counts were collected at the eight study locations on Wednesday, May 23, 2017 for the weekday a.m. (7:00 a.m. to 9:00 a.m.) and weekday p.m. (4:00 p.m. to 6:00 p.m.) peak periods. Observations of existing bicycling activity at the SUM campus and bicycling conditions in the study area were conducted on Tuesday February 7, 2017 during the weekday a.m. (7:30 a.m. to 9:00 a.m.) and p.m. (3:00 p.m. to 5:00 p.m.) peak periods. Bicycle counts at the study intersections for the weekday a.m. and weekday p.m. peak hours are shown in Figure 3.



**Bike Network
Oakland, California**

**Figure
10**

During the weekday a.m. peak hour, fewer than 10 bicyclists were observed traveling through any of the study intersections, with most intersections having fewer than five bicyclists. During the p.m. peak hour, bicyclist volumes were higher at some locations (e.g., 22 total bicyclists at the 98th Avenue/International Boulevard intersection and 13 total bicyclists at the 105th Avenue/San Leandro Boulevard intersection) while most locations had 10 or fewer total bicyclists.

2.5. RAILROAD CROSSINGS

Two railroad crossings are located near the project site. The 105th Avenue crossing is 350 feet north of the 105th Avenue/Edes Avenue intersection. The Edes Avenue crossing is 400 feet west of this intersection. The two crossings were reviewed for compliance with the CA-MUTCD.

CA-MUTCD Pavement Markings. Pavement markings required per the CA-MUTCD for at-grade railroad crossings with automatic gates are shown in Appendix C. Such markings are not present for the 105th Avenue crossing nor for the Edes Avenue crossing.

CA-MUTCD Automatic Gates. Appendix C also presents two example locations of automatic gates where sidewalks are present. At both railroad crossings near the project site, the path of travel for people crossing the tracks is around the outside of the automatic gate, and no physical barriers are present to prevent people from walking across the tracks when a train is approaching.

2.5.1. 105th Avenue Crossing

The 105th Avenue crossing has automatic gates; however, it lacks railroad crossing pavement markings and ADA compliant sidewalks. Figure 11 and Figure 12 illustrate the conditions for walking across the tracks at the 105th Avenue crossing. On the east side of the street (see Figure 12), the automatic gate directly obstructs the path for people walking across the tracks.

2.5.2. Edes Avenue Crossing

The Edes Avenue crossing has automatic gates and ADA compliant sidewalks; however, it lacks railroad crossing pavement markings. Figure 13 and Figure 14 illustrate the conditions for walking across the tracks at the Edes Avenue crossing.

Figure 11: 105th Avenue Crossing, Looking South on West Side of Street



Source: Kittelson & Associates, Inc., 2017

Figure 12: 105th Avenue Crossing, Looking North on East Side of Street



Source: Kittelson & Associates, Inc., 2017

Figure 13: Edes Avenue Crossing, Looking East at North Side of Street



Source: Kittelson & Associates, Inc., 2017

Figure 14: Edes Avenue Crossing, Looking East at South Side of Street



Source: Kittelson & Associates, Inc., 2017

2.6. CRASH ANALYSIS

To identify potential intersection safety issues, a three-year crash history was analyzed for the eight study intersections as well as the four following intersections that are along the primary pedestrian paths of travel between the study intersections on 98th Avenue and 105th Avenue near the project site:

- 98th Avenue/Pearmain Street
- 98th Avenue/Pippin Street
- 105th Avenue/Pearmain Street
- 105th Avenue/Pippin Street

Crash data for the study intersections were obtained from the Statewide Integrated Traffic Records System (SWITRS) for January 1, 2014 through December 31, 2016. Table 4 summarizes the crashes by type for all analyzed intersections. Table 5 summarizes the crash severity as well as the number of person-injuries and fatalities by location. Appendix D contains the SWITRS crash data.

Table 4: Crashes by Type

Head-on	Sideswipe	Rear End	Broadside	Hit Object	Pedestrian-Involved	Other	Total Crashes
10	9	12	27	5	5	1	69

Source: SWITRS, 2017; Kittelson & Associates, Inc., 2017

As presented in Table 4, 69 total crashes occurred at the 12 intersections between 2014 and 2016. Broadside crashes were the most prevalent accounting for 27 crashes. Head-on and rear end were the next most common crash types with ten and 12 crashes of those types occurring, respectively.

As presented in Table 5, 48 person-injuries and one fatality occurred at the 12 intersections between 2014 and 2016. Of the 48 people injured, two were bicyclists and five were pedestrians. The fatality resulted from a vehicle-vehicle crash.

The highest occurrences of crashes were at the 105th Avenue/Edes Avenue intersection (14 crashes), which is adjacent to the project site, the 98th Avenue/Edes Avenue intersection (13 crashes), and the 98th Avenue/San Leandro Street intersection (11 crashes). The fatality occurred at the 98th Avenue/San Leandro Street intersection.

The two bicyclist-involved crashes occurred at the 98th Avenue/San Leandro Street intersection. Four of the five pedestrian-involved crashes occurred at the 105th Avenue/Edes Avenue intersection, which is adjacent to the project site. The other pedestrian crash occurred at the 105th Avenue/International Boulevard intersection.

Table 5: Summary of Crash Data by Location

Intersection	Property Damage Only Crashes	Injury Crashes	Fatality Crashes	Total Crashes	Person-Injuries			
					Bike	Ped	Driver/ Passenger	Total
98th Avenue/I-880 SB Ramps	2	0	0	2	0	0	0	0
98th Avenue/I-880 NB Ramps	2	0	0	2	0	0	0	0
98th Avenue/Edes Avenue	3	10	0	13	0	0	15	15
98th Avenue/San Leandro Street	6	4	1	11	2	0	2	4
98th Avenue/International Boulevard	5	3	0	8	0	0	4	4
105th Avenue/Edes Avenue	5	9	0	14	0	4	5	9
105th Avenue/San Leandro Street	1	3	0	4	0	0	3	3
105th Avenue/International Boulevard	3	4	0	7	0	1	5	6
98th Avenue/Pearmain Street	2	0	0	2	0	0	0	0
98th Avenue/Pippin Street	1	2	0	3	0	0	3	3
105th Avenue/Pearmain Street	0	3	0	3	0	0	4	4
105th Avenue/Pippin Street	0	0	0	0	0	0	0	0
Total	30	38	1	69	2	5	41	48

Source: SWITRS, 2017; Kittelson & Associates, Inc., 2017

2.7. LOADING CONDITIONS

Existing passenger and freight loading conditions along 105th Avenue and Edes Avenue adjacent to the project site were qualitatively assessed. General on-street and off-street loading conditions, including regulations and any illegal and double-parking, are summarized in this section.

2.7.1. Freight Loading

On-street commercial loading (yellow curb) zones are provided to allow commercial vehicles (such as delivery vehicles, trucks, and service vehicles) to park along the curb to load or unload goods. Commercial loading (yellow curb) zones are frequently used by building service vehicles, contractors, and delivery vehicles such as FedEx. Near the project site, an approximately 25-foot on-street commercial loading (yellow curb) zone is located on the west side of 105th Avenue along the frontage of the Bayview Market & Liquor retail store. During weekday a.m. and weekday p.m. peak period observations on Tuesday February 7, 2017, no instances of double-parking were observed on 105th Avenue or Edes Avenue. No other commercial loading activity was observed in the area during the weekday a.m. and weekday p.m. peak periods.

2.7.2. Passenger Loading

Passenger (white curb) loading zones are provided to allow passenger vehicles (e.g., privately owned vehicles, transportation network companies, and traditional taxis) to stop along the curb temporarily to load or unload passengers. Passenger loading zones have limited hours of operation, typically corresponding to business hours. There are no passenger (white curb) loading zones in the immediate vicinity of the project site on 105th Avenue or Edes Avenue.

Passenger drop-off and pick-up for the existing SUM can be accommodated on-site within the parking lot. No drop-off or pick-up activity occurred during the weekday a.m. and weekday p.m. peak period observations.

2.8. EMERGENCY VEHICLE ACCESS

Emergency vehicle access to the project site currently is provided via the full-access driveway on 105th Avenue. Fire Station No. 20, located at 98th Avenue and International Boulevard, is the nearest fire station (about 1.2 miles northeast of the project site). There are multiple routes to access the project site from Fire Station No.20. Emergency vehicles could exit the fire station and travel 0.4 miles east on International Boulevard, turn right onto 105th Avenue and travel south 0.8 miles to reach the project site. Alternatively, vehicles could exit the fire station and travel 0.6 miles south on 98th Avenue, turn left onto San Leandro Street and travel 0.4 miles east, then turn right onto 105th Avenue and travel 0.2 miles south to arrive at the project site.

The Oakland Police Department is located at 455 7th Street in downtown Oakland. Emergency vehicles traveling to the project site from the police department would travel 7 miles south on I-880, exit to 98th Avenue going north for 0.5 miles, then make a right turn on Edes Avenue and travel 0.3 miles to the project site.

All streets that comprise the route from the fire station and police department to the project site are sufficiently wide enough to provide adequate emergency vehicle access to the site (travel lanes generally are ten to 12 feet wide). During peak commute times, general traffic congestion throughout the project area may result in delays to emergency responders.

Section 3 Project Travel Demand

3. PROJECT TRAVEL DEMAND

3.1. TRIP GENERATION ESTIMATES

This section summarizes the travel demand estimates for the proposed project. The travel demand estimate accounts for new vehicle, transit, pedestrian, and other trips generated by the proposed Project. The transportation analysis accounts for the displacement of the SUM, which currently operates on the project site, and it accounts for the vehicle trip reductions (VTRs) that would result from implementation of the transportation and parking demand management program (Section 4.5).

Vehicle trip generation for the project was estimated using trip generation rates published in the current Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition, 2012). The average rates for Elementary School, Middle School, and High School land uses were used to estimate daily, weekday a.m. peak hour, and weekday p.m. peak hour vehicle trips generated by the project. These rates account for trips made by both students and staff members. Detailed trip generation calculations are included as Appendix E.

Doorway and driveway counts (Appendix F) were collected at existing SUM access points during the weekday a.m. (7 a.m. to 9 a.m.) and p.m. peak period (4:00 p.m. to 6:00 p.m.) on Tuesday February 7, 2017 to determine the level of activity on the site. Based on observations of trip-making activity at the existing SUM, a trip generation credit was incorporated to account for trips people currently make when traveling to and from the SUM.

Table 6 presents the estimated project vehicle trip generation and trip credits used to estimate the net new vehicle trips generated by the project. With the trip credit for existing trips, the project is estimated to produce 884 net new daily vehicle trips, 212 net new weekday a.m. peak hour vehicle trips, and 68 net new weekday p.m. peak hour vehicle trips.

3.1.1. Mode Share and Trip Distribution/Assignment

The project is in an area with population density greater than 10,000 people per square mile, and it is located more than one mile from a BART or Amtrak station. Mode share for project trips is based on the mode split adjustments provided in the TIRG for a project with these location characteristics. The mode split adjustments are presented in Table 6.

The project sponsor provided approximate origin locations for students who will attend school at the project site in the fall of 2017. Based on these approximate origin locations, project trips were distributed as presented in Table 7 and Figure 15. Project-only vehicle trips are presented in Figure 16 and Figure 17. Existing plus project vehicle volumes are presented in Figure 18 and Figure 19.

Table 6: Trip Generation of the Project

Land Use	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
			Total	Ins	Outs	Total	Ins	Outs	Total
Vehicle-Trips, per ITE Trip Generation Manual, 9th Edition									
Project Generated Trips									
Elementary (ITE Land Use 520)	333	Student	430	83	67	150	25	25	50
Middle (ITE Land Use 522)	167	Student	271	51	40	91	13	14	27
High School (ITE Land Use 530)	350	Student	599	103	48	151	21	25	46
Total ITE Project Trips	850		1,299	237	155	392	59	64	123
Trips by Mode, per City of Oakland TIS Guidelines									
Vehicle Trips	----	----	999	182	119	301	45	49	94
Transit Trips	----	----	232	42	28	70	11	11	22
Bicycle Trips	----	----	25	5	3	8	1	1	2
Walk / Other Trips	----	----	26	5	3	8	1	1	2
Total Trips	----	----	1,282	234	153	387	58	62	120
Vehicle Trip Credit									
Credit for Existing Vehicle Trips	----	----	-29	-24	0	-24	-2	-3	-5
New Project Vehicle Trips	----	----	970	158	119	277	43	46	89
Trip Changes by Mode per TDM Plan									
Vehicle Trips	----	----	-86	-33	-32	-65	-10	-11	-21
Transit Trips	----	----	22	17	0	17	0	5	5
Bicycle Trips	----	----	3	2	0	2	0	1	1
Walk / Other Trips	----	----	8	6	0	6	0	2	2
Net New Trips by Mode									
Vehicle Trips	----	----	884	125	87	212	33	35	68
Transit Trips	----	----	254	59	28	87	11	16	27
Bicycle Trips	----	----	28	7	3	10	1	2	3
Walk / Other Trips	----	----	34	11	3	14	1	3	4
Net New Project Trips	----	----	1,200	202	121	323	46	56	102

Sources: Kittelson & Associates, Inc. 2017; Institute of Transportation Engineers' *Trip Generation Manual*, 9th Edition, 2012; City of Oakland's *Traffic Impact Analysis Guidelines*, 2013; Metropolitan Transportation Commission, *2000 Bay Area Travel Survey*, 2000., City of Oakland *Transportation Impact Review Guidelines*

Notes:

¹Total trip generation does not add up to 100 percent and is not constant, as the mode split of "Other" mode varies slightly by land use category.

²ITE Trip Generation Rates

Elementary (ITE Land Use 520)

Daily: **1.29** A.M. Peak Hour: **0.45** (55% in; 45% out)

P.M. Peak Hour: **0.15** (49% in; 51% out)

Middle (ITE Land Use 522)

Daily: **1.62** A.M. Peak Hour: **0.54** (55% in; 45% out)

P.M. Peak Hour: **0.16** (49% in; 51% out)

High School (ITE Land Use 530)

Daily: **1.71** A.M. Peak Hour: **0.43** (68% in; 32% out)

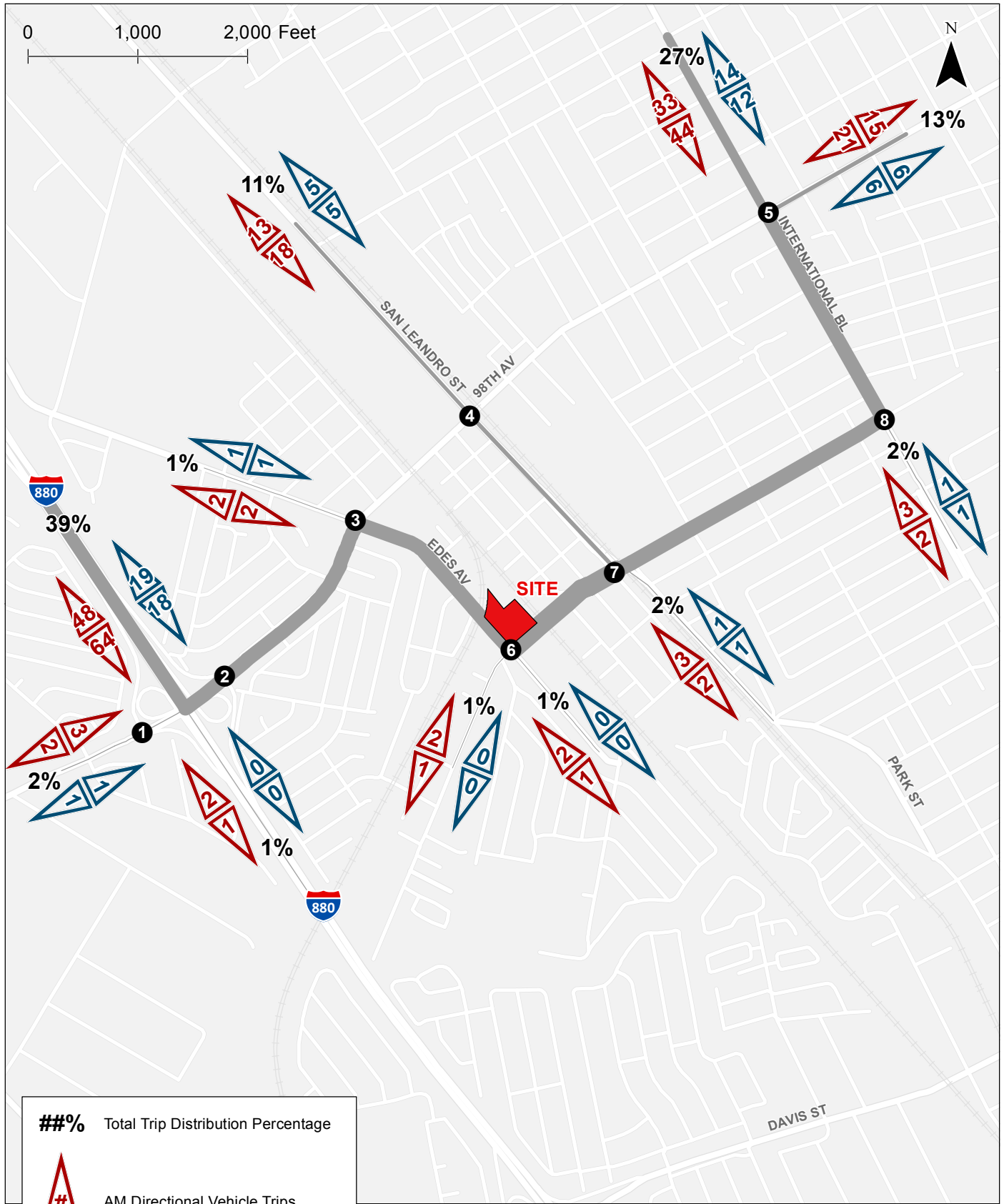
P.M. Peak Hour: **0.13** (47% in; 53% out)

Table 7: Trip Distribution Percentages

Location Relative to Project Site	Share of Trips
North	77%
South	6%
East	13%
West	4%

Source: Lighthouse Community Schools, 2017; Kittelson & Associates, Inc., 2017

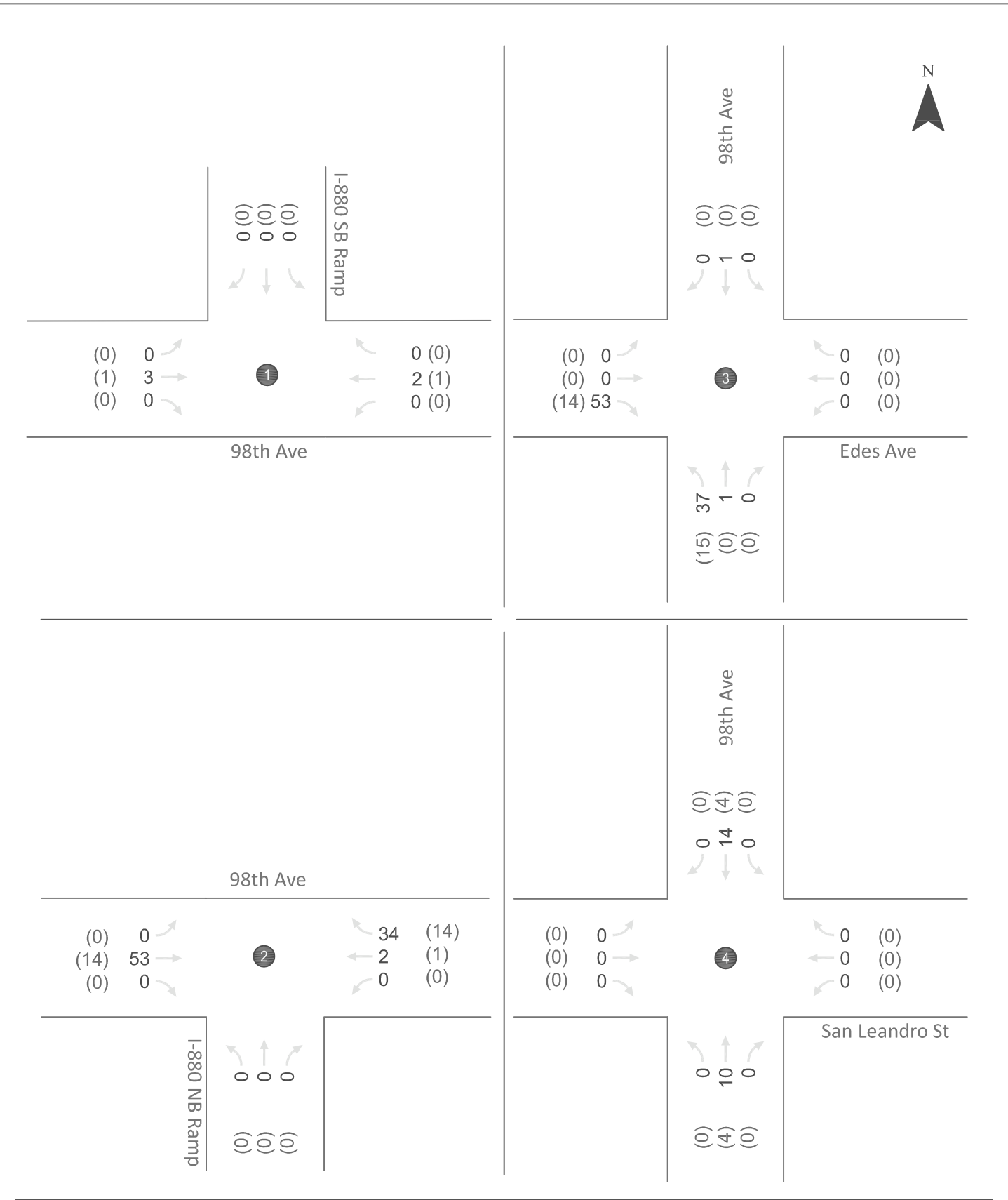
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**Vehicle Trip Distribution
Oakland, California**

**Figure
15**

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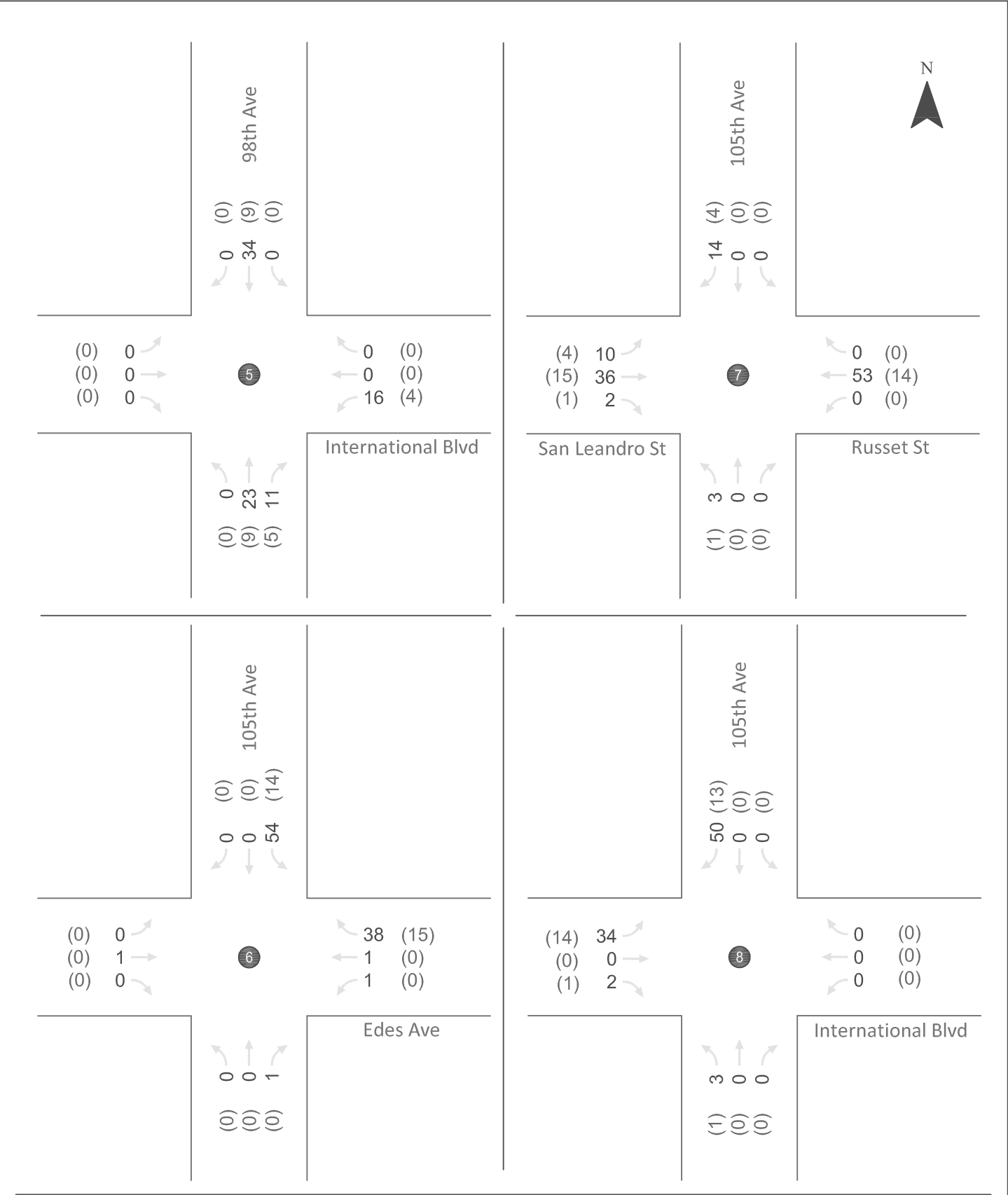
Vehicle Volumes

AM (PM)

Project-Only Vehicle Volumes
Weekday AM (PM) Peak Hour, Intersection 1-4

Figure
16

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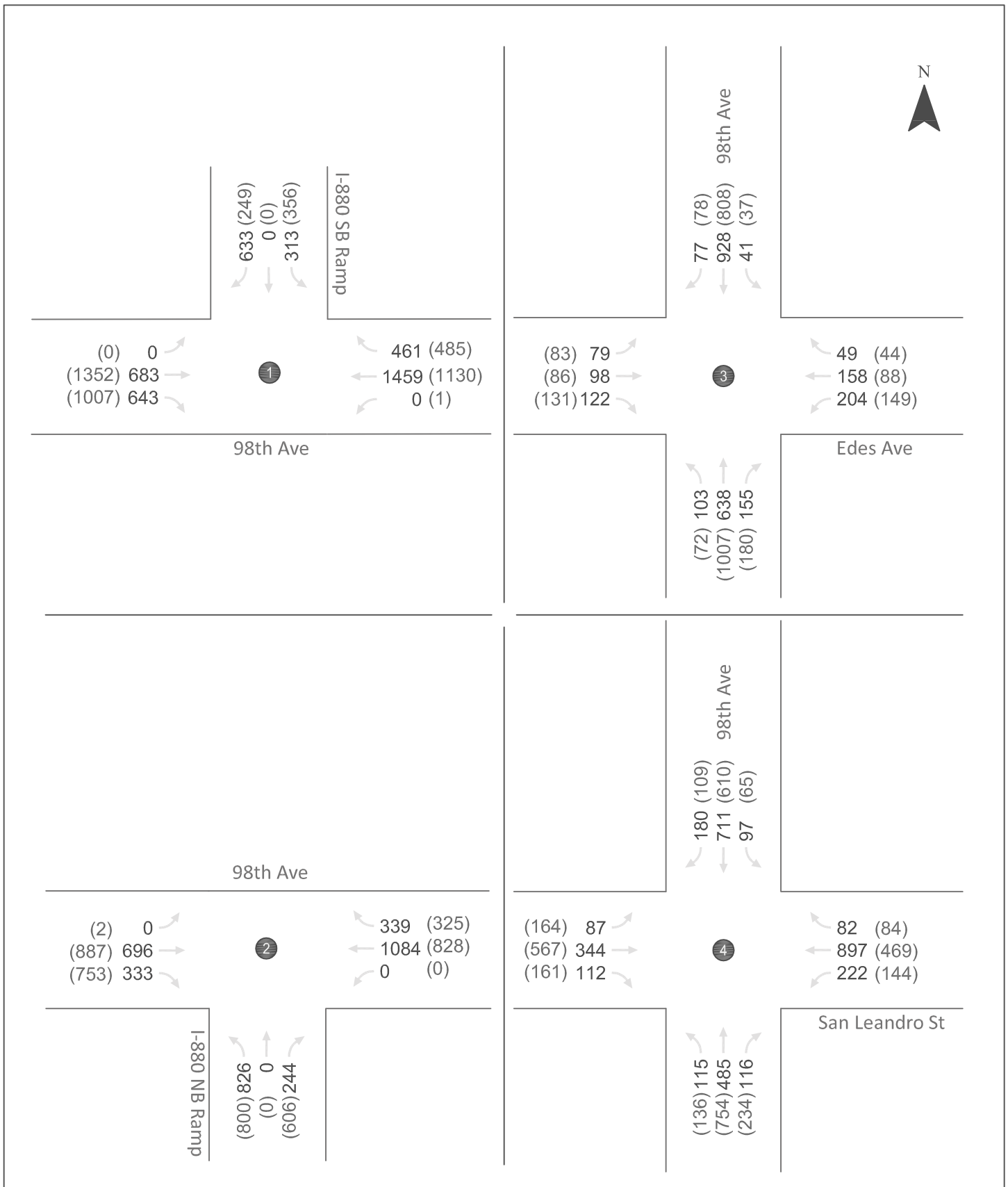


Vehicle Volumes
← AM (PM)

Project-Only Vehicle Volumes
Weekday AM (PM) Peak Hour, Intersection 5-8

Figure
17

Source: Quality Counts, May 25, 2017

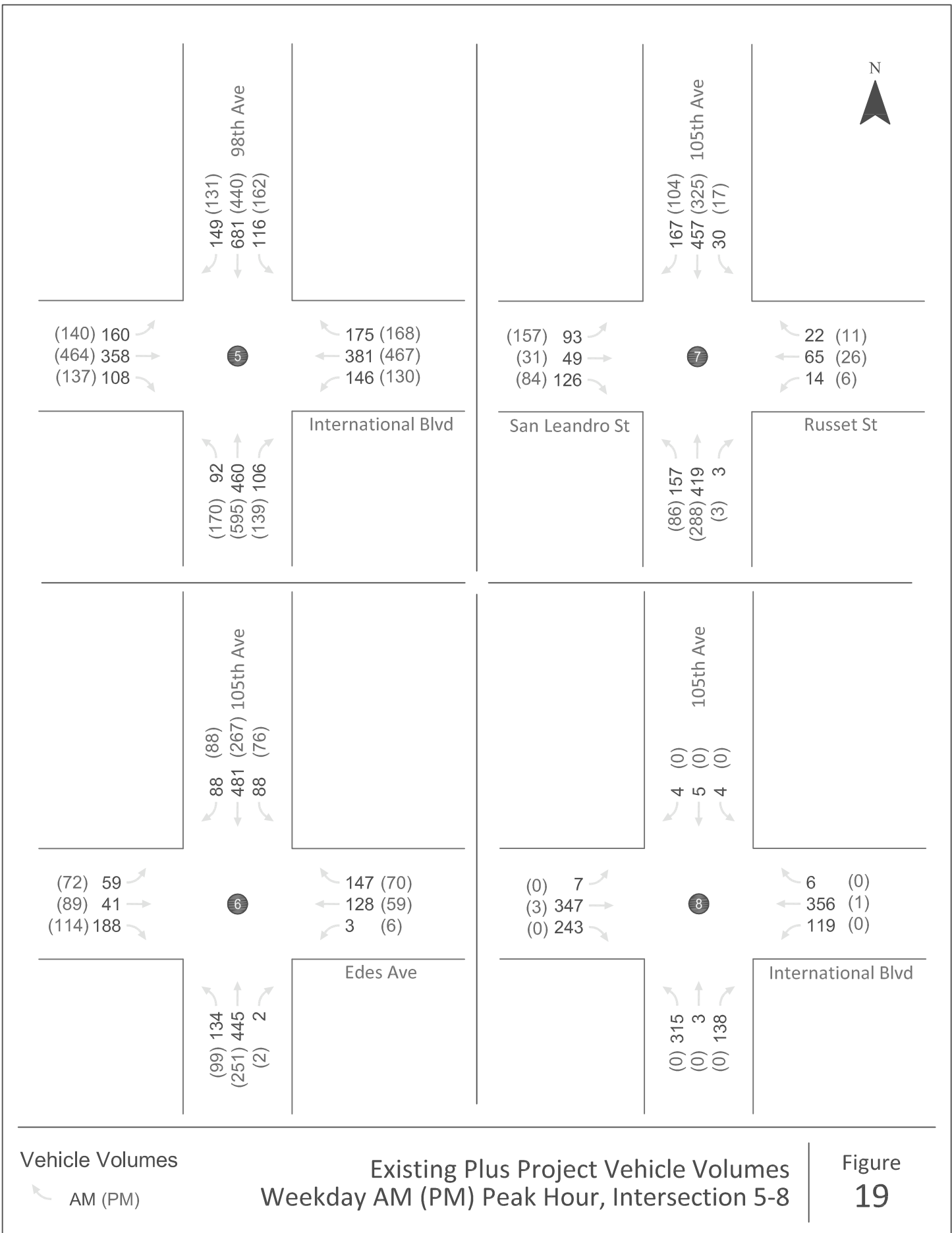


Vehicle Volumes

AM (PM)

Existing Plus Project Vehicle Volumes
Weekday AM (PM) Peak Hour, Intersection 1-4

Figure
18



Source: Quality Counts, May 25, 2017

Section 4 Transportation Impact Analysis

4. TRANSPORTATION IMPACT ANALYSIS

This chapter presents the regulatory setting and applicable significance thresholds and evaluates potential impacts of the project.

4.1. SIGNIFICANCE CRITERIA

The following are the significance criteria used by the City of Oakland for the determination of impacts associated with a project. The project would have a significant effect on the environment if it would:¹

- Conflict with a plan, ordinance or policy addressing the safety or performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths (except for automobile level of service or other measures of vehicle delay); or
- Cause substantial additional VMT per capita, per service population, or other appropriate efficiency measure; or
- Substantially induce automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow lanes) or by adding new roadways to the network.

4.2. THRESHOLDS OF SIGNIFICANCE

The following are thresholds of significance related to substantial additional VMT per capita:

- For residential projects, a project would cause substantial VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.
- For retail projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.

The Oakland Planning and Building Department has provided screening criteria and thresholds of significance to determine if land uses similar in function to residential, office, and retail would result in significant impacts as it relates to VMT.² Under this expanded screening criteria, the Project's proposed land use (K-12 school) should be treated as office.

¹ The project is subject to Senate Bill (SB) 743, which provides that "aesthetics and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment". (CEQA Update: Senate Bill 743 Summary – Aesthetics, Parking and Traffic [November, 26, 2013])

² A project is considered inconsistent with the Sustainable Communities Strategy if development is located outside of areas contemplated for development in the Sustainable Communities Strategy.

4.3. REGULATORY FRAMEWORK

Oakland's adopted plans and policies shape the transportation analysis framework. The overall goals of these policies are to achieve an effective, sustainable, multi-modal transportation system for the City, including the City's "Complete Streets Policy" (Resolution No. 84204 C.M.S.) which affirms that the City will provide streets that are safe and convenient for all users of the roadway, including pedestrians, bicyclists, motorists, persons with disabilities, users and operators of public transit, seniors, children, and movers of commercial goods. The proposed project has been evaluated against the following relevant plans, policies and regulations adopted by the City of Oakland.

City of Oakland General Plan. The City of Oakland General Plan (General Plan) is a comprehensive plan for growth and development of the City. The General Plan includes policies related to: land use and transportation; open space, conservation and recreation; housing; historic resources; noise; and bikes and pedestrians. These topics are addressed within individual elements of the General Plan.

Land Use and Transportation Element. The Land Use and Transportation Element (LUTE) was adopted in March 1998 and addresses land use and transportation issues. In order to accomplish a more integrated planning process that incorporates City-wide infrastructural needs with neighborhood decision-making, the LUTE includes general development policies for the City, in addition to district-specific policies. The overriding vision for the City that is outlined in the LUTE involves creating: "clean and attractive neighborhoods rich in character and diversity, each with its own distinctive identity, yet well-integrated into a cohesive urban fabric" in addition to "a diverse and vibrant downtown with around-the-clock activity." The LUTE includes land use designations for all land within the City of Oakland. The land use designation for the portion of the project site in Oakland is in the Commercial Industrial Mix-2 (CIX-2) Health and Safety Protection Overlay Zone (S-19).

Pedestrian Master Plan. The Pedestrian Master Plan (PMP) was adopted in June 2017. The vision of the PMP is to make Oakland "a place where vibrant, safe and attractive streets give everyone the opportunity to walk to their destinations and to enjoy the convenience and health benefits of walking". The four goals identified in the PMP are:

- **Equity:** Recognizing a historical pattern of disinvestment, focus investment and resources to create equitable, accessible walking conditions to meet the needs of Oakland's diverse communities.
- **Holistic Community Safety:** Make Oakland's pedestrian environment safe and welcoming.
- **Vitality:** Ensure that Oakland's pedestrian environment is welcoming and well connected, supports the local economy, and sustains healthy communities.
- **Responsiveness:** Develop and provide tools to ensure that Oakland creates and maintains a vibrant pedestrian environment.

The PMP outlines an action plan to invest in and improve safety in the high injury network and to implement the key policy and programmatic improvements that will make streets safer and more inviting for walking throughout the City. The PMP identifies a targeted set of improvements (38

recommended actions) that can be accomplished in five years. Recommended actions that are applicable to the project include:

- Implement a pedestrian signal policy that prioritizes pedestrian safety
- Implement a temporary traffic control protocol for new developments that impact the pedestrian environment
- Implement the pedestrian safety toolkit
- Maintain roadway features that reduce speeds and make pedestrian crossings safer
- Develop a prioritization strategy for implementing the City's Safe Routes to School Program

Bicycle Master Plan. The Bicycle Master Plan (BMP) was adopted in 2007 and is currently being updated. The BMP is the official policy document addressing the development of facilities and programs to enhance the role of bicycling as a viable transportation choice in Oakland. The BMP is part of the LUTE of the General Plan. The BMP defines new City policies and recommends actions that would encourage and support bicycle travel improvements. The goals of the BMP include the following:

- Infrastructure: Develop the physical accommodations, including a network of bikeways and support facilities, to provide for safe and convenient access by bicycle.
- Education: Improve the safety of bicyclists and promote bicycling skills through education, encouragement, and community outreach.
- Coordination: Provide a policy framework and implementation plan for the routine accommodation of bicyclists in Oakland's projects and programs.

As presented in Figure 20, the Bicycle Master Plan identifies the following improvements to facilities in the vicinity of the project site:

- Installation of a class I bikeway from Fruitvale Avenue to San Leandro border (East Bay Greenway)
- Installation of a class II bikeway on San Leandro Street from 75th Avenue to the San Leandro border
- Installation of a class III bikeway on Edes/Jones/Cairo/Hegenberger Loop/Edgewater between 105th Avenue and the Bay Trail
- Installation of a class III bikeway on 105th Avenue between Edes Avenue and San Leandro Street

Figure 20: Planned Improvements to Bicycle Network



Source: Bicycle Master Plan, 2007.

Oakland Department of Transportation Strategic Plan. The Oakland Department of Transportation Strategic Plan was published in October 2016. The Strategic Plan defines new City policies and recommends actions that would encourage and support the following goals established for the Oakland Department of Transportation:

- Equitable jobs and housing
- Holistic community safety
- Vibrant sustainable infrastructure
- Responsive trustworthy government

Transit First Ordinance. The Transit First Ordinance (Resolution No. 73036 C.M.S.) adopted in October 1996 declares that it shall be the official City policy to encourage and promote the use of public transit and bicycle and pedestrian travel in Oakland.

Complete Streets Policy. The Complete Streets Policy (Resolution No. 84204 C.M.S.) adopted in February 2013 recognizes the necessity of providing safe and convenient pedestrian, bicycle, and public transportation travel options. As such, the City will plan, design, construct, operate, and maintain appropriate facilities for pedestrians, bicyclists, transit users of all abilities, children, elderly, and people with disabilities as a routine component of new construction, reconstruction, retrofit, and maintenance projects (subject to some exceptions).

Planning Code. The Oakland Planning Code (Title 17 of the Oakland Municipal Code) implements the policies of the General Plan and certain other of the City's plans, policies, and ordinances. The Planning Code divides the City into zones, each of which is assigned different regulations. These regulations direct the construction, nature, and extent of building use. The land use designation for the portion of the project site in Oakland is in the Commercial Industrial Mix-2 (CIX-2) Health and Safety Protection Overlay Zone (S-19).

The CIX-2 zone is intended to create, preserve, and enhance areas of the Central and Eastern portions of the City that are appropriate for a wide variety of heavy commercial and industrial establishments. Uses with greater off-site impacts may be permitted provided they meet specific performance standards and are buffered from residential areas. Property development standards within CIX-2 zones include: requirement for pedestrian walkways, maximum driveway width of 35 feet. The intent of the S-19 Health and Safety Protection Combining Zone is to promote the public health, safety and welfare by ensuring that activities which use hazardous material substances or store hazardous materials, hazardous waste, or explosives locate in appropriate locations and develop in such a manner as not to be a serious threat to the environment, or to public health, particularly to residents living adjacent to industrial areas where these materials are commonly used, produced or found.

4.4. CONSISTENCY WITH PLANS AND POLICIES

This section discusses the project's conformance with applicable plans or policies adopted for the purposes of mitigating an environmental effect. As described this section, the proposed project would not substantially conflict with any such applicable plans or policies. As such, development of the proposed project would result in a less-than-significant impact on adopted land use plans and policies.

General Plan. The General Plan contains many policies, which may in some cases address different goals; thus some policies may compete with each other. The Planning Commission/City Council, in deciding whether to approve the proposed project, must decide whether, on balance, the project is consistent (i.e., in general harmony) with the General Plan.

Land Use and Transportation Element. The proposed project is generally consistent with the development parameters established for the CIX-2/S-19 designation.

Pedestrian Master Plan. The proposed project is generally consistent with the Pedestrian Master Plan, as it incorporates features that would enhance and facilitate pedestrian access to and within the project site.

Bicycle Master Plan. The proposed project is generally consistent with Bicycle Master Plan. Bicycle parking facilities will be provided on site. The proposed project would not conflict with any of the bike facilities proposed in the Bicycle Master Plan.

Oakland Department of Transportation Strategic Plan. The proposed project is generally consistent with the Strategic Plan.

Transit First Ordinance. The proposed project is generally consistent with Transit First Ordinance and would encourage and promote the use of public transit and bicycle and pedestrian travel through implementation of various strategies as outlined in the TDM Plan.

Complete Streets Policy. The proposed project is generally consistent with Complete Streets Policy and would design, construct, operate, and maintain appropriate facilities for pedestrians, bicyclists, and transit users.

Planning Code. The proposed project would be generally consistent with the CIX-2/S-19 zone designation and would meet the property development standards and code requirements for vehicle parking, commercial loading, driveway width, and pedestrian walkways.

4.5. VEHICLE-MILES TRAVELED ANALYSIS

A vehicle-miles traveled (VMT) screening analysis was conducted to assess whether the project meets the City's established screening criteria. The results of the VMT screening analysis are shown in Table 8 and are summarized in this section.

Table 8: VMT Screening Analysis

Criteria	Description	Screening Criteria Met?
Small size	Project would generate less than 100 daily vehicle trips	No
Near transit station	Project is located within one-half mile of an existing major transit stop or existing stop along a high-quality transit corridor.	No
Low-VMT area	Project is located within a low-VMT area	No

Source: Kittelson & Associates, Inc. 2017; City of Oakland *Transportation Impact Review Guidelines*, April 2017.

4.5.1. Small Size Criterion – Project Trip Generation Estimates

Vehicle trip generation for the project is discussed in Section 3.1. Table 6 in that section presents the estimated vehicle trip generation of the project. As the table shows, the project is estimated to generate 884 net new daily vehicle trips, 212 net new weekday a.m. peak hour vehicle trips, and 68 net new weekday p.m. peak hour vehicle trips. Because the project would generate more than 100 daily vehicle trips, the project would not meet the established screening criteria for a small size project.

4.5.2. Near Transit Station Criterion

The project is located 1.2 miles from the San Leandro BART station and 1.7 miles from the Coliseum BART station. Therefore, the project does not meet the screening criterion for being located within one-half mile of an existing major transit stop or existing stop along a high-quality transit corridor.

4.5.3. Low-VMT Area Criterion – Map-Based Screening Analysis

The Oakland Planning and Building Department has developed screening criteria and thresholds of significance to determine if land uses similar in function to residential, office, and retail would result in significant impacts related to VMT. For purposes of VMT screening and analysis, K-12 schools are treated as an office use. Therefore, the per-worker VMT for transportation analysis zone (TAZ) 877, where the project is located, is applicable to the project. The City of Oakland VMT screening results for TAZ 877 are summarized in Table 9.

Table 9: VMT Screening Results for TAZ 877

Description	TAZ 877	Regional Average	Regional Threshold
Daily VMT Per Worker	25.5	23.2	19.7
TAZ Percent Difference	-	+9.0%	+22.8%

Source: Kittelson & Associates, Inc. 2017; City of Oakland VMT Layers.gdb.

As shown in Table 9, the average daily VMT per worker in TAZ 877 is 25.5 miles. The regional average daily VMT per worker is 23.2 miles, and the regional threshold (15 percent below the regional average) is 19.7 miles. Daily VMT per worker within TAZ 877 is nine percent (9%) above the regional average and 22.8 percent above the regional threshold. Since the project is located in a high-VMT area and would exceed the established VMT threshold without application of proposed TDM measures, the project would not meet the established map-based screening criteria for a project in a low-VMT area. Therefore, the project must include a transportation and parking demand management plan.

4.6. TRANSPORTATION AND PARKING DEMAND MANAGEMENT

Per the City's standard conditions of approval, all land use projects that generate more than 50 net new a.m. or p.m. peak hour vehicle trips must prepare a transportation and parking demand management plan. As shown in Table 11, the project is expected to generate more than 50 net vehicle trips during both peak hours (277 a.m. peak hour vehicle trips and 89 p.m. peak hour vehicle trips). Per the TDM plan goals included in the City's TIRG, the TDM plan should:

- Reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable, consistent with the potential traffic and parking impacts of the project;
- Achieve 20 percent vehicle trip reductions (VTRs);
- Incorporate location-dependent TDM features per Table 4 of the TIRG;
- Increase pedestrian, bicycle, transit, and carpool modes of travel; and
- Enhance the City's transportation system.

A TDM plan was developed for the project that would:

- Reduce the number of vehicle trips generated by the project by 22.8 percent, which has the effect of reducing VMT per capita for the project below the regional threshold (15 percent below the regional average);

- Include location-dependent pedestrian network improvements;
- Increase pedestrian, bicycle, transit, and carpool modes of travel; and
- Enhance the City's transportation system.

This section discusses the TDM measures that compose the TDM plan and the anticipated VTRs associated with each measure. The TDM plan includes strategies identified in the City of Oakland *Transportation Impact Report Guidelines* and Standard Conditions of Approval, as applicable.

4.6.1. TDM Measures

The following five TDM measures comprise the recommended TDM strategies to be implemented by the project. These measures have been recommended based on their anticipated ability to meet the required VMT reduction. However, the TDM plan is flexible. The effectiveness of the TDM Plan will be evaluated as part of the monitoring and reporting program and strategies can be substituted or altered throughout the life of the project if alternate measures are preferable or deemed more effective.

TDM-1: TDM Program Coordinator

Description: The TDM Program Coordinator is responsible for implementation, monitoring, and reporting of the TDM Plan. The TDM Coordinator would facilitate site inspections by City staff to verify that the standards specified as conditions of approval are met. This person(s) can be a school employee or a third party provider that runs the program.

Target Users: Not applicable

Range of Effectiveness: Not applicable

Estimated Vehicle Trip Reduction: Not applicable

TDM-2: Bike Parking

Description: The project would provide short-term and long-term bicycle parking facilities to meet maximum estimated demand. The maximum estimated demand is calculated as 200 percent of the highest peak hour demand based on the bike mode share and estimated travel demand and the increase in bike trips resulting from implementation of this TDM strategy. The project shall include at least 20 short-term and 20 long-term bicycle parking spaces. The number of bicycle parking spaces would be equitably adjusted (increased) based on observed demand.

Target Users: All staff and students

Range of Effectiveness: 0.625% VMT reduction

Estimated Vehicle Trip Reduction: 0.625% VTR (2 weekday AM peak hour, 1 weekday PM peak hour)

TDM-3: Transit and Bicycle Incentives

Description: The project would provide subsidized/discounted daily or monthly public transit or bike share passes. The project would provide the equivalent of a \$1.50 per trip subsidy for these modes.

Target Users: High school students and staff

Range of Effectiveness: 0.3% to 20% VMT reduction

Estimated Vehicle Trip Reduction: 12.9% VTR (17 weekday AM peak hour, 5 weekday PM peak hour)

TDM-4: School Pool Program

Description: The project would develop and implement a ridesharing program for students. The ridesharing “School Pool” program will help to match parents to transport students to/from campus. The VMT reduction calculation assumes aggressive implementation with a 35 percent adoption rate.

Target Users: All students

Range of Effectiveness: 7.2% to 15.8% VMT reduction

Estimated Vehicle Trip Reduction: 15.8% VTR (40 weekday AM peak hour, 13 weekday PM peak hour)

TDM-5: Pedestrian Network Improvements

Description: The project would implement on-site and off-site improvements to the pedestrian network and link areas of the project site and encourage people to walk instead of drive. The project would also minimize barriers to pedestrian access and interconnectivity. The project would implement the following improvements:

- Modify signal timing at 105th Avenue/Edes Avenue to increase pedestrian clearance time across 105th Avenue (Improvement Measure TR-3);³
- Install reconstructed sidewalks and roadway striping upgrades at the nearby railroad crossings at 105th Avenue and Edes Avenue;⁴ and,
- Provide pedestrian access points to reduce out of direction travel and allow people to enter the campus from multiple directions (Improvement Measure TR-4).

Target Users: All students

Range of Effectiveness: 0 to 2% VMT reduction

Estimated Vehicle Trip Reduction: 2% VTR (6 weekday AM peak hour, 2 weekday PM peak hour)

³ The SCAMMRP will contract with a transportation engineering consultant to prepare a modified signal timing plan. The City will implement the signal timing changes in the field.

⁴ Full upgrades of the railroad crossings are estimated to cost \$1.63 million. The SCAMMRP would contribute 5.6% of traffic at these railroad crossings, which correlates to a project contribution of \$92,000 toward the cost of these improvements. Installing reconstructed sidewalks and roadway striping upgrades at the two crossings are estimated to cost \$155,000. Cost estimates and the SCAMMRP contribution to traffic are included as Appendix G.

4.6.2. Vehicle Trip Reductions

Vehicle trip reductions (VTRs) for the TDM measures are based on the estimated VTR rates developed by the California Air Pollution Control Officers Association (CAPCOA) and documented in the report *Quantifying Greenhouse Gas Mitigation Measures* (August 2010). The selected TDM strategies and estimated vehicle trip reduction calculations are described in this section and summarized in Table 10.

Table 10: TDM Measures and Estimated Vehicle Trip Reduction Rate

TDM Measures ¹	Target User Group	Range of Vehicle Trip Reduction Rate	Estimated Vehicle Trip Reduction Rate ²
TDM-1: TDM Coordinator	-	-	-
TDM-2: Bike Parking	All	0.625%	0.625%
TDM-3: Transit and Bicycle Subsidies	High School Students and Staff	0.3% to 20%	12.9%
TDM-4: School Pool Program	All Students	7.2% to 15.8%	15.8%
TDM-5: Pedestrian Network Improvements	All	0% to 2%	2%
All Strategies	-	-	23.5%

Source: Kittelson & Associates, Inc. 2017; California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, August 2010.

Notes:

¹ The TDM measures and estimated vehicle trip reduction rates were obtained from CAPCOA: Bike Parking, SDT-6; Transit Subsidies, TRT-4, School Pool Program, TRT-10, Pedestrian Network Improvements, SDT-1.

² Vehicle trip reduction rate estimated based on the estimated level of adoption and aggressiveness of implementation of a given strategy.

³ Vehicle trip reduction estimated by applying the estimated vehicle trip reduction rate to the vehicle trips generated by the target user group.

As shown in Table 10, the selected TDM measures would achieve a 23.5 percent reduction in vehicle trips generated by the project. Table 11 presents the number of net new vehicle trips generated by the project as well as the breakdown of those trips by subset of people at the school.

Table 11: Net New Vehicle Trips by Subset of People at Lighthouse School

Subset of People at Lighthouse School	People	% of Total	Daily Vehicle Trips	A.M. Peak Hour Vehicle Trips	P.M. Peak Hour Vehicle Trips
All People	935	100%	970	277	89
All Students	850	91%	882	252	81
High School Students	350	37%	363	104	33
Staff Full-Time Equivalent	85	9%	88	25	8

Source: Kittelson & Associates, Inc. 2017.

As discussed in the Vehicle Miles Traveled Analysis section (Section 4.5), the project must reduce VMT by 22.8 percent to reduce VMT to the regional threshold (15 percent below the regional average). This percentage corresponds to the overall VTR required for the project through the TDM plan and is

equivalent to 63 fewer a.m. peak hour trips and 20 fewer p.m. peak hour trips. The VTR rates developed by CAPCOA pertain to peak hour vehicle trips. These rates were applied to the a.m. peak hour and p.m. peak hour vehicle trips to develop the total a.m. peak hour and total p.m. peak hour VTRs. The analysis assumes the vehicle trip reduction would apply to the mode split and the vehicle trip length and average vehicle occupancy would remain constant. Therefore, the vehicle trip reduction is equivalent to the reduction in VMT. The vehicle trip reduction estimates are shown in Table 12.

Table 12: Vehicle Trip Reduction Estimates

TDM Measure	Target Users	A.M. Peak Hour Vehicle Trips	P.M. Peak Hour Vehicle Trips	VTR Rate ¹	A.M. Peak Hour VTR	P.M. Peak Hour VTR
TDM-1: TDM Coordinator	-	-	-	-	-	-
TDM-2: Bike Parking	All People	283	91	0.63%	2	1
TDM-3: Transit and Bicycle Incentives	Staff and High School Students	132	42	12.90%	17	5
TDM-4: School Pool Program	All Students	257	83	15.80%	40	13
TDM-5: Pedestrian Network Improvements	All People	283	91	2.00%	6	2
Total					65	21

Source: Kittelson & Associates, Inc. 2017; CAPCOA, *Quantifying Greenhouse Gas Mitigation Measures*, 2010.

¹ VTR rates developed by CAPCOA and documented in *Quantifying Greenhouse Gas Mitigation Measures*.

As shown in Table 12, the combination of TDM measures would reduce a.m. peak hour vehicle trips by 65 trips and p.m. peak hour trips by 21 trips. Given that the project is located within a TAZ where the average daily VMT is 22.8 percent above the regional threshold and the TDM measures would effectively reduce VMT by 23.5 percent, with implementation of the recommended TDM plan, the project would have a less-than-significant VMT-related impact.

4.6.3. TDM Monitoring and Reporting Program

The project sponsor is required to submit an annual compliance report for review and approval by the City. This report will be submitted within one year of occupancy and every following year for a total of at least five years. The report will be reviewed either by City staff (or a peer review consultant, chosen by the City and paid for by the sponsor). If timely reports are not submitted, the reports indicate a failure to achieve the stated policy goals, or the required alternative mode split is still not achieved, staff will work with the project sponsor to find ways to meet their commitments and achieve trip reduction goals. If the issues cannot be resolved, the matter may be referred to the Planning Commission for resolution. Project sponsors shall be required, as a condition of approval to reimburse

the City for costs incurred in maintaining and enforcing the trip reduction program for the approved project.

4.7. SITE ANALYSIS

4.7.1. Vehicle Access and Circulation

Vehicle access and circulation information for Phase 1 conditions is presented in Figure 2. Two new 12-foot-wide curb cuts would be constructed on Edes Avenue at the northwest corner of the project site to provide one inbound-only driveway and one outbound-only driveway. The existing curb cuts and adjacent sidewalk on Edes Avenue (20 feet wide) and on 105th Avenue (35 feet wide) would be reconstructed. A new parking lot would be constructed on the northwest portion of the project site. With this driveway configuration, vehicles on Edes Avenue waiting to turn left into the new inbound-only project driveway could form a queue that builds to the railroad crossing. If vehicle queuing to the railroad tracks occurs, the vehicle queue may create a hazardous condition.

Improvement Measure TR-1 has been identified to reduce the potential under Phase 1 conditions for queues on Edes Avenue to back-up across the railroad tracks:

Improvement Measure TR-1: Entering Queue Abatement

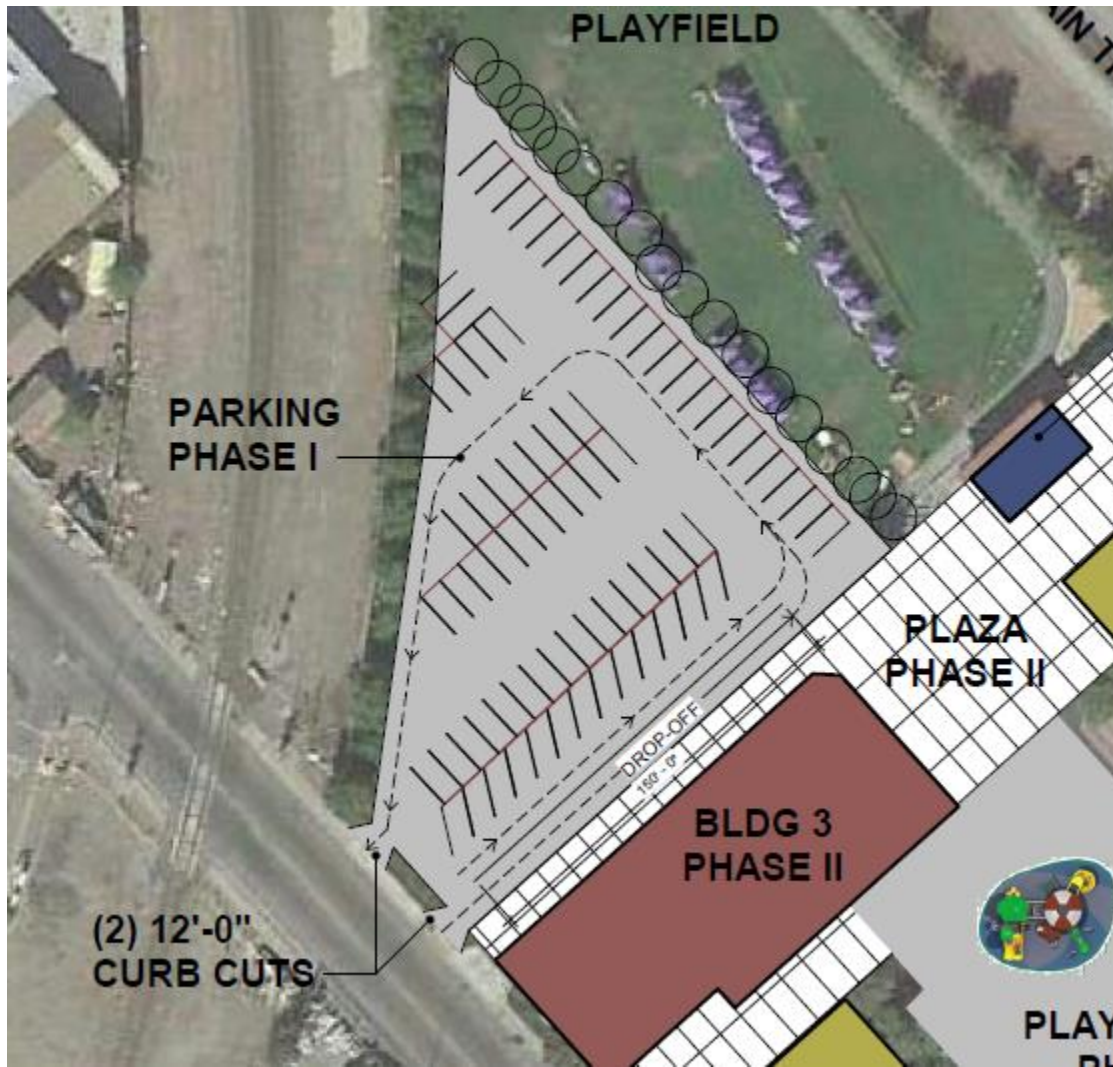
For Phase 1 conditions, as an improvement measure to minimize the tendency for vehicles on Edes Avenue to queue across the railroad tracks, the project would work with City staff to identify appropriate street markings and signage, compliant with the MUTCD, to warn drivers where to wait in advance of the tracks when a downstream queue is present.

4.7.2. Passenger Drop Off and Pick Up

Phase 1 Conditions

Figure 21 illustrates the circulation route for on-site student drop off and pick up activity within the parking lot for Phase 1 conditions.

Figure 21: Drop Off and Pick Up Circulation Routes



Source: Project Sponsor, 2017.

As shown, vehicles would enter on Edes Avenue, circulate counterclockwise around the parking lot, and drop off students along the designated drop-off zone.

The project sponsor has implemented student drop off and pick up procedures at other school sites. The project sponsor prepared the following set of procedures for drop off and pick up activities at the project site:

Student drop-off zone is provided to allow parents/passengers to stop at dropping point temporarily to unload/load their children. The student drop-off zone has limited hours of operation, typically limited from 7:30 a.m. for all grades. Drop-off zone is located inside the parking lot where the front entrance to the student building is located. The applicant also provides the instruction in dropping off the students for all grades

Parents are required to form a single queue within the parking lot to the drop-off zone for the lower grades. Parents may not double park to drop off their children at other locations within the parking lot.

Student pick up also occurs in the designated “drop-off zone.” The student pick-up period begins at 3:30 p.m. on typical school days and at 1:30 p.m. on Fridays. For the after school program, the student pick up period begins at 6:00 p.m.

Based on the vehicle stacking length assumption of 1.5 feet per student enrolled⁵ and a maximum enrollment of 500 students for Phase 1 conditions, it is expected that the maximum queue during drop off and pick up activity would reach a length of 750 feet, or 30 vehicles assuming 25 feet per vehicle. Based on the dimensions of the drop-off zone in Figure 21, the project would provide approximately 300 feet of on-site queuing length (two 150-foot-long drop off lanes) within the parking lot—entering from the Edes Avenue ingress driveway, circulating through the parking lot, and exiting at the Edes Avenue egress driveway—which would accommodate a queue of up to 12 vehicles. In instances when the queue temporarily exceeds the on-site queue capacity, a queue of up to 18 vehicles may extend onto Edes Avenue and impede circulation of traffic.

Improvement Measure TR-2 has been identified to reduce the potential under Phase 1 conditions for a vehicle queue to spillback onto Edes Avenue:

Improvement Measure TR-2: Spillback Queue Abatement

For Phase 1 and Phase 2 conditions, as an improvement measure to minimize the tendency for vehicles in queue to drop off or pick up students to spillback onto the local street network, the project sponsor should designate staff members to help manage the flow of traffic during drop off and pick up periods to ensure the queue continues to flow.

Phase 2 Conditions

The route for drop off and pick up activity under Phase 2 conditions would be the same as under Phase 1 conditions. With a maximum enrollment of 850 students under Phase 2 conditions, the estimated maximum queue would be 1,275 feet, or 51 vehicles.

4.7.3. Vehicle Parking

Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel. Parking deficits are considered social effects, rather than impacts on the physical environment as

⁵ Cooner, Scott et al, *Traffic Operations and Safety at Schools: Recommended Guidelines*, Texas Transportation Institute, January 2004, Texas Department of Transportation Report 4286-2.

defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment.

For the use "Community Education: high schools" in the City Planning Code (section 17.116.070), the code states the Director of City Planning must prescribe the number of parking spaces.

The project site plan is still being developed. However, the conceptual site plan presented in Figure 2 shows approximately 70 parking spaces in the parking lot that would be constructed as part of Phase 1. The number of ADA spaces is not noted. Parking inside the gates is limited to staff-use only. Parents who are visiting the campus will need to arrive after drop-off ends and park in available spots in the loading zone. Parent parking is available until 2:00 p.m.

The Lighthouse School - Lodestar Campus would have 85 full-time-equivalent (FTE) staff members for Phase 2. The number of FTE staff members for Phase 1 has not been determined. However, the number of FTE staff members for Phase 1, when high school students are not enrolled, is expected to be lower than the number of FTE staff members for Phase 2 with full enrollment. Travel mode split assumptions are presented in Table 6. Vehicle trip reductions resulting from the TDM plan for the project are presented in Table 12. It is assumed the TDM plan would reduce the number of personal-vehicle trips made by staff members. Given the mode split assumptions, the vehicle trip reductions resulting from the TDM plan, and the assumption that fewer than 85 FTE staff members will be present when the school operates under Phase 1 conditions, the provision of approximately 70 parking spaces in the parking lot is expected to meet the parking demand for Phase 1.

After implementation of the TDM plan for Phase 1, a parking study should be conducted to determine the estimated demand for parking for Phase 2 conditions. The project sponsor should work with the City Planning Department to determine the required amount of parking for Phase 2. Should the anticipated demand exceed the provision of parking, the project sponsor should work with the City to enhance the effectiveness of the TDM plan to curb demand for on-site parking.

4.7.4. Transit Access

As discussed in section 2.4, AC Transit provides bus services in Oakland. AC Transit Route 45 runs adjacent to the project site, as shown in Figure 7. The transit stops nearest to the project site are located on 105th Avenue at Edes Avenue and on Acalanes Drive at 105th Avenue. The stops are marked by a sign post; no amenities, such as benches or shelters, are present for people waiting for the bus.

As part of the TDM plan for the project, the project sponsor would provide subsidized/discounted daily or monthly public transit and/or bicycle passes. These passes may be partially or wholly subsidized by the project sponsor. *Improvement Measure TR-3* has also been identified to encourage provision of subsidized transit passes:

Improvement Measure TR-3: Transit Subsidy

As an improvement measure to encourage use of transit, the project sponsor should provide subsidized transit passes to all students and staff. The value of the student passes should be equivalent to the monthly pass value of an AC Transit local youth 31-day pass (currently \$26.50). The value of the staff passes should be equivalent to the monthly pass value of the adult local 31-day pass (currently \$81).

4.7.5. Pedestrian Access and Circulation

Impacts to pedestrian conditions and facilities as a result of project-generated activities were assessed, including the number of new pedestrian trips that would be added to the network. The adequacy of pedestrian connections to nearby transit routes, safety, and right of way issues were qualitatively assessed. The results of this evaluation are summarized in this section.

Pedestrian trips generated by the project would include walk trips to and from the project site and walk trips to and from transit lines. As shown in Table 6, the project would add approximately 101 pedestrian trips (87 transit trips and 14 walk trips) during the weekday a.m. peak hour and 31 pedestrian trips (27 transit trips and 4 walk trips) during the weekday p.m. peak hour.

The new pedestrian trips would be spread out over several adjacent sidewalks and crosswalks. Based on the current levels of pedestrian activity in the study area, the new pedestrian trips generated by the project could be accommodated on existing facilities and would not substantially increase pedestrian crowding at street corners or on nearby sidewalks and crosswalks. The incremental increase in project-generated pedestrian traffic would not have a substantial adverse effect on surrounding pedestrian facilities, including routes to transit.

Although the Project would increase the number of vehicles accessing the site, the proposed driveway would be designed with adequate sight distance for pedestrians. The project would not create potential collision risks through increased vehicle conflicts, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

However, there are deficiencies at the nearby signalized 105th Avenue/Edes Avenue intersection. *Improvement Measure TR-4* has been identified to provide more crossing opportunities and longer walk times across this intersection:

Improvement Measure TR-4: Signal Timing Modifications at 105th Avenue/Edes Avenue

For Phase 1 and Phase 2 conditions, since the pedestrian crossings at the intersection are approximately 32 feet to 40 feet in length, the pedestrian clearance time should be increased to 10 to 12 seconds, relative to the crossing distance. The MUTCD standard assumption of 3.5 feet per second crossing speed should be used to compute the pedestrian clearance time for each crossing.

In addition, the project would better accommodate pedestrian access to the project site with the inclusion of pedestrian-specific access points. *Improvement Measure TR-5* has been identified for the project to provide pedestrian-specific access points to the site:

Improvement Measure TR-5: Pedestrian-Specific Points of Access to Project Site

As the site plan is refined for Phase 1 and Phase 2, pedestrian-specific access points should be incorporated into the site plan. For example, pedestrian-only gates should be installed in the existing perimeter fence along 105th Avenue and Edes Avenue so that pedestrians can enter and exit the project site via pathways other than the vehicle driveways.

4.7.6. Bicycle Access and Circulation

Impacts to bicycle conditions and facilities as a result of project-generated activities were assessed for the project, including the number of new biking trips that would be added to the network, the adequacy of bicycle connections to nearby bicycle facilities, safety, and right of way issues. The results of this evaluation are summarized in this section.

A portion of the total “Other” trips shown in Table 6, would be bike trips. Assuming all of the “Other” trips are bike trips, the project would generate up to 10 bike trips (7 inbound, 3 outbound) during the weekday a.m. peak hour and 3 bike trips (1 inbound, 2 outbound) during the weekday p.m. peak hour.

Bicyclists would travel along a combination of designated bicycle routes and other streets to access the project site. The project site is located immediately adjacent to a class III bike route on Edes Avenue and 105th Avenue. However, as discussed in Section 2.6.2, class III bike route signage and street markings are not present near the project site. Class II bike lanes are present to the north along 105th Avenue beginning at Pippin Street, which is approximately 1,000 feet north of Edes Avenue. Although the project would add up to 10 bicycle trips to the network during the peak hour, this increase would not be substantial enough to affect overall bicycle circulation in the area or the operations of adjacent facilities. There would be sufficient capacity on existing bikeways and at end of trip facilities to handle the project-generated additional bicycle trips.

The project would not increase vehicle or bicycle traffic to a level that adversely affects bicycle facilities in the area, nor would the project create a new hazard or substantial conflict to bicycling.

4.7.7. Bicycle Parking and Amenities

The following are the Oakland Municipal Code requirements for bicycle parking facilities for public and private elementary, junior high, and high schools (Section 17.117.100):

- **Long-Term Bicycle Parking⁶:** One space per ten employees plus one space per 20 students of planned capacity. Minimum requirement is 2 spaces.

⁶ Long-term Bicycle Parking. Each long-term bicycle parking space shall consist of a locker or locked enclosure providing protection for each bicycle from theft, vandalism and weather. Long-term bicycle parking is meant to accommodate employees, students, and others expected to park more than two hours.

- **Short-Term Bicycle Parking⁷:** One space per 20 students of planned capacity. Minimum requirement is two spaces.

Based on the bicycle parking requirements, the project is required to provide a minimum of 52 long-term bicycle parking spaces (nine for employees and 43 for students) and 43 short-term bicycle parking spaces.

Per Oakland Municipal Code requirements, long-term parking spaces would be located within 500 feet, as feasible, of main pedestrian entrances to the uses to which they are accessory and not publicly accessible and within 50 feet for short-term parking spaces. This supply would meet the Oakland Municipal Code requirements.

The site plan presented in Figure 2 does not indicate the number or location of long-term or short-term bicycle parking spaces. Assuming the project provides bicycle parking in the amount and location required by the City code, the project would not cause any significant bicycle impacts or generate potential conflicts between bicyclists and vehicles on the project site.

4.7.8. Emergency Vehicle Access

Emergency vehicle access to the project site for Phase 1 is provided via the full-access driveway on 105th Avenue. For Phase 2, emergency vehicle access would be provided via the two planned driveways on Edes Avenue. Emergency vehicle routes to the project site are discussed in Section 2.10.

The project does not propose any modifications to the existing roadway network or major modifications (circulation patterns or design features) to 105th Avenue or Edes Avenue that would preclude or otherwise alter access by emergency vehicles. Additionally, any changes proposed in the public right-of-way would be subject to review and approval by the Oakland Department of Transportation and the Oakland Fire Department prior to implementation.

During peak commute times, general traffic congestion throughout the project area may result in delays to emergency responders. As shown in Table 6, the project would add approximately 212 vehicle trips (125 inbound, 87 outbound) to the surrounding street network during the weekday a.m. peak hour and approximately 68 vehicle trips (33 inbound, 35 outbound) to the surrounding street network during the weekday p.m. peak hour. Given the level of existing traffic in the area (about 1,700 vehicles during the a.m. peak hour and 1,150 vehicles during the p.m. peak hour at the 105th Avenue/Edes Avenue intersection), the project's contribution to existing traffic would not be substantial.

⁷ Short-term Bicycle Parking. Short-term bicycle parking shall consist of a bicycle rack or racks and is meant to accommodate visitors, messengers, and others expected to park not more than two hours.

4.8. CONSTRUCTION IMPACTS

Detailed construction plans have not been finalized. However, preliminary information regarding construction activity has been provided by the project sponsor. Table 13 presents trip estimates for construction activity for Phase 1 and Phase 2.

Table 13: Construction Activity Trip Estimates

Construction Activity		Duration in Months	Average Daily Trips		
			Heavy Trucks	Delivery Trucks and Vans	Personal Vehicles
Phase 1	Soil Remediation	3	5	1	4
	Demolition	0.5	1	1	10
	New Walls, Finishes, MEP Upgrades	3	0.25	2	20
	Exterior Skin	0.5	0.5	0.5	8
Phase 2	Clear Site/Demo/Grade/Excavation	1	4	2	14
	Structure	3	2	3	16
	Exterior Skin and Roof	3	0.5	3	18
	Interior	4	0.5	4	20
	Sitework /Landscaping /Playground	2	2	3	14

Source: Project Sponsor, 2017

Implementation of Phase 1 of the project would involve rehabilitation of the existing buildings on the project site. The project sponsor estimates this construction effort will last seven months. As presented in Table 13 for Phase 1, up to five heavy trucks, two delivery trucks/vans, and 20 personal vehicles would arrive to the project site daily, contingent up on the stage in the construction process. The existing parking lot could accommodate the number of personal vehicles expected to arrive at the site during Phase 1 construction. The project sponsor did not provide information regarding time of day restrictions or day of week restrictions for construction activity during Phase 1 construction. Construction staging is expected to occur fully within the project site. The project sponsor should require all contractors to maintain adequate bicycle and pedestrian circulation at all times during construction.

Implementation of Phase 2 of the project would involve demolition, excavation, and grading; concrete foundation construction; building construction; asphalt parking lot construction; and landscaping and playground construction. The project sponsor estimates this construction effort will last 13 months. As presented in Table 13 for Phase 2, up to four heavy trucks, four delivery trucks/vans, and 20 personal vehicles would arrive to the project site daily, contingent up on the stage in the construction process. The existing parking lot could accommodate the number of personal vehicles expected to arrive at the site during Phase 2 construction. The project sponsor did not provide information regarding time of day restrictions or day of week restrictions for construction activity during Phase 2 construction.

Construction staging would occur primarily within the confines of the project site, but would occasionally use portions of the public right-of-way along both 105th Avenue and Edes Avenue. As the

project sponsor more fully develops the plans and timeline for Phase 2 construction, the project sponsor would coordinate with City staff to arrange for use of public right-of-way only during those periods when construction staging cannot be contained within the confines of the project site. The project would be required to meet requirements of Standard Conditions of Approval #68 for construction activity in the public right-of-way.

The effects of construction traffic on the circulation network would be a temporary lessening of the capacities on surrounding roadways and truck routes, as well as connecting local streets, due to the slower movement and larger turning radii of trucks. Construction truck and worker vehicle traffic could result in minor congestion and conflicts with vehicles, transit, pedestrians and bicyclists. Construction activities would be temporary and limited in duration. The project sponsor could schedule the majority of construction activity to occur during off-peak hours when traffic volumes are minimal, which would lessen the potential for conflicts with existing travel patterns.

Section 5 Conditions of Approval/Mitigations

5. CONDITIONS OF APPROVAL/MITIGATIONS

This chapter summarizes the standard conditions of approval and mitigation measures required to reduce any significant impacts generated by the project to less than significant levels. In addition, recommendations improvement measures (or project-specific recommendations) have been proposed in situations where conditions could be improved, or measures implemented to meet City policy objectives, but no significant impacts have been identified.

5.1.1. Standard Conditions of Approval

The project is subject to the City's Standard Conditions of Approval (SCA) for transportation and traffic, including:

SCA 68: Construction Activity in the Public Right-of-Way

This SCA would apply during construction activity associated with Phase 2 construction. If all construction staging cannot be accommodated on-site, the project sponsor must comply with SCA 68 to arrange for use of public right-of-way during construction.

SCA 69: Bicycle Parking

This project sponsor must provide bicycle parking in compliance with the Oakland Municipal Code, as described in Section 4.7.7.

SCA 70: Transportation Improvements

The project sponsor must make the recommended improvements discussed in this study and summarized in Section 5.1.3.

SCA 71: Transportation and Parking Demand Management

The project sponsor must implement the transportation and parking demand management plan prepared as part of this transportation impact analysis. The TDM plan is discussed in Section 4.6 and Section 5.1.3 of this report. The project sponsor will need to designate an on-site TDM plan coordinator to facilitate implementation, monitoring, and reporting of the plan.

SCA 73: Railroad Crossings

Upon preparation of a detailed site plan, including details of curb cuts and site access, for Phase 2 of the project, the project sponsor may need to complete a Diagnostic Review to evaluate potential impacts to the at-grade railroad crossings on Edes Avenue resulting from project-related traffic.

5.1.2. Mitigation Measures

The project would not have a significant impact on any transportation-related topics, including vehicle miles traveled, induced automobile traffic, or conflicts with existing plans and policies, and no mitigation measures are required.

5.1.3. Improvement Measures/Project-Specific Recommendations

The following improvement measures (or project-specific recommendations) have been identified to further reduce the less than significant transportation-related impacts related to vehicle access and circulation, bicycle access, and pedestrian access:

Improvement Measure TR-1: Entering Queue Abatement

For Phase 2 conditions, as an improvement measure to minimize the tendency for vehicles on Edes Avenue to queue across the railroad tracks, the project would work with City staff to identify appropriate street markings and signage, compliant with the MUTCD, to warn drivers where to wait in advance of the tracks when a downstream queue is present.

Improvement Measure TR-2: Spillback Queue Abatement

For Phase 1 and Phase 2 conditions, as an improvement measure to minimize the tendency for vehicles in queue to drop off or pick up students to spillback onto the local street network, the project sponsor should designate staff members to help manage the flow of traffic during drop off and pick up periods to ensure the queue continues to flow.

Improvement Measure TR-3: Transit Subsidy

As an improvement measure to encourage use of transit, the project sponsor should provide subsidized transit passes to all students and staff. The value of the student passes should be equivalent to the monthly pass value of an AC Transit local youth 31-day pass (currently \$26.50). The value of the staff passes should be equivalent to the monthly pass value of the adult local 31-day pass (currently \$81).

Improvement Measure TR-5: Signal Timing Modifications at 105th Avenue/Edes Avenue

For Phase 1 and Phase 2 conditions, since the pedestrian crossings at the intersection are approximately 32 feet to 40 feet in length, the pedestrian clearance time should be increased to 10 to 12 seconds, relative to the crossing distance. The MUTCD standard assumption of 3.5 feet per second crossing speed should be used to compute the pedestrian clearance time for each crossing.

Improvement Measure TR-5: Pedestrian-Specific Points of Access to Project Site

As the site plan is refined for Phase 1 and Phase 2, pedestrian-specific access points should be incorporated into the site plan. For example, pedestrian-only gates should be installed in the existing perimeter fence along 105th Avenue and Edes Avenue so that pedestrians can enter and exit the project site via pathways other than the vehicle driveways.

5.1.4. Transportation and Parking Demand Management Plan

The following transportation demand management measures have been recommended as part of the TDM plan:

TDM-1: TDM Program Coordinator. The TDM Program Coordinator is responsible for implementation, monitoring, and reporting of the TDM Plan. The TDM Coordinator would facilitate site inspections by City staff to verify that the standards specified as conditions of approval are met. This person(s) can be a school employee or a third party provider that runs the program.

TDM-2: Bike Parking. The project would provide short-term and long-term bicycle parking facilities to meet maximum estimated demand. The maximum estimated demand is calculated as 200 percent of the highest peak hour demand based on the bike mode share and estimated travel demand and the increase in bike trips resulting from implementation of this TDM strategy. The project shall include at least 20 short-term and 20 long-term bicycle parking spaces. The number of bicycle parking spaces would be equitably adjusted (increased) based on observed demand.

TDM-3: Transit and Bicycle Incentives. The project would provide subsidized/discounted daily or monthly public transit or bike share passes. The project would provide the equivalent of a \$1.50 per trip subsidy for these modes.

TDM-4: School Pool Program. The project would develop and implement a ridesharing program for students. The ridesharing “School Pool” program will help to match parents to transport students to/from campus. The VMT reduction calculation assumes aggressive implementation with a 35 percent adoption rate.

TDM-5: Pedestrian Network Improvements. The project would implement on-site and off-site improvements to the pedestrian network and link areas of the project site and encourage people to walk instead of drive. The project would also minimize barriers to pedestrian access and interconnectivity. The project would implement the following improvements:

- Modify signal timing at 105th Avenue/Edes Avenue to increase pedestrian clearance time across 105th Avenue (Improvement Measure TR-3);⁸
- Install reconstructed sidewalks and roadway striping upgrades at the nearby railroad crossings at 105th Avenue and Edes Avenue;⁹ and,
- Provide pedestrian access points to reduce out of direction travel and allow people to enter the campus from multiple directions (Improvement Measure TR-4).

As discussed in Section 4.6.3, the project sponsor shall submit an annual compliance report for review and approval by the City. This report will be submitted within one year of occupancy and every following year for a total of at least five years. If timely reports are not submitted, the reports indicate a failure to achieve the stated policy goals, or the required alternative mode split is still not achieved, staff will work with the project sponsor to find ways to meet their commitments and achieve trip reduction goals. If the issues cannot be resolved, the matter may be referred to the Planning Commission for resolution. Project sponsors shall be required, as a condition of approval to reimburse the City for costs incurred in maintaining and enforcing the trip reduction program for the approved project.

⁸ The SCAMMRP will contract with a transportation engineering consultant to prepare a modified signal timing plan. The City will implement the signal timing changes in the field.

⁹ Full upgrades of the railroad crossings are estimated to cost \$1.63 million. The SCAMMRP would contribute 5.6% of traffic at these railroad crossings, which correlates to a project contribution of \$92,000 toward the cost of these improvements. Installing reconstructed sidewalks and roadway striping upgrades at the two crossings are estimated to cost \$155,000. Cost estimates and the SCAMMRP contribution to traffic are included as Appendix G.