Leimert Boulevard Bridge Seismic Retrofit Project

CEQA ANALYSIS

DRAFT: APRIL 2019

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I. Project Information

1. Project Title: Leimert Boulevard Bridge over Dimond Canyon and Sausal Creek

2. Lead Agency Name and Address: City of Oakland
Bureau of Planning
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, CA 94612

3. Contact Person and Phone Number: Mohammad Najib Barati, Civil Engineer
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4. Project Location: Leimert Boulevard Bridge over Diamond Canyon and Sausal Creek

The project area includes the following APNs:
029A133001301
029A133000500
029A133000404
029A132701800
029A132700100
Portions of the creek are located within:
029A132800103
029A133001205

5. Existing General Plan Designations: Urban Park and Open Space and Mixed Housing Residential

6. Existing Zoning: The bridge is located within the public roadway. Zoning in the project area includes: Open Space (OS [RCA]), Mixed Residential (RM-2, RM-3)

7. Requested Permits: Design Review (Planning Code § 17.136.030)
Creek Protection Permit, Category 4
Lake and Streambed Alteration Agreement (California Fish and Game Code § 1600)

II. Project Description

Introduction

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see Attachment B, Regional Location). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area) (see Attachment B, Project Location and Project Footprint).

The bridge is a 357-foot long open spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock.

The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, include primarily residences, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge.

The bridge was designed by George Posey, who designed notable structures in Oakland. The bridge was constructed in 1926 and was designated as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB). The bridge has also been determined eligible for listing on the National Register for Historic Places (NRHP).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Project Purpose

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Sausal Creek Bridge at Leimert Boulevard to the extent feasible.

Project Need

The project area is located in a region of relatively high seismicity and is less than a mile southwest of the Hayward fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event.

Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.

- The current bridge deck has a 2.5-inch thick layer of asphalt concrete (AC) overlay, which shows heavy cracking in both longitudinal and transverse direction. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.

- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the reinforcement inside.

- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or materials from falling off the bridge.

Seismic retrofit of the bridge was previously proposed, and a proposed design was previously completed by URS Greiner Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements, process the environmental CEQA and NEPA clearances, certify the required right of way, and issue the project for bid. However, during the course of the environmental review, the State Historic Preservation Office (SHPO) and the LPAB concluded that the proposed bridge retrofit would have a significant impact under CEQA on the historic status of the bridge and, therefore, rejected the proposed retrofit plans. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge's landmark status and historic integrity.

Proposed Project

The following improvements are proposed (see Attachment B, Engineering Drawings):

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would maintain the same size, shape and character-defining features of the original bridge structure, and comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Rehabilitation*.

- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.

- Localized "shotcrete" would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.

- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.

- Graffiti paint would be removed, and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.

- The chain link fence would be repaired or replaced.

Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, which is not unusual for a bridge crossing, construction access would be limited. Based on examples of methods commonly used to construct bridge projects, access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane closures may be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane closures may be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine months and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

- Mobilization (5 days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Clean Expansion Joint (5 days);
- Shotcrete Footing Slope Paving (5 days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (10 days).

Measures for preventing material, equipment, and debris from falling into Sausal Creek would be implemented during construction.

III. Summary of Findings

An evaluation of the project is provided in the CEQA analysis below. This evaluation concludes that the proposed project qualifies as statutorily exempt from CEQA under the provisions of CEQA Guidelines §15269 Emergency Projects and is therefore exempt from additional environmental review. This evaluation also concludes that the proposed project qualifies as categorically exempt from CEQA under the provisions of CEQA Guidelines § 15301 Existing Facilities and is therefore exempt from additional environmental review.

In accordance with Public Resources Code § 21080(b)(4) and State CEQA Guidelines §15269(e), and as set forth in the CEQA Exemption Checklist below, the proposed project qualifies as statutorily exempt from CEQA because the following findings can be made:

- The proposed project meets the criteria of an exempt project under CEQA Guidelines § 15269(e), which consists of "seismic work on highways and bridges pursuant to §180.2 of the Streets and Highway Code, § 180 et seq."

In accordance with Public Resources Code § 21084 and State CEQA Guidelines § 15300, 15300.2, and 15301, and as set forth in the CEQA Exemption Checklist below, the proposed project qualifies as categorically exempt from CEQA because the following findings can be made:

- The proposed project meets the criteria of an exempt project under CEQA Guidelines § 15301 Existing Facilities, which consists of "the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involved negligible or no expansion of use beyond that existing at the time of the lead agency's determination," because the project would complete minor alterations of the existing public bridge structure in order to maintain the structural integrity of the bridge structure in the event of a seismic event, and would result in no expansion of use beyond that which currently exists;
- The project would not have a cumulative impact as a result of successive projects of the same time in the same place, over time;
- The project would not result in a significant effect on the environment due to unusual circumstances;
- The project would not result in damage to scenic resources within a highway officially designated as a state scenic highway;
- The project is not located on a site that is included on any list compiled pursuant to § 65962.5 of the Government Code; and,
- The project would not cause a substantial adverse change in the significance of a historic resource.

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

X

Mohammad Barati

IV. Statutory Exemption

Article 18 of the CEQA Guidelines § (15260 to 15285), includes a list of projects that have been described as exempt as granted by the Legislature. Among the list of projects that are exempt from CEQA review are those projects that are specifically identified as Emergency Projects. The Leimert Boulevard Seismic Retrofit project falls under Article 18. Statutory Exemptions, §15269.0 (e) Emergency Projects: Seismic Work on Highways and Bridges.

CEQA Guidelines §15269(e) defines Emergency Project: Seismic Work on Highways and Bridges as:

- (e) Seismic work on highways and bridges pursuant to §180.2 of the Streets and Highways Code, §180 et seq.

Section 180(a) defines a "project" for purposes of this article as" any activity of seismic retrofit work that includes either the structural modification of an existing highway structure or the replacement of a highway structure by a newly constructed structure meeting seismic safety requirements."

Section 180.2 of the Streets and Highway Code says "Projects under this article for the structural modification of an existing highway structure or the replacement of a highway structure by a newly constructed highway structure within an existing right-of-way shall be considered to be activities under paragraph (4) of subdivision (b) of §21080 of the Public Resources Code."

Public Resources Code §21080(b)(4) exempts the applicability of California Public Resources Code, Division 13 (i.e., the California Environmental Quality Act) from projects that are "specific actions necessary to prevent or mitigate an emergency."

V. Class 1 Categorical Exemption - Existing Facilities

Article 19 of the California Environmental Quality Act (CEQA Guidelines §15300 to 15333), includes a list of classes of projects that have been determined to not have a significant effect on the environment and, as a result, are exempt from review under CEQA. Among the classes of projects that are exempt from CEQA review are those projects that are specifically identified as Existing Facilities. The project is eligible for a categorical exemption under §15301(c) Existing Facilities: Existing Highways and Streets.

CEQA Guidelines §15301 defines Existing Facilities (Class 1 exemptions) as:

> …the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. The types of "existing facilities" itemized below are not intended to be all-inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of use. Examples include but are not limited to:
>
> (c) Existing highways and streets, sidewalks, gutters, bicycle and pedestrian trails, and similar facilities (this includes road grading for the purpose of public safety), and other alterations such as the addition of bicycle facilities, including but not limited to bicycle parking, bicycle-share facilities and bicycle lanes, transit improvements such as bus lanes, pedestrian crossings, street trees, and other similar alterations that do not create additional automobile traffic.

Exceptions

Even if a project is ordinarily exempt under a categorical exemption, CEQA Guidelines §15300.2 provides specific instances where exceptions to otherwise applicable exemptions apply. Exceptions to a categorical exemption apply in the following circumstances, effectively nullifying a CEQA categorical exemption:

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located. A project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to §65962.5 of the Government Code.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

VI. City of Oakland - Standard Conditions of Approval

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 §21083.3) and have been incrementally updated over time; the most recent update was adopted in November of 2018. 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, 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.

VII. CEQA Exemption Checklist

The following analysis provides substantial evidence to support a conclusion that the project is exempted from CEQA review under CEQA Guidelines §15269(e) Emergency Projects: Seismic Work on Highways and Bridges, and §15301(c) as a Class 1 Existing Facilities: Existing Highways and Streets, and would not have a significant effect on the environment.

Statutory Exemption, §15269(e) Emergency Projects: Seismic Work on Highways and Bridges

As described in the project Need statement above, the bridge "is located in a region of relatively high seismicity and is less than a mile southwest of the Hayward fault; seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event."

The bridge is a critical connection crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, and is an important connection for both daily transportation and connectivity needs between these communities, as well as during emergency situations that require first-responder access to these neighborhoods and/or residential evacuations. Collapse of the bridge as a result of a major seismic event would result in an emergency situation whereby response times of first-responders serving the area would be substantially delayed, and/or the ability of residents to evacuate would be substantially reduced, resulting in risk to individual and community health and safety.

The proposed project is a "structural modification of an existing structure… within an existing right-of-way" pursuant to §180.2 of the Streets Highway Code, and is necessary to prevent or mitigate an emergency that would result from collapse of the bridge during a major seismic event; therefore, the project is considered a "specific action necessary to prevent or mitigate an emergency," as identified in Public Resources Code 21080(b)(4).

As such, the project meets the requirements of CEQA Guidelines §15269(e) because the project entails seismic work on a bridge, in conformity with §180.2 of the Streets and Highways Code, §180 et seq., in order to prevent or mitigate an emergency resulting from a seismic event. Therefore, the project is exempt from review under CEQA.

Categorical Exemption, §15301(c) Existing Facilities: Existing Highways and Streets

The proposed project meets the criteria of an exempt project under CEQA Guidelines §15301 Existing Facilities because the project would complete minor alterations of the existing public bridge structure in order to maintain the structural integrity of the bridge structure in the event of a seismic event and would result in no expansion of use beyond that which currently exists.

Exceptions to Categorical Exceptions Checklist

In addition to investigating the applicability of CEQA Guidelines §15301 (Class 1), this technical report also assesses whether any of the exceptions to qualifying for the Class 1 categorical exemption for Existing Facilities are present. The following analysis compares the criteria of CEQA Guidelines §15300.2 (Exceptions) to the project.

Criterion 15300.2(a) Location

☐ Yes ☒ No Is there an exception to the Class 1 exemption for the project due to its location in a particularly sensitive environment, such that the project may impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies?

This possible exception applies only to CEQA exemptions under Classes 3, 4, 5, 6 or 11. Since the project qualifies as a Class 1 Existing Facilities exemption, this criterion is not applicable.

Criterion 15300.2(b) Cumulative Impact

☐ Yes ☒ No Is there an exception to the Class 1 exemption for the project due to significant cumulative impacts of successive projects of the same type and in the same place, over time?

. According to the CEQAnet database there is currently one other seismic retrofit project in Alameda County. It is a library building seismic retrofit located at the Hayward campus of California State University (CSU), East Bay (SCH# 2019028031) (Office of Planning and Research 2019). However, the CSU East Bay library retrofit is not a bridge retrofit project, and it is located approximately 15 miles away from the Leimert Bridge project area. As such, there do not appear to be successive projects of the same type and in the same place that, when considered along with the proposed project, would result in significant cumulative impacts. Therefore, the exception under CEQA Guidelines §15300.2 (b) does not apply to the project.

Criterion 15300.2(c): Significant Effect

☐ Yes ☒ No Is there an exception to the Class 1 exemption for the project because there is a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances?

No unusual circumstances associated with the project have been identified. Additionally, as shown in the associated technical studies that accompany this document, and with the implementation of the City of Oakland's Standard Conditions of Approval, the project will not result in a significant effect of the environment. Therefore, it is not anticipated that the project would result in a significant effect on the environment due to unusual circumstances, and the exception under CEQA Guidelines §15300.2(c) does not apply to the project.

Criterion 15300.2(d): Scenic Highway

☐ Yes ☒ No Is there an exception to the Class 1 exemption for the project because the project may result in damage to scenic resources including but not limited to, trees, historic buildings, rock outcroppings or similar resources, within a highway officially designated as a state scenic highway?

Leimert Boulevard is not a state scenic highway. The project is located 1-mile northeast of the nearest scenic highway system, the MacArthur Freeway. The project would not be visible from the MacArthur freeway due to the distance between the MacArthur freeway and the bridge. Because Leimert Boulevard is not a state scenic highway, and the project site is not visible from closest scenic highway, the project would not result in damage to scenic resources within a scenic highway, and the exception under CEQA Guidelines §15300.2(d) does not apply to the project.

Criterion 15300.2(e): Hazardous Waste Sites

☐ Yes ☒ No Is there an exception to the Class 1 exemption for the project because the project is located on a site which is included on any list compiled pursuant to § 65962.5 of the Government Code?

The project is not included on a list compiled pursuant to § 65962.5 of the Government Code, and there are no known hazardous materials, hazardous waste sites, or cleanup sites within or immediately adjacent to the project area (Department of Toxic Substance Control 2018). Therefore, the exception under CEQA Guidelines 15300.2 (e) does not apply to the project.

Criterion 15300.2(f): Historical Resources

☐ Yes ☒ No Is there an exception to the Class 1 exemption for the project because the project may cause a substantial adverse change in the significance of a historical resource?

Leimert Boulevard Bridge was determined eligible for listing in the National Register of Historic Places (NRHP) in 2003. With application of the Standard Conditions identified in the Finding of No Adverse Effect with Standard Conditions and the Secretary of the Interior Standards (SOIS) Action Plan prepared for the project, the Leimert Boulevard Bridge Seismic Retrofit Project follows the Secretary of the Interior's Standard for the Treatment of Historic Properties: Standards and Guidelines for Rehabilitation, and as a result, the project would have no adverse effect on Leimert Boulevard Bridge (GPA Consulting 2018). As proposed, the project would not cause a substantial adverse change to the characteristics that qualify Leimert Boulevard Bridge for the California Register of Historical Resources. Therefore, the exemption under CEQA Guidelines §15300.2 (f) does not apply to the project.

References

Department of Toxic Substance Control. 2018. "EnviroStor."

GPA Consulting. 2018. "Finding of no Adverse Effect with Standard Condtions."

Office of Planning and Research. 2019. *Search Results.* https://ceqanet.opr.ca.gov/Search?StartRange=2018-10-01&EndRange=2019-04-12&County=Alameda.

Attachment A: City of Oakland – Standard Conditions of Approval

This list of Standard Conditions of Approval (SCAs) is based on the CEQA Analysis prepared for the Leimert Boulevard Bridge Seismic Retrofit Project.

This document identifies SCAs that are intended to lessen proposed project impacts. According to the City of Oakland Standard Conditions of Approval document, as revised in November of 2018 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 [proposed projects], 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."

All SCAs identified in the CEQA Analysis are included herein.

- The first column identifies the SCAs 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.

The City of Oakland Department of Transportation is responsible for compliance with any recommendations in approved technical reports and with all conditions of approval set forth herein at its sole cost and expense, unless otherwise expressly provided in a specific condition of approval, 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 City of Oakland Department of Transportation.

STANDARD CONDITIONS OF APPROVAL	**CONDITION IMPLEMENTATION/ MONITORING**	
	SCHEDULE	**RESPONSIBILITY**
Construction Traffic Memorandum		
68. Construction Activity in the Public Right-of-Way b. Traffic Control Plan Required Requirement: In the event of obstructions to vehicle or bicycle travel lanes, the contractor shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The contractor 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 contractor shall implement the approved Plan during construction.	Prior to obtaining an obstruction permit; and throughout construction	Contractor/City DOT
c. Repair of City Streets Requirement: The contractor 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.	Within one week of occurrence of damage, or prior to approval of final inspection.	Contractor/City DOT
Supplemental Natural Environment Study		
SCA No. 46 State Construction General Permit The project applicant [City] would comply with the requirements of the Construction General Permit issued by the State Water Resources Control Board (SWRCB). The project applicant [City] would submit a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other required Permit Registration Documents to SWRCB. The project applicant [City] would submit evidence of compliance with Permit requirements to the City.	Prior to start of construction; and throughout construction.	Contractor/City DOT

Standard Conditions of Approval	Condition Implementation/ Monitoring	
	Schedule	**Responsibility**
SCA No. 47 Drainage Plan for Post-Construction Stormwater runoff on hillside properties The project applicant [City] would implement a Drainage Plan. The Drainage Plan would include measures to reduce the volume and velocity of post-construction stormwater runoff to the maximum extent practicable. Stormwater runoff would not be augmented to adjacent properties, creeks, or storm drains. The Drainage Plan would be included with the project drawings for site improvements.	As part of approval of Final Design.	City DOT
SCA No. 48 Site Design Measures to Reduce Stormwater Runoff Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES), the project applicant [City] 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.	As part of approval of Final Design.	City DOT

Standard Conditions of Approval	Condition Implementation/ Monitoring	
	Schedule	**Responsibility**
SCA No. 49 Source Control Measures to Limit Stormwater Pollution Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System, the project applicant [City] 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: 1. Discharges from indoor floor mats, equipment, hood filter, wash racks, and, covered outdoor wash racks for restaurants; 2. Dumpster drips from covered trash, food waste, and compactor enclosures; 3. Discharges from outdoor covered wash areas for vehicles, equipment, and accessories; 4. Swimming pool water, if discharge to on-site vegetated areas is not feasible; and 5. Fire sprinkler teat water, if discharge to on-site vegetated areas is not feasible.	As part of approval of Final Design.	City DOT

STANDARD CONDITIONS OF APPROVAL	CONDITION IMPLEMENTATION/ MONITORING	
	SCHEDULE	RESPONSIBILITY
SCA No. 53 Vegetation Management on Creekside Properties The project applicant [City] would 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 nine inches diameter at breast height (dbh) or greater and any oak tree four 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 three feet high; and n. Do not cut short vegetation (e.g., grasses, ground-cover) to less than six inches high.	Prior to, during, and after construction.	Contractor/City DOT

SCA No. 54 Creek Protection Plan The project applicant [City] would submit a Creek Protection Plan for review and approval by the City. The Plan would be included with the set of project drawings submitted to the City for site improvements and would incorporate the contents required under section 13.16.150 of the Oakland Municipal Code including BMPs during construction and after construction to protect the creek. Required BMPs are identified below. • The Creek Protection Plan would incorporate all applicable erosion, sedimentation, debris, and pollution control BMPs to protect the creek during construction. The measures would include, but are not limited to, the following: • On sloped properties, the downhill end of the construction area would 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. • The project applicant [City] would implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent biodegradable erosion control fabric would be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas would be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes would be covered with staked tarps when rain is occurring or is expected. • 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. • All work in or near creek channels would be performed with hand tools and by a minimum number of people Immediately upon completion of this work, soil would be repacked, and native vegetation planted. • 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 would be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding. • Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains. • Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek. • 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	Prior to Construction	Contractor/City DOT

Standard Conditions of Approval	Condition Implementation/ Monitoring	
	Schedule	Responsibility
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 would be stored on site. • 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. • 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. • Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt would be scraped from these areas before sweeping. At the end of each workday, the entire site would be cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, or storm drains. • All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management would be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the RWQCB. • Temporary fencing is required for sites without existing fencing between the creek and the construction site and would 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 would not be disturbed during construction without prior approval of the City.		

<table>
<tr><th rowspan="2">STANDARD CONDITIONS OF APPROVAL</th><th colspan="2">CONDITION IMPLEMENTATION/ MONITORING</th></tr>
<tr><th>SCHEDULE</th><th>RESPONSIBILITY</th></tr>
<tr><td>SCA No. 26 Tree Removal During Bird Breeding Season
To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of birds would 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 would be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds.
Pre-removal surveys must be conducted within 15 days prior to the start of work and would be submitted to the City for review and approval.
If the survey indicates the potential presence of nesting raptors or other birds, the biologist would determine an appropriately sized buffer around the nest in which no work would be allowed until the young have successfully fledged.

The size of the nest buffer would be determined by the biologist in consultation with the CDFW and would 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.</td><td>Prior to and during construction</td><td>City DOT</td></tr>
<tr><td colspan="3">Equipment Staging Memorandum</td></tr>
<tr><td>SCA No. 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.

b. Tree Protection During Construction</td><td>Prior to, during, and after construction</td><td>Contractor / City DOT</td></tr>
</table>

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. c. Tree Replacement Plantings		

Standard Conditions of Approval	Condition Implementation/ Monitoring	
	Schedule	**Responsibility**
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.		
SCA No. 53 Vegetation Management on Creekside Properties Refer to the "Supplemental Natural Environment Study" section for SCA details.		

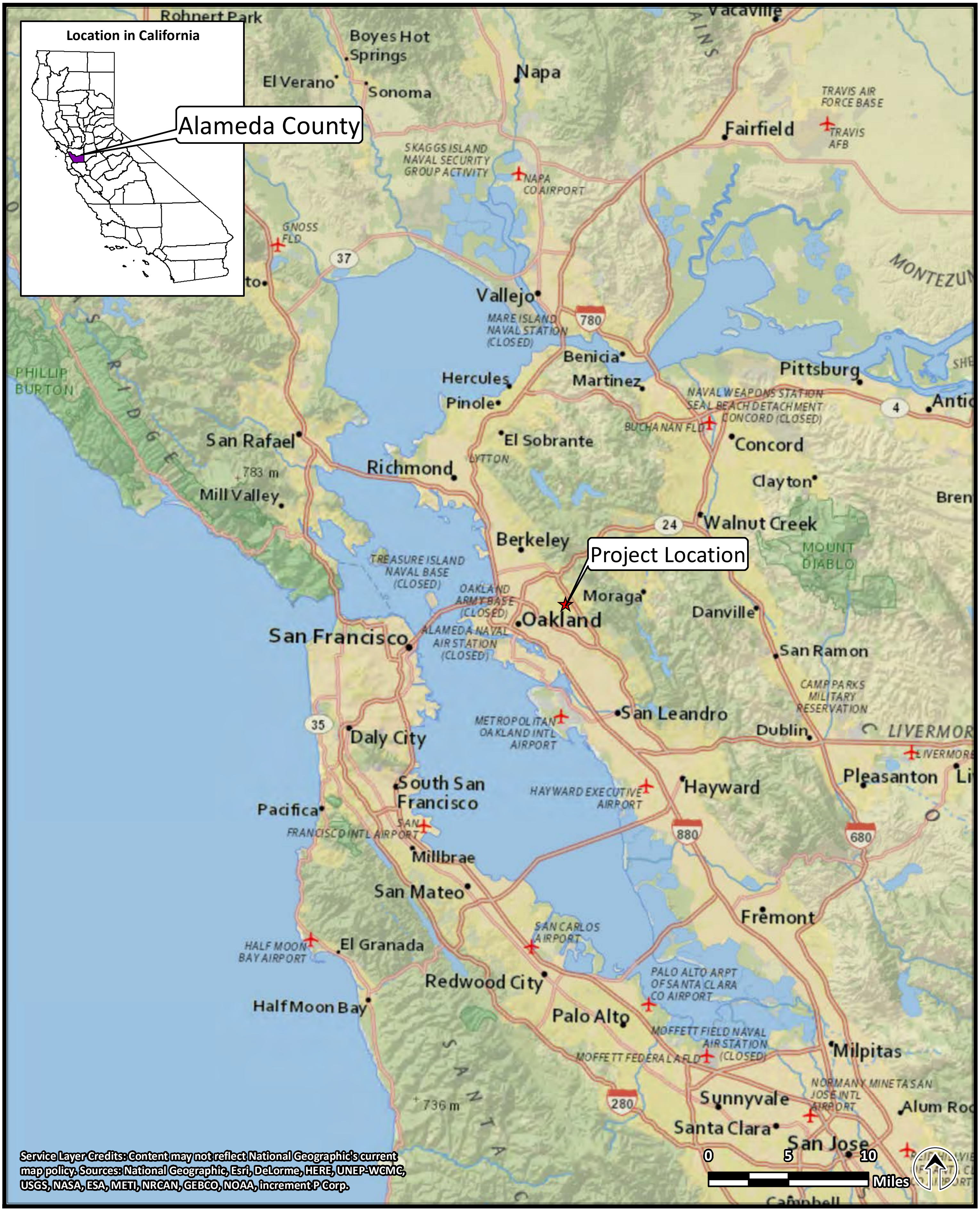
STANDARD CONDITIONS OF APPROVAL	CONDITION IMPLEMENTATION/ MONITORING	
	SCHEDULE	RESPONSIBILITY
SCA No. 54 Creek Protection Plan Refer to the “Supplemental Natural Environment Study” section for SCA details.		
SCA No. 58 Construction Days/Hours The project applicant shall comply with the following restrictions 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. d. 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.	During Construction	Contractor/ City DOT

Standard Conditions of Approval	Condition Implementation/ Monitoring	
	Schedule	**Responsibility**
Construction Noise Memorandum		
SCA No. 59 Construction Noise 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. 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.	During construction	Contractor/ City DOT

Standard Conditions of Approval	Condition Implementation/ Monitoring	
	Schedule	**Responsibility**
SCA No. 61 Project-Specific Construction Noise Reduction Measures 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.	Prior to construction	Contactor/City DOT
Construction Noise Management Plan		
SCA No. 59 Construction Noise Refer to the "Construction Noise Memorandum" section for SCA details.		
SCA No. 61 Project-Specific Construction Noise Reduction Measures Refer to the "Construction Noise Memorandum" section for SCA details.		
Minor Visual Impact Assessment		
SCA No. 16 Graffiti Control 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. Other practices approved by the City to deter, protect, or reduce the potential for graffiti defacement.		

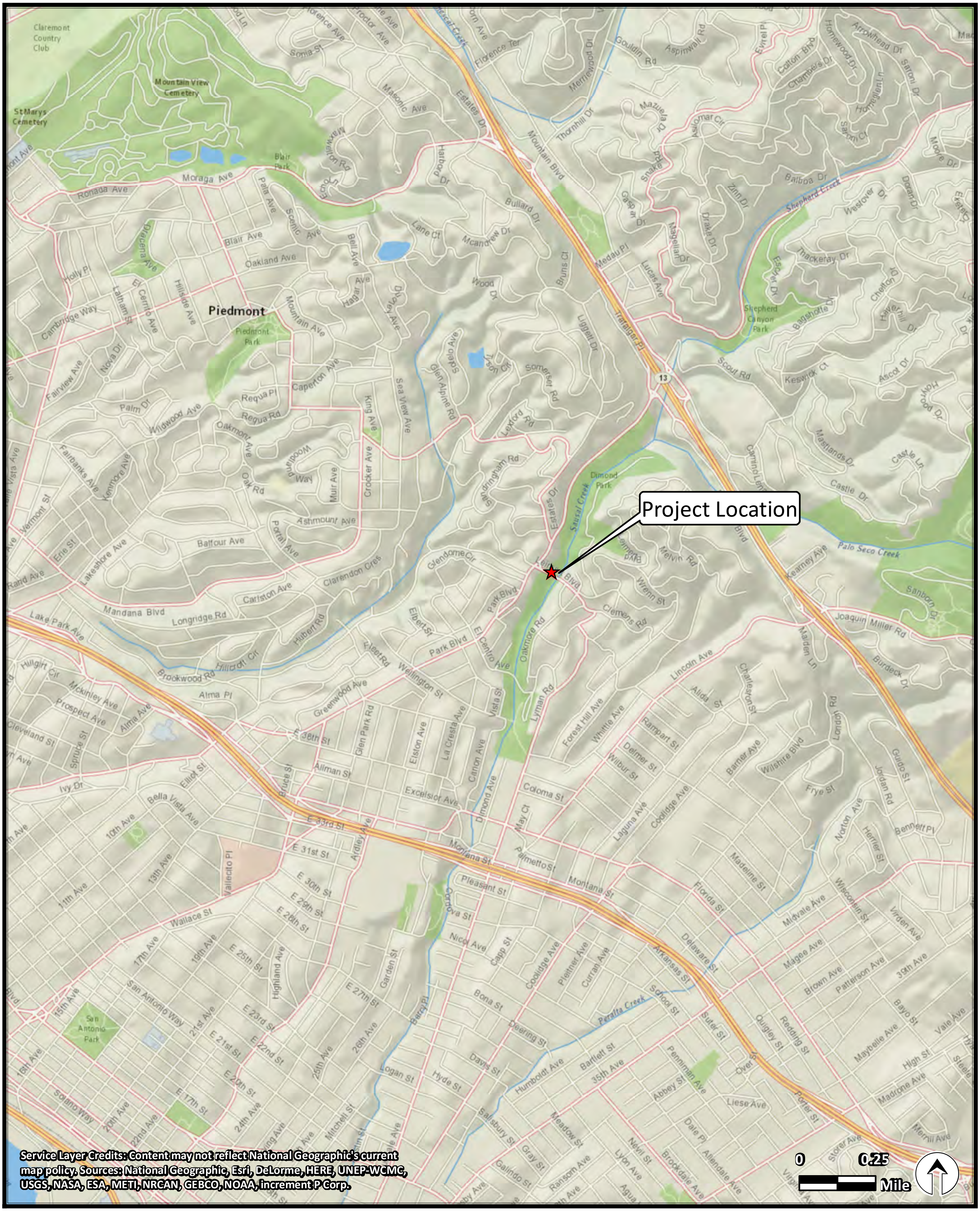
STANDARD CONDITIONS OF APPROVAL	CONDITION IMPLEMENTATION/ MONITORING	
	SCHEDULE	RESPONSIBILITY
iv. Incorporation of architectural or design elements or features to discourage graffiti defacement in accordance with the principals of Crime Prevention Through Environmental Design (CPTED). v. Other practices 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).		
Water Quality Memorandum		
SCA No. 53 Vegetation Management on Creekside Properties Refer to the "Supplemental Natural Environment Study" section for SCA details.		
SCA No. 54 Creek Protection Plan Refer to the "Supplemental Natural Environment Study", Section for SCA details.		

Attachment B: Figures



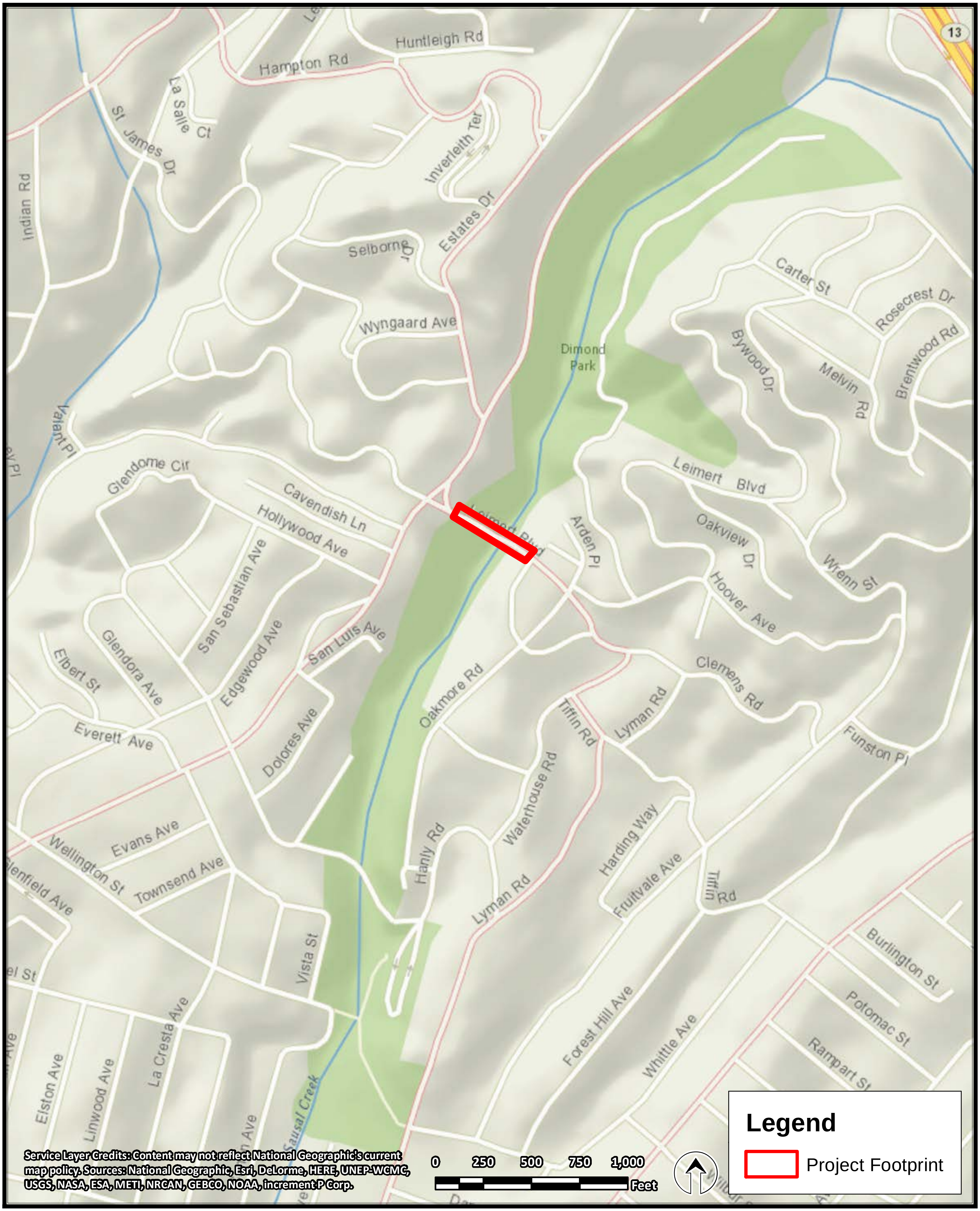
CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Road Bridge Rehabilitation



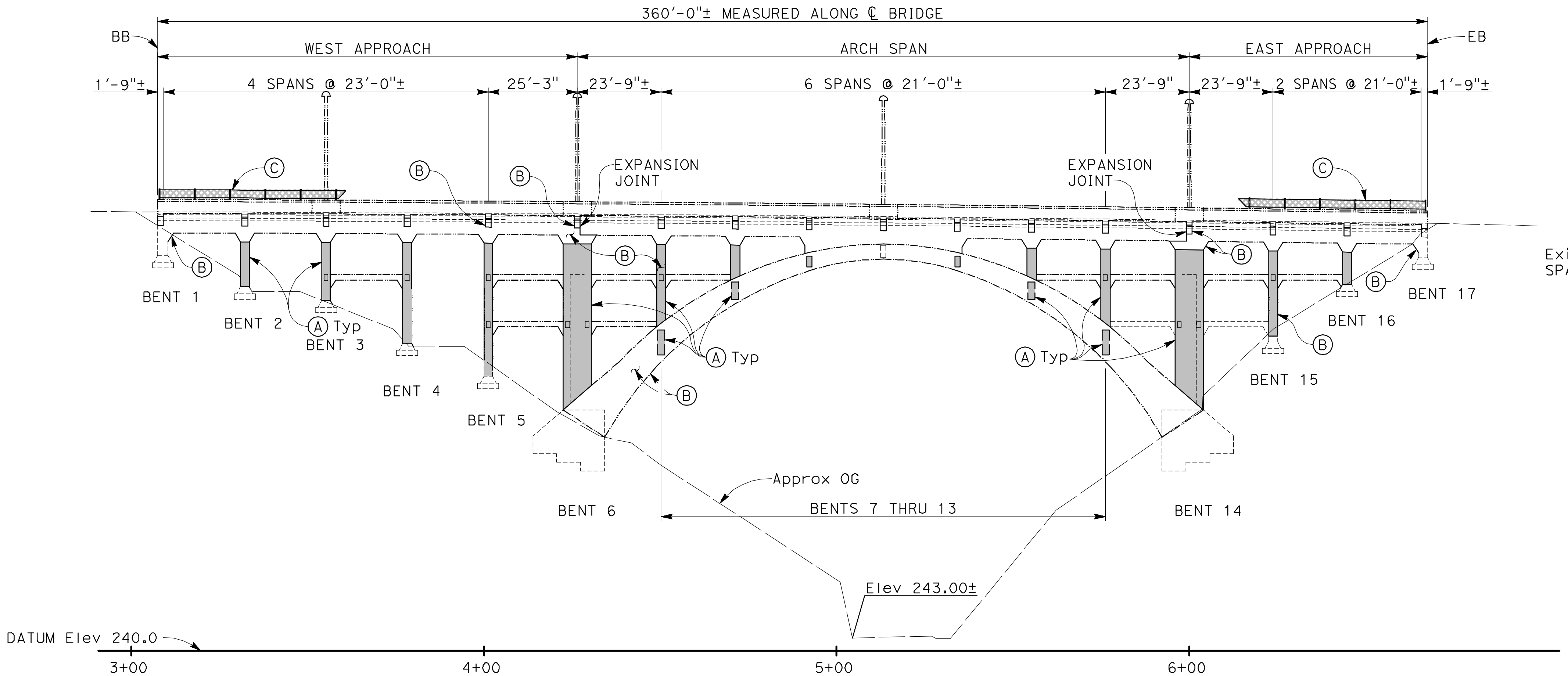
CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Road Bridge Rehabilitation



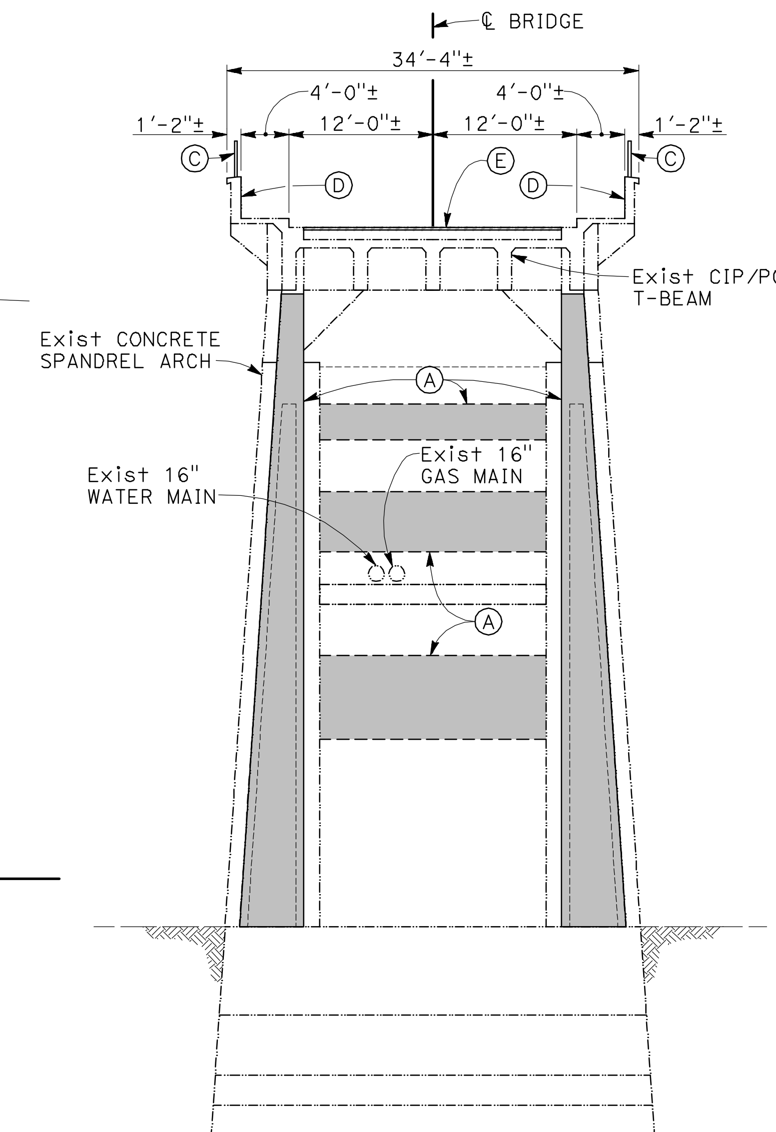
CITY OF OAKLAND

FIGURE 3. PROJECT FOOTPRINT
Leimert Road Bridge Rehabilitation



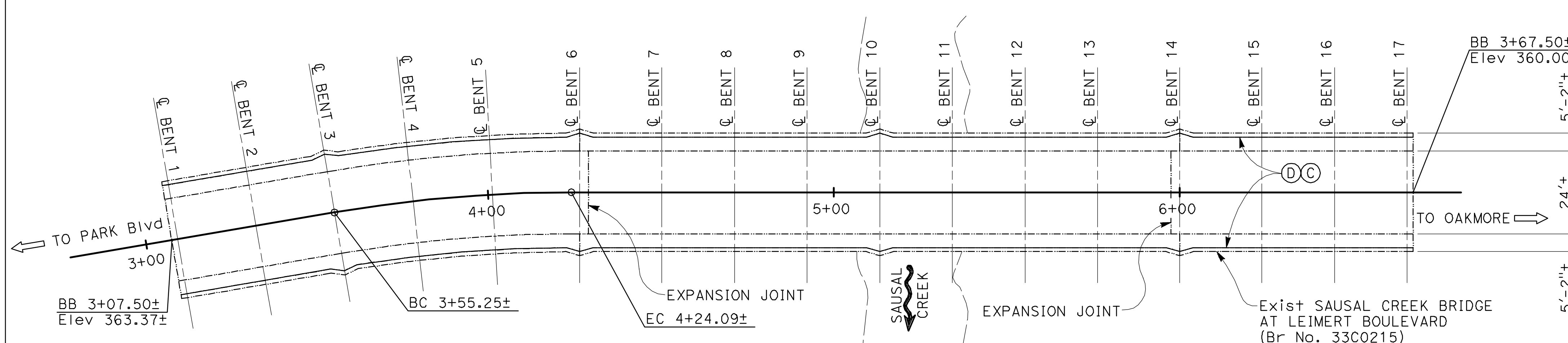
DEVELOPED ELEVATION

1" = 20'



TYPICAL SECTION

1/8" = 1'-0"



Curve Data
R = 406.60'±
Δ = 09°42'±
T = 34.50'±
L = 68.84'±

PLAN

1" = 20'

NOTES:

(A) Indicates limits of carbon fiber reinforced polymer composite casing system
(B) Repair spalled surface area
(C) Repair exist chain link railing
(D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating
(E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:
- - - - Indicates Existing Structure
⇨ Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/3/17)

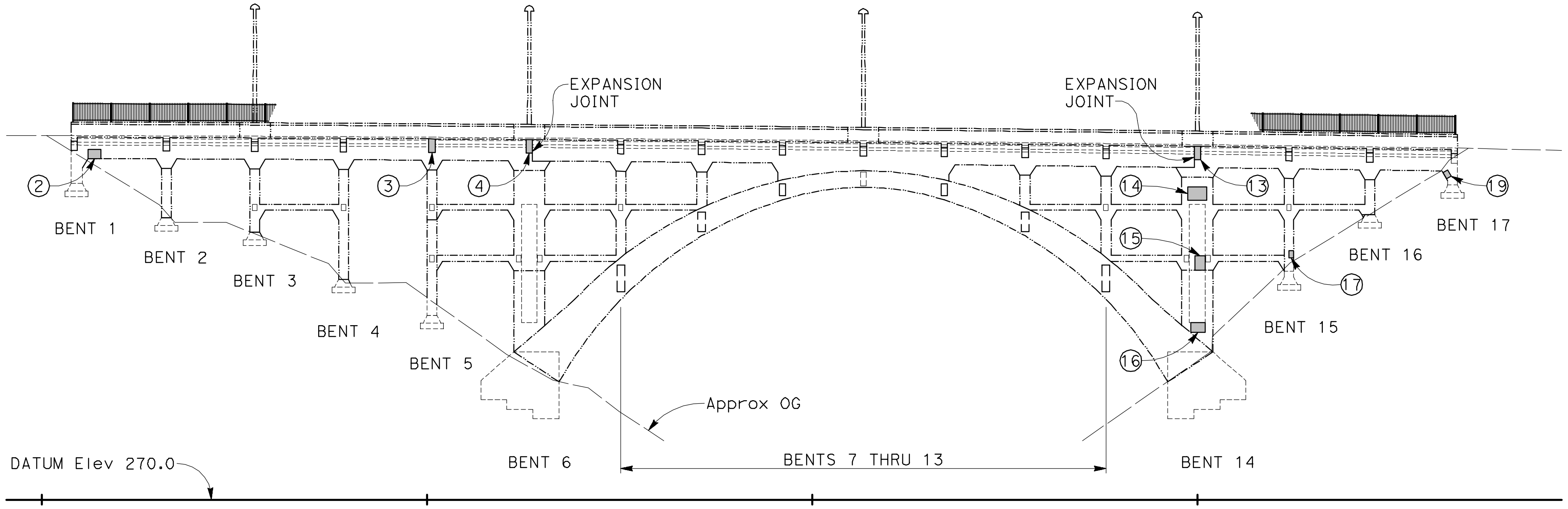
DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

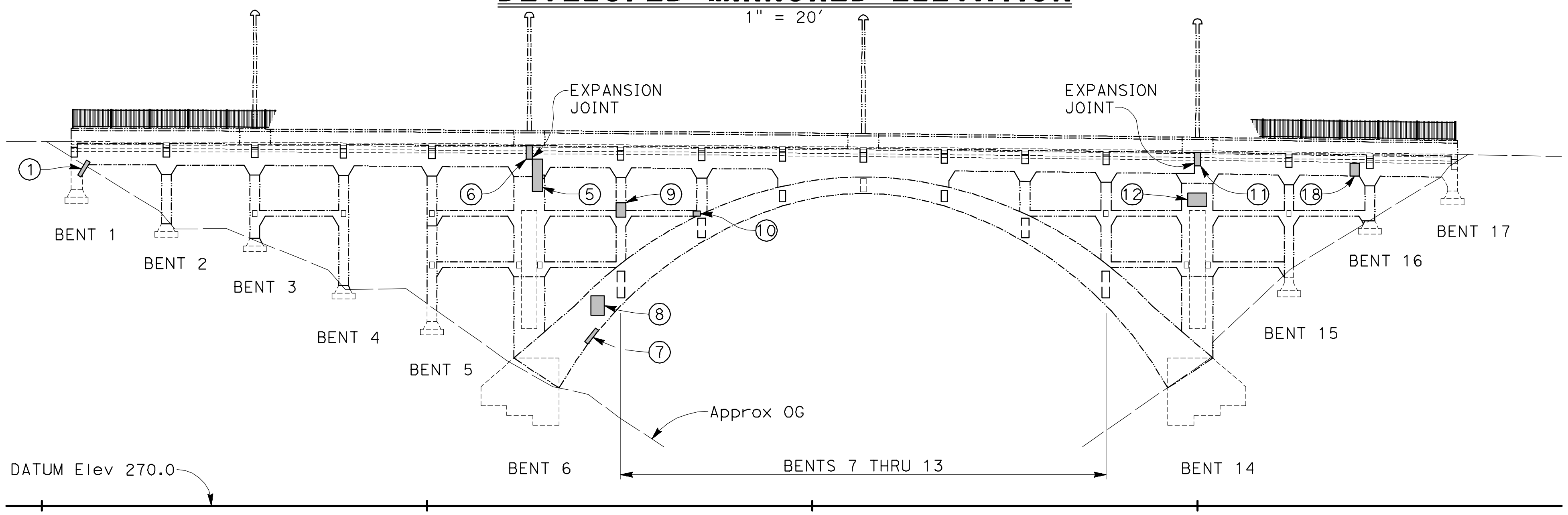
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

GENERAL PLAN
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

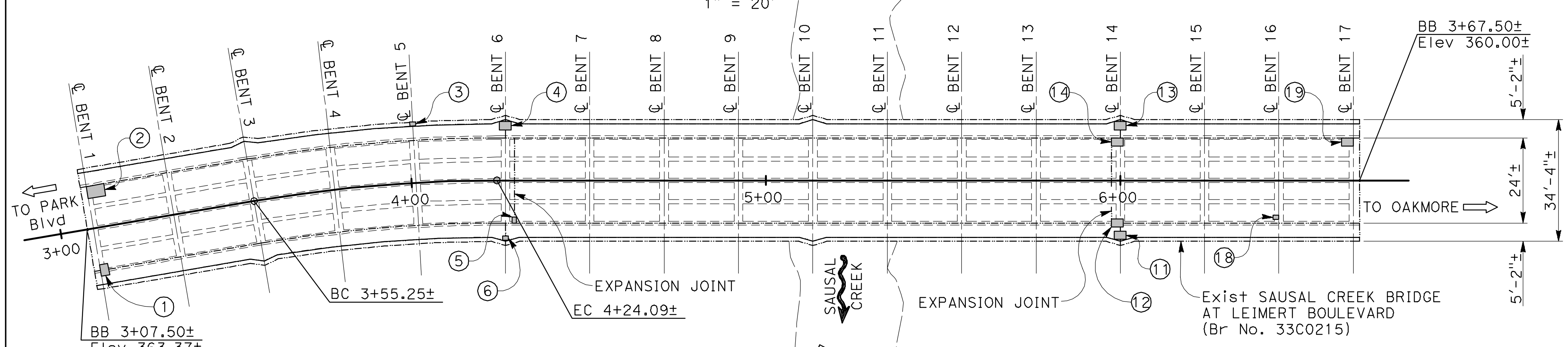
SHEET NUMBER
S-1
OF SHEETS
DRAWING NO.
2016051-1
2016051 (2016051S1)



DEVELOPED MIRRORED ELEVATION
1" = 20'



DEVELOPED ELEVATION
1" = 20'



PLAN
1" = 20'

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

SUMMARY OF SPALLED SURFACE AREAS

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/22/17)

DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN
BY
DESCRIPTION
0
REV. DATE

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA
(2016051S2)

SHEET NUMBER
S-2
OF SHEETS
DRAWING NO.
2016051-2
2016051

Attachment C: Air Quality Exemption Documentation

Nicole Ackerman

From: Rabahat, Nader <NRabahat@oaklandnet.com>
Sent: Friday, January 23, 2015 5:12 PM
To: 'fms@mtc.ca.gov'; 'hbrazil@mtc.ca.gov'
Cc: Heredia, Jaime; Barati, Mohammad N.
Subject: RE: FMS POAQC Project TIP ID ALA110081 (Bridge #33C0215, Leimert Blvd, over Sausal Creek) update: Project is exempt

Thank you for the notification. I will forward the email to the project manager.

Please note that I'm no longer the manger of this project. Mohammad Barati (copied to this email) is the project manager. Please update the records for this project.

Thanks again.

Nader Rabahat, P.E.
Project Manager/Civil Engineer, Streets Unit Bureau of Engineering & Construction, Engineering Design & ROW Mgmt. Division City of Oakland | Oakland Public Works Department | APWA Accredited
250 Frank H. Ogawa Plaza, Suite 4314 | Oakland, CA 94612
(510) 238-6605 | (510) 238-7227 Fax
nrabahat@oaklandnet.com

Report A Problem | Public Works Agency Call Center | (510) 615-5566 www.oaklandpw.com | pwacallcenter@oaklandnet.com | Mobile app: SeeClickFix

-----Original Message-----
From: fms@mtc.ca.gov [mailto:fms@mtc.ca.gov]
Sent: Friday, January 23, 2015 2:11 PM
To: Heredia, Jaime; Rabahat, Nader
Cc: fms@mtc.ca.gov; hbrazil@mtc.ca.gov
Subject: FMS POAQC Project TIP ID ALA110081 (Bridge #33C0215, Leimert Blvd, over Sausal Creek) update: Project is exempt

Dear Project Sponsor

The Air Quality Conformity Task Force has reviewed and concurred that project TIP ID ALA110081 (FMS ID:5221.00) is exempt. As the project sponsor, you are receiving this email notifying you that the project is exempt from PM2.5 project level conformity requirements. Please save this email as documentation of completing the PM2.5 project level conformity process.

If there are any questions regarding the status of the project, please direct them to Harold Brazil at hbrazil@mtc.ca.gov or by phone at (510) 817-5747

Attachment D: Supplemental Natural Environment Study

Leimert Boulevard Bridge Seismic Retrofit Project ***NES***

Supplemental Natural Environment Study

STATE OF CALIFORNIA

Department of Transportation

City of Oakland

04-ALA-BR 33C-0215

STPLZ-5012(124)

May 2018

Supplemental Natural Environment Study

STATE OF CALIFORNIA

Department of Transportation

City of Oakland

Prepared By: Dawn Cunningham Date: June 26/18

Dawn Cunningham, Associate Biologist
(310) 792-2690
GPA Consulting
2600 Capital Avenue, Suite 100
Sacramento, CA 95816

Approved By: M. M. Barati Date: 7/2/18

Mohammad Barati, Project Manager
(510) 238-7280
City of Oakland – Public Works Agency
250 Frank Ogawa Plaza, Suite 4314
Oakland, CA 94612

Recommended for Approval By: Dan Rivas Date: 7/2/18

Dan Rivas, Environmental Planner
(510) 286-5250
Caltrans District 4, Local Assistance
P.O. Box 23660, Mail Station 10-B
Oakland, CA 94623-0660

Approved By: T Holstein Date: 2 July 2018

Tom Holstein, Senior Environmental Planner
(510) 286-6371
Caltrans District 4
P.O. Box 23660, Mail Station 10-B
Oakland, CA 94623-0660

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans District 4, Attn: Dan Rivas 111 Grand Avenue, Oakland CA 94612; 286-5250 (Voice), or use the California Relay Service TTY number, (800) 735-2929 (Voice) or use California Relay Service 1 (800) 735-2922 (TTY), or 711.

Summary

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see **Figure 1**). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek (creek), as well as Dimond Canyon Park and the Dimond Canyon trail.

A Final Natural Environmental Study (NES) was completed for the project in January 2009 (URS, 2008b). The NES incorporated the findings of the Biological Assessment (BA), completed in May of 2008 (URS, 2008a). In 2009, a request was submitted to the United States Fish and Wildlife Service (USFWS) regarding the California red-legged frog (*Rana draytonii*), and the National Marine Fisheries Service (NMFS) regarding the steelhead central California coast Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*), to concur with findings that the project may affect, but would not likely adversely affect, these species. The USFWS concurred with the findings regarding the California red-legged frog, but the NMFS concluded that the project would have no effect on the central California coast steelhead.

Since the report was completed, minor changes to the project plans have been made, including a change in the seismic retrofit strategy for the bridge, as well as the addition of a six-foot-wide construction path to mobilize construction equipment for seismic repairs under the bridge from a staging area along Park Boulevard. The access road changes are outside of the Biological Study Area (BSA) included in the 2008 NES. In addition, 10 years have passed since the NES was finalized, and there is potential that existing conditions may have changed in the project area. The purpose of this 2018 Supplemental NES is to provide an update on the biological conditions within the project area, and supplement the analysis on potential project impacts and avoidance, minimization, and mitigation measures included in the 2008 NES.

The existing habitat within the BSA has not changed substantially since the 2008 NES was completed. Two vegetation communities, California bay forest and woodland habitat, were classified in the 2008 NES, based on the Holland 1986 community descriptions. Vegetation communities in this Supplemental NES were classified using *A Manual of California Vegetation, 2nd Edition* (Sawyer and Keeler-Wolf, 2008). As a result, the California bay forest and woodland habitat was reclassified as the *Umbellularia Californica Acacia* Forest Alliance. The nomenclature for the *Umbellularia Californica Acacia* Forest Alliance vegetation community is equivalent to that identified in the 2008 NES as California bay forest and woodland habitat under Holland (1986). Cover classes in the BSA also include Open Water and Developed.

Based on recent 2018 state and federally species database searches, an additional 35 plant species which were not previously surveyed in the 2008 NES, were considered as part of the supplemental analysis. These include the California androsace (*Androsace elongata* ssp. *Acuta*), slender silver moss (*Anomobryum julaceum*), big-scale balsamroot (*Balsamorhiza macrolepis*), big tarplant (*Blepharizonia plumose*), Oakland star-tulip (*Calochortus umbellatus*), oastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*), Johnny-nip (*Castilleja ambigua* var. *ambigua*), Bolander's water-hemlock (*Cicuta maculata var. bolanderi*), Franciscan thistle

(*Cirsium andrewsii*), Santa Clara red ribbons (*Clarkia concinna* ssp*. automixa*), Tiburon buckwheat (*Eriogonum luteolum* var*. caninum*), Jepson's coyote-thistle (*Eryngium jepsonii*), San Joaquin spearscale (*Extriplex joaquinana*), minute pocket moss (*Fissidens pauperculus*), stinkbells (*Fritillaria agrestis*), blue coast gilia (*Gilia capitata* ssp*. chamissonis*), dark-eyed gilia (*Gilia millefoliata*), congested-headed hayfield tarplant (*Hemizonia congesta* ssp*. congesta*), hogwallow starfish (*Hesperevax caulescens*), water star-grass (*Heteranthera dubia*), coast iris (*Iris longipetala*), Carquinez goldenbush (*Isocoma arguta*), southern California black walnut (*Juglans californica*), bristly leptosiphon (*Leptosiphon acicularis*), Hall's bush-mallow (*Malacothamnus hallii*), Oregon meconella (*Meconella oregana*), woodland woollythreads (*Monolopia gracilens*), Antioch Dunes evening-primrose (*Oenothera deltoides* ssp. *howellii*), Michael's rein orchid (*Piperia michaelii*)*,* hairless popcornflower (*Plagiobothrys glaber*), Marin knotweed (*Polygonum marinense*), Lobb's aquatic buttercup (*Ranunculus lobbii*), slender-leaved pondweed (*Stuckenia filiformis* ssp*. alpine*), San Francisco owl's-clover (*Triphysaria floribunda*), and oval-leaved viburnum (*Viburnum ellipticum*).

Consistent with the 2008 NES, and 2017 and 2018 biological surveys, only one special-status plant species, the western leatherwood (*Dirca occidentalis*), has the potential to be in the project area. The western leatherwood is ranked at 1B.2 (plants rare, threatened or endangered in California and elsewhere; fairly endangered in California) on the CNPS California Rare Plant Ranking System. With the implementation of existing avoidance and minimization measures, no adverse impacts on western leatherwood are anticipated.

Based on recent 2018 state and federally species database searches, eight additional special status wildlife species, which were not previously surveyed for as part of the 2008 NES, were considered as part of the supplemental analysis. These include the western bumble bee (*Bombus occidentalis*), Coast Range newt (*Taricha torosa*), oak titmouse (*Baeolophus inornatus*), American peregrine falcon (*Falco peregrinus anatum*), osprey (*Pandion haliaetus*), rufous hummingbird (*Selasphorus rufus*), yellow warbler (*Setophaga petechi*), and Lawrence’s goldfinch (*Spinus lawrencei*).

Consistent with the 2008 NES, the 2017 and 2018 surveys confirmed there is potential for 12 special status wildlife species with the potential to be within the project area, including the monarch butterfly - California overwintering population (*Danaus plexippus* pop. 1), foothill yellow-legged frog (*Rana boylii*), California red-legged frog (*Rana draytonii*), western pond turtle (*Emys marmorata*), Cooper's hawk (*Accipiter cooperii*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*)**,** fringed myotis (*Myotis thysanodes*), yuma myotis (*Myotis yumanensis*), and long-legged myotis (*Myotis volans*). With the implementation of existing and additional avoidance and minimization measures, no adverse impacts on the above special status wildlife species are anticipated.

This 2018 Supplemental NES is consistent with the determination made in the 2008 NES, and 2009 concurrence letter from the USFWS, that, with implementation avoidance and minimization measures, the project may affect, but not likely to adversely affect the California red-legged frog. This 2018 Supplemental NES is consistent with the 2009 determination by the NMFS that, with implementation avoidance and minimization measures, the project would have no effect on the central California coast steelhead and no effect on Essential Fish Habitat (EFH) for any fish species managed under the Magnuson-Steven's Act.

The 2008 NES analyzed the foothill yellow-legged frog; however, since 2008, this species' status has been elevated from a state species of special concern to a state endangered candidate. This 2018 Supplemental NES is consistent with the 2008 NES findings that the foothill yellow-legged frog has the potential to be in the BSA. However, with implementation of measures to avoid and minimize potential impacts on foothill yellow-legged frog, adverse impacts, including take of this species, are not anticipated; therefore, an incidental take permit (ITP) is not anticipated.

Consistent with the 2008 NES, project activities have the potential to affect migratory birds under the Federal Migratory Bird Treaty Act (MBTA) and bats protected under the California Fish and Game Code. However, with the implementation of the City's Standard Conditions of Approval (SCA) on Tree Removal During Bird Breeding Season, and additional measures to avoid and minimize potential impacts, adverse impacts on migratory birds and bats are not expected.

Construction of the access road and bridge repairs would require removal and/or trimming of native and non-native trees within the BSA. To avoid and/or minimize potential impacts on City protected trees, the City's Tree Protection Ordinance would be implemented.

Consistent with the 2008 NES, it was determined that USACE authorization under Section 404 of the Clean Water Act (CWA) would not be required for the project because project activities would not involve the discharge of dredged or fill material into waters of the United States. It was also determined that a Lake or Streambed Alteration Agreement (SAA) from CDFW was not required for the project because no disturbance to riparian habitat from seismic retrofit activities would be expected. Changes to the project have not resulted in any changes to these determination, because no work would be conducted within the creek or its associated riparian corridor, and with the implementation of the City's SCA for Hydrology and Water Quality, impacts on jurisdictional areas are not anticipated.

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List of Abbreviated Terms

AC	Asphalt Concrete
BA	Biological Assessment
BMPs	Best Management Practices
BIOS	Biogeographic Information and Observation System
BSA	Biological Study Area
Caltrans	California Department of Transportation
CFRP	Carbon Fiber Reinforced Polymer
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
DBH	Diameter at Breast Height
DPS	Distinct Population Segment
F	Fahrenheit
FHWA	Federal Highway Administration
FESA	Federal Endangered Species Act
FP	Fully Protected
GIS	Geographical Information System

ITP	Incidental Take Permit
JARPA	Joint Aquatic Resources Permit Application
LPAB	Landmarks Preservation Advisory Board
LSSRP	Local Seismic Safety Retrofit Program
MSA	Magnuson-Stevens Act
MBTA	Migratory Bird Treaty Act
NOI	Notice of Intent
NES	Natural Environmental Study
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NRHP	National Register for Historic Places
NWI	USFWS National Wetlands Inventory
OHWM	Ordinary High Water Mark
PM	Post Mile
SCA	Standard Conditions of Approval
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board
RWQCB	Regional Water Quality Control Board
U.S.	United States
USACE	United States Army Corps of Engineers
U.S. EPA	United States Environmental Protection Agency

USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirements
WL	Watch List

Chapter 1 – Introduction

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see **Figure 1**). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (see **Figure 2**).

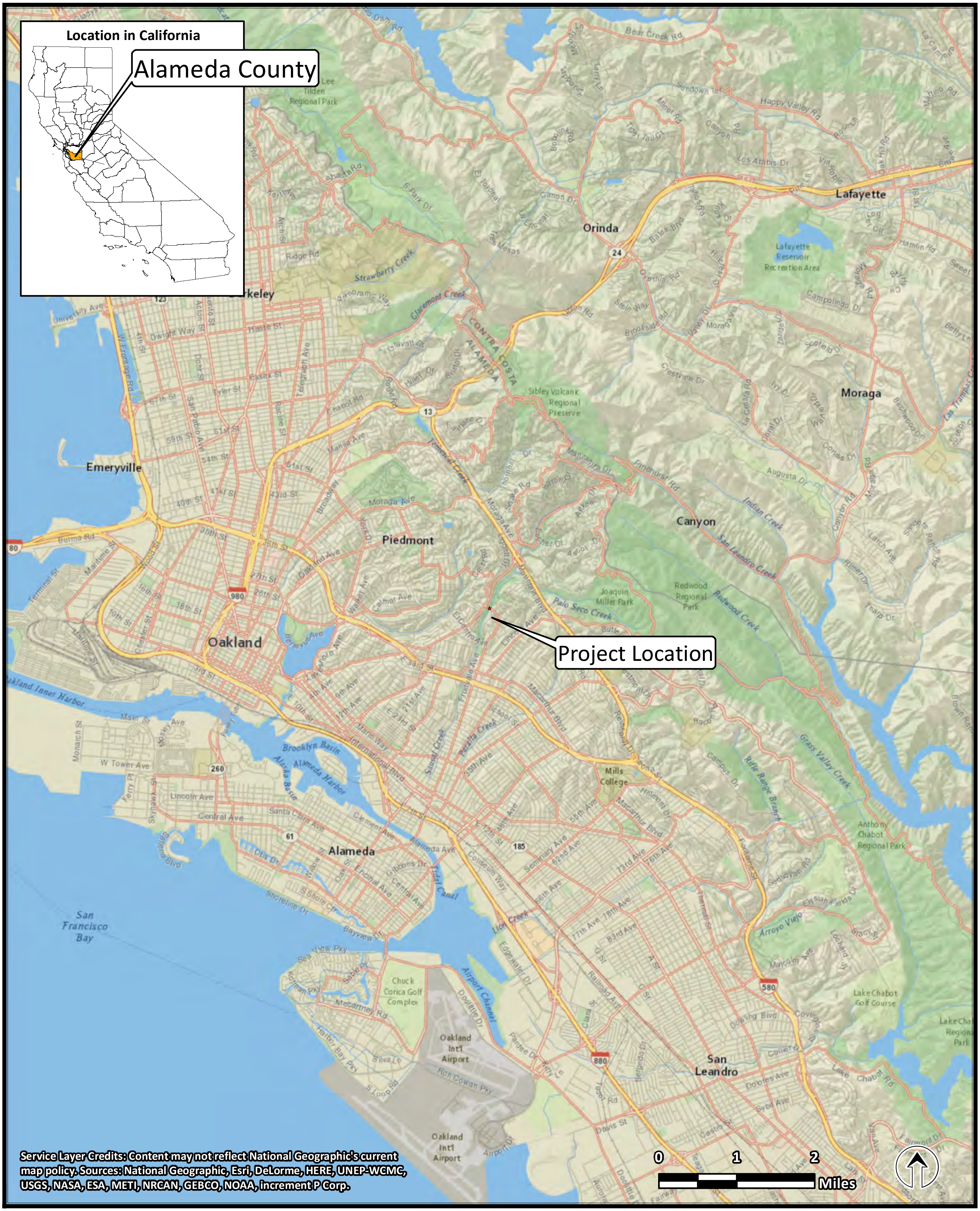
A Final Natural Environmental Study (NES) was completed for the project in January 2008 (URS, 2008b). The NES incorporated the findings of the Biological Assessment (BA), completed in May of 2008. Since the report was completed, minor changes to the project plans have been made, including a change in the seismic retrofit strategy for the bridge, and, the addition of an access road underneath the bridge to mobilize construction equipment for seismic repairs, and a staging area along Park Boulevard. The access road would be outside of the Biological Study Area (BSA) included in the 2008 NES. In addition, 10 years have passed since the NES was finalized, and there is potential that existing conditions may have changed in the project area. The purpose of this Supplemental NES is to provide an update on the biological conditions within the project area, and supplement the analysis on potential project impacts and avoidance, minimization, and mitigation measures included in the 2008 NES.

1.1 Project History

Seismic retrofit of the bridge was proposed in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake, and a design was completed by URS Greiner Inc. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements, process the environmental California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) clearances, certify the required right of way, and issue the project for bid. However, during the course of the environmental review, the State Historic Preservation Office (SHPO) and the Landmarks Preservation Advisory Board (LPAB) concluded that the proposed bridge retrofit would have a significant impact under CEQA on the historic status of the bridge and, therefore, rejected the proposed retrofit plans. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge’s landmark status and historic integrity. The City is the Lead Agency pursuant to CEQA. Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to NEPA.

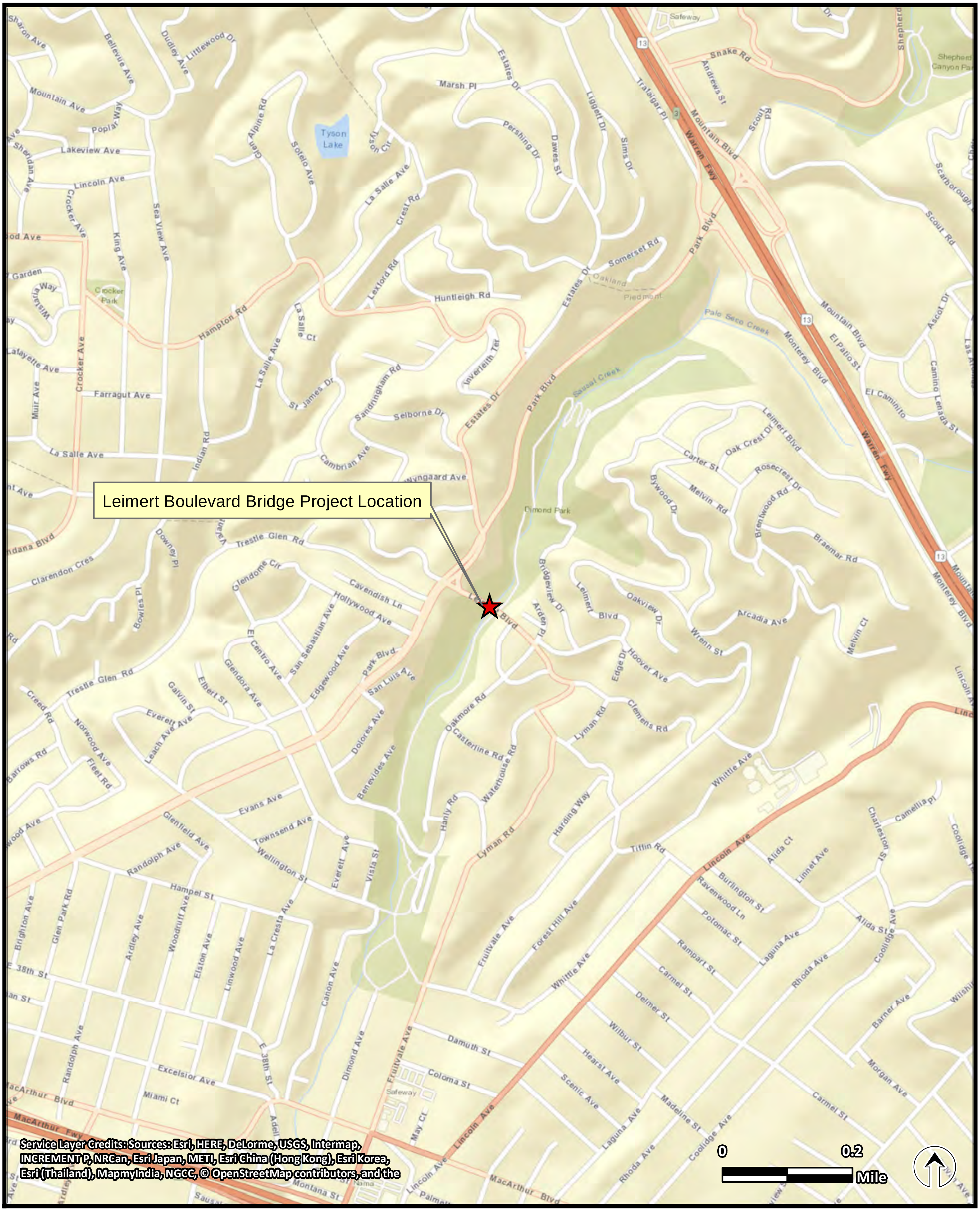
1.2 Project Purpose and Need

The project area is in a region of relatively high seismicity, and is less than a mile southwest of the Hayward Fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event.



CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project



CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete (AC) overlay, which shows heavy cracking in both longitudinal and transverse direction. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the reinforcement inside.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or materials from falling off the bridge.

1.3 Project Description

1.3.1 EXISTING BRIDGE

The Leimert Boulevard Bridge was constructed in 1926 by developer Walter H. Leimert to connect the Piedmont community on the northwest side of Diamond Canyon Park and Oakland hills on the southeast side of the canyon. The bridge was designed by George Posey, who designed notable structures in Oakland. The bridge was constructed in 1926, and was designated as a landmark in 1980 by the LPAB. The bridge has also been determined eligible for listing on the National Register for Historic Places (NRHP). When it was built, it was the largest single span bridge on the west coast. It became a City of Oakland landmark in 1980.

The bridge is a 357-foot long open spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge.

The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, include primarily residences, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge.

1.3.2 PROPOSED PROJECT

The following improvements are proposed:

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.
- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.
- Localized “shotcrete” would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.
- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.
- Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.
- The chain link fence on the bridge deck would be repaired or replaced.
- A construction access path from the Park Boulevard staging area would join the existing dirt Dimond Canyon trail, which traverses underneath Leimert Bridge. The construction access path would be necessary to haul in construction equipment required to seismically retrofit the bridge.

1.4 Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Areas under the bridge would be accessed by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane closures would be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane closures would be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge would remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap; therefore, the main would need to be temporarily supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, would be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine months, and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

- Mobilization (Five days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Clean Expansion Joint (Five days);
- Shotcrete Footing Slope Paving (Five days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (10 days).

Measures for preventing material, equipment, and debris from falling into the creek would be implemented during construction.

Chapter 2 – Study Methods

The following discussion provides a summary of federal, state, and local laws and regulations pertaining to sensitive and/or protected species, their habitats, and waterways within or near the Biological Study Area (BSA).

2.1 Regulatory Requirements

2.1.1 CLEAN WATER ACT

The United States Army Corps of Engineers (USACE) regulates the placement of dredged and fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA). The limits of USACE jurisdiction extend to the ordinary high-water mark of waters. No discharge of dredged or fill material into jurisdictional features is permitted unless authorized under an USACE Nationwide Permit or Individual Permit. For all work subject to a USACE Section 404 permit, project proponents must obtain a Water Quality Certification from the applicable Regional Water Quality Control Board (RWQCB) under CWA Section 401 stating that the project would comply with applicable water quality regulations.

Waters of the United States

The USACE Regulatory Program regulates activities within federal wetlands and waters of the United States (U.S.) pursuant to Section 404 of the CWA. Waters of the U.S. are divided into several categories as defined by the Code of Federal Regulations (CFR). Under the CFR (CFR 33 Section 328.3), waters of the U.S. include, but are not limited to:

1 All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;

2 All interstate waters including interstate wetlands; and

3 All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats; sand flats; wetlands; sloughs; prairie potholes; wet meadows; playa lakes; or natural ponds where the use, degradation, or destruction of which could affect interstate or foreign commerce. This includes any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes, and from which fish or shellfish could be taken and sold in interstate or foreign commerce, or which are used or could be used for industrial purposes in interstate commerce.

In streams and rivers where adjacent wetlands are absent, the USACE jurisdiction extends to the ordinary high water mark (OHWM). The OHWM is defined as “the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR Section 328.3[e]). If the OHWM is not readily distinguishable, the USACE jurisdiction within streams extends to the “bankfull discharge” elevation, which is the level at which water begins to leave the channel and move into the floodplain (Rosgen, 1996). This level is reached at a discharge which generally has a recurrence interval of approximately 1.5 to two years on the annual flood series (Leopold, 1994).

In 2015, the USACE and United States Environmental Protection Agency (USEPA) published the Clean Water Rule, which more clearly defined waters of the U.S. The intent of the rule was to make the definition of waters of the U.S easier to understand, more predictable, and more consistent with current science, while better protecting waters of the U.S. The rule went into effect on August 28, 2015; however, on October 9, 2015, the U.S. Court of Appeals for the Sixth Circuit stayed the Clean Water Rule nationwide pending further action of the court. In response, the USACE and U.S. EPA resumed using the prior regulations defining waters of the U.S. This report uses the current definition of waters of the U.S., provided above.

Federal wetlands are transitional areas between well-drained upland habitats and permanently flooded (deepwater) aquatic habitats and are defined differently by different resource agencies. The USACE and the EPA define wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR Section 328.3[b]).

Waters of the State

The term “waters of the state,” under jurisdiction of the RWQCB, is defined by California Water Code as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code Section 13050(e)).

Currently, the RWQCB relies upon the definition used in the CWA to define wetlands. However, the State Water Resources Control Board (SWRCB) is in the process of redefining wetlands as part of their proposed *Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB, 2017). The new definition, which is currently not adopted, is “an area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.” This report uses the current definition of wetlands.

2.1.2 FEDERAL ENDANGERED SPECIES ACT

The Federal Endangered Species Act (FESA) was established in 1973 to provide a framework to conserve and protect endangered and threatened species and their habitat. Section 10 of the FESA allows for the “incidental take” of endangered and threatened wildlife species by non-federal entities. Incidental take is defined by the FESA as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Section 10(a)(1)(B) of the FESA authorizes the taking of federally listed wildlife or fish through an incidental take permit. Section 10(a)(2)(A) of the FESA requires an applicant for an incidental take permit to submit a conservation plan that specifies, among other things, the impacts likely to result from the taking of the species, and the measures the permit applicant will take to minimize and mitigate impacts on the species.

2.1.3 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (50 CFR Part 10 and Part 21) protects migratory birds, their occupied nests, and their eggs from disturbance and/or destruction. “Migratory birds” include all nongame, wild birds found in the U.S. except for the house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and rock pigeon (*Columba livia*).

2.1.4 CALIFORNIA FISH AND GAME CODE

Section 1602 of the California Fish and Game Code governs construction activities that substantially divert or obstruct natural stream flow or substantially change the bed, channel, or bank of any river, stream, or lake under the jurisdiction of California Department of Fish and Wildlife (CDFW). Under the California Fish and Game Code, the limits of CDFW’s jurisdiction within streams and other drainages extends from the top of the stream bank to the top of the opposite bank, to the outer drip line in areas containing riparian vegetation, and/or within the 100-year floodplain of a stream or river system containing fish or wildlife resources. Streams are defined in the California Code of Regulations (CCR) (14 CCR Section 1.72) as “a body of water that follows at least periodically or intermittently through a bed or channel having banks and that support fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” Under Section 1602, a Streambed Alteration Agreement must be issued by the CDFW prior to the initiation of construction activities that may substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel, or bank, of any river, stream, or lake; or deposit debris, waste, or other materials that could pass into any river, stream, or lake under CDFW’s jurisdiction.

The CDFW has jurisdictional authority over waters of the state, including wetlands. In practice, CDFW follows the United States Fish and Wildlife Service (USFWS) definition of wetlands in Cowardin’s Classification of Wetlands and Deepwater Habitats of the United States: “Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year" (Cowardin et al. 1979).

Section 2126 of the California Fish and Game Code states that it is unlawful for any person to take any mammal that are identified within Section 2118, including all species of bats.

Sections 3503, 3513, and 3800 of the California Fish and Game Code prohibit the take of birds protected under the MBTA and protects their occupied nests. State-listed species and those petitioned for listing by the CDFW are fully protected under the California Endangered Species Act (CESA). Under Section 2080.1 of the California Fish and Game Code, if a project would result in take of a species that is both federally and state listed, a consistency determination with the findings of the FESA determination is required. Under Section 2081, if a project would result in take of a species that is state-only listed as threatened or endangered, then an incidental take permit from the CDFW is required.

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code prohibit the take or possession of 37 fully protected bird, mammal, reptile, amphibian, and fish species. Each of the statutes states that no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to “take” the species, and states that no previously issued permit or licenses for take of the species “shall have any force or effect” for authorizing take or possession. The CDFW will not authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

2.1.5 PORTER COLOGNE ACT

The RWQCB also asserts authority over waters of the state under the Porter-Cologne Act, which establishes a regulatory program to protect water quality and to protect beneficial uses of state waters. The Porter-Cologne Act empowers the RWQCB to formulate and adopt a Water Quality Control Plan that designates beneficial uses and establishes such water quality objectives that in its judgment will ensure reasonable protection of beneficial uses. Each RWQCB establishes water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of water quality degradation. Dredge or fill activities with the potential to affect water quality in these waters must comply with Waste Discharge Requirements (WDR) issued by the RWQCB. Waters of the state are defined by the Porter-Cologne Act as any surface or subsurface water or groundwater, including saline waters, within the boundaries of the state.

2.1.6 WETLAND EXECUTIVE ORDER 11990

Wetland Executive Order 11990 was developed in 1977 to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. To meet these objectives, this order requires that federal agencies, in planning their actions, consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

2.1.7 EXECUTIVE ORDER 13112

Executive Order 13112 directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. This order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. The City of Oakland, as the project proponent, would be responsible for complying with Executive Order 13112 and ensuring that the project would not contribute to the spread of invasive species.

2.1.8 MAGNUSON-STEVENS ACT

The Magnuson-Stevens Act (MSA) is the primary law governing marine fisheries management in the U.S. federal waters. It was originally adopted to extend control of U.S. waters to 200 nautical miles in the ocean; to phase out foreign fishing activities within this zone; to prevent overfishing, especially by foreign fleets; to allow stocks to recover; and to conserve and mange fishery resources. The Act includes national standards for management and outlines the contents of fishery management plans. The MSA was amended in 1996 and established a new requirement to describe and identify Essential Fish Habitat (EFH) in each federal fishery management plan. EFH is defined as "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". Amended EFH regulations were issued by the NMFS in 2006.

2.1.9 STANDARD CONDITIONS OF APPROVAL

The Standard Conditions of Approval (SCA) were originally formed and adopted on November 3, 2008 and revised on April 11, 2017 by the Oakland City Council in accordance with CEQA Guidelines section 15183 and Public Resources Code section 21083.3, and incorporate development policies and standards from various plans, policies, and ordinances, which have been found to mitigate the effects on the environment. The SCA are applied to City projects as guidance for each condition and when it should be applied. If the SCA do not mitigate an effect on the environment substantially, the City will determine the mitigation measures.

There are two parts of the SCA: 1) General Administrative Conditions and 2) Environmental Protection Measures. The General Administrative Conditions cover the approved plans, compliance with other requirements and regulations, changes to the approved project, compliance with conditions of approval, indemnification, construction management plan, and the Standard Conditions of Approval/Mitigation Monitoring and Reporting Program. The Environmental Protection Measures apply to all projects that require an authorization or a permit from any state, regional, or federal resource or permitting agency (i.e. RWQCB, Bay Area Air Quality Management District, CDFW, and USACE). The Environmental Protection Measures are broken into 12 different sections, each section provides conditions that every project applicant [contractor] must follow in order to comply with the SCA.

2.1.10 CITY OF OAKLAND'S TREE PROTECTION ORDINANCE

The City of Oakland Municipal Code 12.36, Protected Trees Ordinance, prohibits the removal of protected trees without a permit. A protected tree is defined as:

- Any coast live oak (*Quercus agrifolia*) four inches or larger in diameter, measured 4.5 feet above the ground, on public or private land.
- Any other species of tree excluding Eucalyptus (*Eucalyptus* spp.) and Monterey pines (*Pinus radiata*) nine inches in diameter or larger, measured 4.5 feet above the ground, on public or private land.

Eucalyptus trees are not protected and no permit is required. Monterey Pines are also not protected but the species must be verified prior to removal.

2.1.11 CITY OF OAKLAND'S PLANNING CODE

Oakland Planning Code Section 17.158 Environmental Review Regulations, Subsection 280(E)(2) identifies that tree removal permits are exempt from CEQA review "if no single tree to be removed has a diameter at breast height of 36 inches or greater, and the cumulative trunk area of all trees to be removed, not including hazardous trees, does not exceed 0.1 percent of the total lot area."

On February 26, 2018, the City of Oakland's Maurice Brenyah-Addow, Planner III, clarified in an email communication to GPA's Environmental Project Manager, Melissa Logue, that the term "the cumulative trunk area of all trees to be removed" in Oakland Planning Code Section 17.158.280(E)(2) is applied just to "protected trees," as defined in the City of Oakland's Tree Protection Ordinance.

For purposes of the proposed project, the City of Oakland Department of Public Works is applying the following as its CEQA threshold for determining the significance of tree removal associated with construction of the proposed project:

"The project would result in a significant impact from tree removal if it would result in the removal of any single tree with a diameter at breast height of 36 inches or greater, and/or if the cumulative trunk area of all protected trees to be removed, not including hazardous trees, would exceed 0.1 percent of the total lot area."

2.2 Studies Required

2.2.1 LITERATURE SEARCH

Prior to conducting the biological survey, the previously prepared environmental documents and literature created for the project were reviewed to identify any special status plants, wildlife, and/or sensitive habitats previously recorded within or near the BSA. In addition, updates database searches were conducted. Sources used to identify special status species and/or habitats with potential to be in or near the BSA include the following:

- Final Natural Environmental Study for the Leimert Boulevard Bridge Retrofit Project (City, 2008)
- Biological Assessment for the Leimert Boulevard Bridge Seismic Retrofit Project (City, 2008)
- The CDFW's California Natural Diversity Database (CNDDB) for the Briones Valley, Hayward, Hunters Point, Las Trampas Ridge, Oakland East, Oakland West, Richmond, San Leandro, and Walnut Creek 7.5-minute series topographic quadrangles (CDFW, 2018). A conservative 9-quad search was used to gather an initial list of special-status species to ensure that all species with potential to be in the BSA were considered, even if not previously recorded in the immediate vicinity of the BSA. Unprocessed data was included to help identify special status species and/or habitats with potential to be in or near the BSA (see **Appendix A**);
- The CDFW Biogeographic Information and Observation System (BIOS) database was queried to help determine the likelihood for the BSA to be used as a migratory wildlife corridor (BIOS, 2018);
- USFWS Information for Planning and Conservation Database (USFWS, 2018) (see

Appendix B);

- The Natural Resources Conservation Service (NRCS) Web Soils Survey for Alameda County, California, Western Part (NRCS, 2017);
- The California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants (CNPS, 2017);
- The USFWS National Wetlands Inventory (NWI) Mapper was queried to determine the potential for wetlands to be within the BSA; and
- The National Marine Fisheries Service (NFMS) database was queried for the West Coast Region of California in the Oakland East Quad, Number 37122-G2 (NMFS, 2018) (see **Appendix C**)

2.2.2 FIELD REVIEWS

A biological survey was conducted within the BSA following literature search reviews (CNDDB, NWI, NMFS, BIOS queries, and the USFWS species list) and a review of the previous studies prepared for the project (URS, 2008a and URS, 2008b). The BSA includes Leimert Boulevard approximately 100 feet to the east and west of the bridge, approximately 100 feet north and south of the bridge within the creek channel, and a 25-foot buffer from the edge of the roadway and creek banks (see **Figure 3**).

2.2.3 SURVEY METHODS

A biological survey was conducted in the BSA on May 23, 2017, between approximately 11:00 AM until 4:30 PM. During the survey, the weather was foggy and cool. The entire BSA was visually surveyed on foot, and all plant species, animal species, and vegetation communities were inventoried. A bat habitat assessment was also conducted. Where feasible, all observations were identified to species. Where field identification of plants was not possible, samples were taken for subsequent identification. An evening bat emergence survey was conducted at the bridge on May 23, starting at 8:00 PM, 20 minutes before sunset, and ending at approximately 9:03 PM, 43 minutes after sunset.

On March 29, 2018, a focused tree survey was completed within the anticipated construction access areas for the project. The purpose of the focused tree survey was to identify what protected trees, as defined by the City of Oakland's Tree Protection Ordinance, may require removal to accommodate construction of the project, and to identify the size and species of those trees. Anticipated construction access areas were identified by delineating approximately 6-foot-wide paths in areas northwest of the bridge where it is anticipated the construction contractor would most likely gain access to work areas underneath the bridge from the top of Dimond Canyon. Potential construction work areas were also surveyed from the east end of the bridge to the support columns underneath the bridge and along the sides of the bridge. Anticipated construction access areas and work areas were identified in cooperation with project engineers Mohammad Barati, Jing Lin, and Robert Yamane. Protected trees that could potentially be removed or trimmed were tagged, measured, identified as to species, and logged using Geographical Information System (GIS).

A focused survey for western leatherwood (*Dirca occidentalis*), was also performed on March 29, 2018. The focused survey for western leatherwood was conducted by surveying areas that would be impacted by construction by foot. Species observed in the BSA during the biological surveys are included in **Appendix D.** Nomenclature for common, widespread plants and animals conforms to Jepson eFlora (Jepson Flora Project, 2018) and the CNDDB.

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FIGURE 3. BIOLOGICAL STUDY AREA
Leimert Boulevard Bridge Seismic Retrofit Project

2.3 Personnel and Survey Dates

A biological survey was conducted in the BSA by GPA biologists Marieka Schrader and Dawn Cunningham on May 23, 2017. Representative photographs of the BSA were taken during the surveys and are included in **Appendix E**. A focused tree survey and a focused survey for the western leatherwood were performed on March 29, 2018 by GPA biologists Ms. Cunningham and Ms. Scudiere.

2.4 Agency Coordination and Professional Contacts

The following agency coordination was conducted during the completion of the 2008 Final NES by the City of Oakland (URS, 2008b):

- A draft Joint Aquatic Resources Permit Application (JARPA) to the USACE was submitted on April 20, 2006. USACE responded on June 5, 2006 with a determination that USACE authorization would not be required for the project because project activities would not involve the discharge of dredged or fill material into a water of the U.S.
- A copy of the draft JARPA was submitted to the NMFS in 2007. The NMFS had concerns over impacts on central California coast Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*) and recommended that potential impacts to the species be evaluated.
- On December 20, 2007, the NMFS cited work completed by Rob Leidy of the U.S. EPA that concluded presence of central California coast steelhead in Sausal Creek. The NMFS indicated concern over impacts on central California coast steelhead and recommended that potential impacts to the species from the proposed project be evaluated.
- The JARPA was submitted to the CDFW in March 2006. Correspondence from the CDFW on August 8, 2007 stated that a Notification of Lake or Streambed Alteration Agreement was not required for the project. In January 2008, CDFW indicated that pre-construction surveys for special status resources in the BSA must be completed no more than three days before construction.
- The JARPA was also submitted to the following agencies:
    - USFWS
    - San Francisco RWQCB
    - Alameda County Flood Control and Water Conservation District
    - City of Oakland Parks and Environmental Division
- A letter of concurrence from the NMFS was received on February 13, 2009, concurring with the 2008 NES findings that central California coast steelhead and other anadromous fish have no potential to be in the project area because of impassable barriers downstream in Sausal Creek (see **Appendix G**).
- A letter of concurrence from the USFWS was received on July 28, 2009, concurring with the 2008 NES findings that the proposed project may affect, but is not likely to adversely affect, the red-legged frog (see **Appendix G**).

- Updated CNDDB species lists were obtained on March 3, 2017 and January 30, 2018 to identify federally and state listed species with the potential to be in the BSA based on their geographical range. USFWS species lists were obtained on March 13, 2018 and February 8, 2018 for the same purpose.

2.5 Limitations That May Influence Results

Several locations within the BSA have slopes approximately 100 feet high at inclines greater than 45 degrees and are covered with dense understory vegetation consisting of Himalayan blackberry (*Rubus armeniacus*). The steep slopes along the hillsides were not accessible by foot; therefore, they were surveyed visually using binoculars. Because no construction activities would be conducted in the waterway, GPA did not conduct detailed vegetation mapping and wetlands delineations. No other limitations were identified that may influence results.

Chapter 3 – Results: Environmental Setting

3.1 Description of the Existing Physical and Biological Conditions

3.1.1 STUDY AREA

The BSA is in a residential area of Oakland. The BSA encompasses approximately 2.4 acres and includes the developed roadway, road shoulders, creek, hill slopes of Diamond Canyon Park, and adjacent land that could be impacted during project construction.

3.1.2 PHYSICAL CONDITIONS

Sasual Creek is directly below the bridge and is approximately 18 feet wide. Directly under the bridge, a segment of the creek is concrete lined with steps. There is a cement retaining wall along the southeast bank. Beyond the bridge, the creek is not concrete lined and consists of natural bank and rocky bottom. A 15-foot wide recreational path runs parallel along the southeast side of the creek.

Topography

The topography within the BSA is steep with canyon wall slopes ranging from 20 to 75 percent. The elevational gain on both sides of the canyon is approximately 120 feet, starting from 250 feet at the creek base and rising to 370 feet at the top of Leimert Boulevard.

Climate

The climate in the San Francisco Bay Area sub-region is defined as a Mediterranean-type climate, which is characterized as having moist mild winters and dry summers. The mean annual temperature for the City of Oakland is 59.2 degrees Fahrenheit (F). The mean annual precipitation (rainfall) is 23.99 inches (U.S. Climate Data, 2018).

Soils

The NRCS Custom Soil Resource Report for Alameda County, California, Western Part, identified three soil types within the BSA, including Maymen-Los Gatos Complex, 30 to 75 Percent Slopes; Xerorthents-Los Osos Complex, 30 to 50 Percent Slopes; and Xerorthents-Millsholm Complex, 30 to 50 Percent Slopes (see **Appendix H**).

The Maymen-Los Gatos Complex, 30 to 75 Percent Slopes are within 72 percent of the BSA southwest of Clemens Road and over Leimert Boulevard. The soil unit is composed of 50 percent Maymen and similar soils, 35 percent Los Gatos and similar soils, and 15 percent minor components. These soils are characterized as somewhat excessively drained with a water table depth of more than 80 inches. Maymen and Los Gatos soils are comprised of a layer of zero to 19 inches of loam, then a layer of unweathered bedrock to 23 inches. This soil unit is not hydric.

The Xerorthents-Millsholm Complex, 30 to 50 Percent Slopes are within 27 percent of the BSA northeast of Park Boulevard. The soil unit is comprised of 75 percent Xerorthents and similar soils, 20 percent of Millsholm and similar soils, and five percent of minor components. These soils are characterized as well drained with a water table depth of more than 80 inches. Xerorthents and Millshom soils are comprised of a layer of zero to 20 inches silt loam, then a layer of unweathered bedrock to 24 inches. This soil complex is not hydric.

The remaining one percent complex within the BSA is the Xerorthents-Los Osos Complex, 30 to 50 Percent Slopes west of the intersection between Leimert Place and Clemens Road. The soil unit is comprised of 70 percent Xerorthents and 20 percent Los Osos and similar soils, and 10 percent minor components. These soils are characterized as well drained with a water table depth of more than 80 inches. Xerorthents and Los Osos soils are comprised of a layer of zero to 10 inches clay loam, silty clay loam to 30 inches, and weathered bedrock to 34 inches. This soil complex is not hydric.

Hydrology

The BSA encompasses a portion of the Sausal Creek watershed. The watershed comprises 2,656 acres in Oakland, California. The creek's headwaters are located in Oakland Hills. The creek flows southward through the City of Oakland and discharges into the tidal canal that separates the island of Alameda and Oakland, before entering the San Francisco Bay. The creek is mostly open water in the hills and then runs through culverts as it approaches the San Francisco Bay. Sausal Creek is approximately 18 feet wide by is confined by a concrete retaining wall on its southeast side.

3.1.3 BIOLOGICAL CONDITIONS IN THE STUDY AREA

Vegetation Communities and Cover Classes

The vegetation community within the BSA is the *Umbellularia Californica Acacia* Forest Alliance. The nomenclature for the *Umbellularia Californica Acacia* Forest Alliance vegetative community is equivalent to that identified in the previous 2008 studies as California bay forest and woodland habitat under Holland (1986). Cover classes in the BSA include Open Water and Developed (see **Figure 4**).

***Umbellularia Californica Acacia* Forest Alliance**

The *Umbellularia Californica Acacia* Forest Alliance is co-dominated by California bay (*Umbellularia californica*) and silver wattle acacia (*Acacia dealbata*) in the tree canopy with bigleaf maple (*Acer macrophyllum*), California buckeye (*Aesculus californica*), white alder (*Alnus rhombifolia*), red alder (*Alnus rubra*), madrone (*Arbutus menziesii*), beaked hazel (*Corylus cornuta*), California black walnut (*Juglans californica*), tanoak (*Lithocarpus densiflorus)*, California foothill pine (*Pinus sabiniana*), California sycamore (*Platanus racemosa*), Douglas fir (*Pseudotsuga menziesii*), California live oak (*Quercus agrifolia*), canyon live oak (*Quercus chrysolepis*), interior live oak (*Quercus wislizeni*), and coast redwood (*Sequoia sempervirens*). The tree canopy is intermittent to continuous growing to heights of approximately 80 feet. The herbaceous understory is sparse to abundant and the shrub layer is open to intermittent.

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FIGURE 4. BIOLOGICAL RESOURCES
Leimert Road over Sausal Creek Beridge Retrofit Project

These stands are typically near the coast, preferring canyons, and in both mesic and riparian settings. Several tree species associated with the *Umbellularia Californica Acacia* Forest Alliance were absent from the forest alliance within the BSA because of ornamental and non-native species encroachment from surrounding development. Additional tree species observed in the canopy include cedar (*Cedrus* sp.), sweet gum (*Liquidambar styraciflua*), and mayten tree (*Maytenus boaris*). The canopy lacked California buckeye, madrone, beaked hazel, California black walnut, tanoak, California foothill pine, California sycamore, and Douglas fir. This alliance comprises the vegetative portion of the BSA.

Cover Classes

Developed

Developed areas are where human disturbance has resulted in permanent impacts on natural communities. These include paved areas, buildings, bridges, and other structures. Within the BSA, developed areas consist of the bridge, Leimert Boulevard, and a recreation path along the creek.

Open Water

The open water in the BSA is the creek. The creek contains riparian vegetation along its banks and the streambed is intermittent with either gravel and boulders or cement lining.

3.1.4 HABITAT CONNECTIVITY

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. A functional wildlife corridor allows for ease of movement between habitat patches. Corridors are important in preventing habitat fragmentation. Habitat fragmentation is typically caused by human development and can isolate wildlife populations, which leads to a decrease in genetic diversity and increases the risk of extirpations. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife movement. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations.

The land surrounding the BSA consists of residences, roads, and Diamond Canyon Park. According to the CDFW’s BIOS, there are no essential wildlife connectivity areas or natural landscape blocks in the project area. However, the creek and Diamond Canyon Park function as an area of habitat connecting wildlife populations within a developed area.

3.2 Regional Species and Habitats of Concern

CNDDB species lists were obtained on March 3, 2017 and January 30, 2018 to identify federally and state listed species with the potential to be in the BSA based on their geographical range (see **Appendix A**). USFWS species list was obtained on March 13, 2017 and February 8, 2018 and NMFS species list was obtained on February 21, 2018 for the same purpose. The following discussion describes the special-status plant and wildlife species with potential to be within the BSA based on their geographical range, presence of suitable habitat, and survey results (see **Appendix F**).

Determinations on whether special status species and other sensitive resources could be in the BSA are based on: 1) a record reported in the CNDDB and USFWS species lists, 2) the presence of suitable habitat, and 3) survey results.

3.2.1 NATURAL COMMUNITIES

According to the CNDDB search, three special status natural communities have the potential to be in the BSA based on geographical location, including Northern Coastal Salt Marsh, Serpentine Bunchgrass, and Valley Needlegrass. However, based on existing conditions observed during field surveys, the BSA is dominated by *Umbellularia Californica Acacia* Forest Alliance and there are no special-status natural communities within the project area. While there are no special status natural communities within the BSA, the creek is identified as a riverine wetland in the NWI.

3.2.2 SPECIAL STATUS PLANTS

According to the CNDDB and the USFWS list searches, 61 special status plant species have the potential to be in the BSA based on recorded geographical distribution (see **Appendix A**). Based on recent state and federally species database searches, habitat requirements, and survey results, 35 additional special status plants, which were not previously analyzed in the 2008 NES, have the potential to be in the BSA. These include the California androsace (*Androsace elongata* ssp. *Acuta*), slender silver moss (*Anomobryum julaceum*), big-scale balsamroot (*Balsamorhiza macrolepis*), big tarplant (*Blepharizonia plumose*), Oakland star-tulip (*Calochortus umbellatus*), oastal bluff morning-glory *(Calystegia purpurata* ssp*. saxicola*), Johnny-nip (*Castilleja ambigua* var*. ambigua*), Bolander's water-hemlock *(Cicuta maculata var. bolanderi*), Franciscan thistle (*Cirsium andrewsii*), Santa Clara red ribbons (*Clarkia concinna* ssp*. automixa*), Tiburon buckwheat (*Eriogonum luteolum* var*. caninum*), Jepson's coyote-thistle (*Eryngium jepsonii*), San Joaquin spearscale (*Extriplex joaquinana*), minute pocket moss (*Fissidens pauperculus*), stinkbells (*Fritillaria agrestis*), blue coast gilia (*Gilia capitata* ssp*. chamissonis*), dark-eyed gilia (*Gilia millefoliata*), congested-headed hayfield tarplant (*Hemizonia congesta* ssp*. congesta*), hogwallow starfish (*Hesperevax caulescens*), water star-grass (*Heteranthera dubia*), coast iris (*Iris longipetala*), Carquinez goldenbush (*Isocoma arguta*), southern California black walnut (*Juglans californica*), bristly leptosiphon (*Leptosiphon acicularis*), Hall's bush-mallow (*Malacothamnus hallii*), Oregon meconella (*Meconella oregana*), woodland woollythreads (*Monolopia gracilens*), Antioch Dunes evening-primrose (*Oenothera deltoides* ssp. *howellii*), Michael's rein orchid (*Piperia michaelii),* hairless popcornflower (*Plagiobothrys glaber*), Marin knotweed (*Polygonum marinense*), Lobb's aquatic buttercup (*Ranunculus lobbii*), slender-leaved pondweed (*Stuckenia filiformis* ssp*. alpine*), San Francisco owl's-clover (*Triphysaria floribunda*), and oval-leaved viburnum (*Viburnum ellipticum*).

Based on information on existing populations, required habitat, and the results of project level surveys, no new special status plant species have the potential to be in the BSA. The conditions in the BSA are consistent with what was reported in the 2008 NES; therefore, there is still the potential for the western leatherwood to be in the project area. A full species list with a discussion on the potential for each species to be in the BSA is in **Appendix E**.

3.2.3 SPECIAL STATUS ANIMALS

According to the CNDDB and the USFWS searches, 90 special status wildlife species have the potential to be in the BSA based on recorded geographical distribution (see **Appendix A**).

Consistent with the previous findings in 2008, there is potential for 12 special status wildlife species to be the BSA, including the monarch butterfly - California overwintering population (*Danaus plexippus* pop. 1), steelhead, foothill yellow-legged frog (*Rana boylii*), California red-legged frog (*Rana draytonii*), western pond turtle (*Emys marmorata*), and Cooper's hawk (*Accipiter cooperii*), pallid bat (*Antrozous pallidus*), fringed myotis (*Myotis thysanodes*), Townsend's big-eared bat (*Corynorhinus townsendii*), silver-haired bat (*Lasionycteris noctivagan*s), hoary bat (*Lasiurus cinereus*)**,** yuma myotis (*Myotis yumanensis*), and long-legged myotis (*Myotis volans*). In addition, based on recent state and federally species database searches, eight additional special status species not previously included in the 2008 NES, were considered as part of this supplemental NES. These include the western bumble bee (*Bombus occidentalis*), Coast Range newt (*Taricha torosa*), oak titmouse (*Baeolophus inornatus*), American peregrine falcon (*Falco peregrinus anatum*), osprey (*Pandion haliaetus*), rufous hummingbird (*Selasphorus rufus*), yellow warbler (*Setophaga petechi*), and Lawrence's goldfinch (*Spinus lawrencei*). Base on habitat requirements and survey results, all eight of these species have potential to be in the BSA. A full species list with a discussion on the potential for special status species to be in the BSA is in **Appendix E.**

Chapter 4 – Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Natural Communities of Special Concern

4.1.1 WETLANDS AND OTHER NON-WETLAND WATERS

Wetlands are transitional areas between well-drained upland habitats and permanently flooded (deepwater) aquatic habitats and are defined differently by different resource agencies. The creek falls under jurisdiction of the USACE; however, the USACE will have final authority and discretion as to whether this area meets the “significant nexus” criteria required to establish USACE jurisdiction over this waterway. The creek is also considered to be under jurisdiction of the RWQCB and CDFW.

Survey Results

The 2008 NES identified the creek as a natural waterway that is hydrologically connected to the San Francisco Bay, and expected to fall under USACE, RWQCB, and CDFW jurisdiction. No jurisdictional wetland features were identified in the BSA. The results of the 2017 surveys are consistent with the 2008 NES.

Project Impacts

The 2008 NES determined that the project would not result in any impacts on waters of the U.S. The 2008 NES identified that bridge improvement activities would be restricted to the bridge deck, upland areas outside the riparian zone, and elevated platforms outside of the creek. No work would be performed in the creek and no aquatic or riparian habitat would be removed as part of the proposed project. Although the changes to the 2018 project description would not result in any new direct impacts on waters of the U.S., construction in upland areas could result in erosion and sedimentation that could enter the creek. However, with the implementation of City’s SCAs, no adverse impacts on waters of the U.S. or state are anticipated.

Avoidance and Minimization Efforts

The following SCAs for Hydrology and Water Quality would be implemented:

SCA No. 46 State Construction General Permit

The project applicant [contractor] would comply with the requirements of the Construction General Permit issued by the State Water Resources Control Board (SWRCB). The project applicant [contractor] would submit a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other required Permit Registration Documents to SWRCB. The project applicant [contractor] would submit evidence of compliance with Permit requirements to the City.

SCA No. 47 Drainage Plan for Post-Construction Stormwater Runoff on Hillside Properties

The project applicant [City] would implement a Drainage Plan. The Drainage Plan would include measures to reduce the volume and velocity of post-construction stormwater runoff to the maximum extent practicable. Stormwater runoff would not be augmented to adjacent properties, creeks, or storm drains. The Drainage Plan would be included with the project drawings for site improvements.

SCA No. 48 Site Design Measures to Reduce Stormwater Runoff

Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES), the project applicant [contractor] 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.

SCA No. 49 Source Control Measures to Limit Stormwater Pollution

Pursuant to Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System, the project applicant [contractor] 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:

    a. Discharges from indoor floor mats, equipment, hood filter, wash racks, and, covered outdoor wash racks for restaurants;

    b. Dumpster drips from covered trash, food waste, and compactor enclosures;

    c. Discharges from outdoor covered wash areas for vehicles, equipment, and accessories;

    d. Swimming pool water, if discharge to on-site vegetated areas is not feasible; and

    e. Fire sprinkler teat water, if discharge to on-site vegetated areas is not feasible.

SCA No. 53 Vegetation Management on Creekside Properties

The project applicant [contractor] would 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 nine inches diameter at breast height (dbh) or greater and any oak tree four 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 three feet high; and

n. Do not cut short vegetation (e.g., grasses, ground-cover) to less than six inches high.

SCA No. 54 Creek Protection Plan

The project applicant [City] would submit a Creek Protection Plan for review and approval by the City. The Plan would be included with the set of project drawings submitted to the City for site improvements and would incorporate the contents required under section 13.16.150 of the Oakland Municipal Code including BMPs during construction and after construction to protect the creek. Required BMPs are identified below.

- The Creek Protection Plan would incorporate all applicable erosion, sedimentation, debris, and pollution control BMPs to protect the creek during construction. The measures would include, but are not limited to, the following:
  - On sloped properties, the downhill end of the construction area would 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.
  - The project applicant [contractor] would implement mechanical and vegetative

measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent biodegradable erosion control fabric would be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas would be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes would be covered with staked tarps when rain is occurring or is expected.

- 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.
- All work in or near creek channels would be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil would be repacked and native vegetation planted.
- 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 would be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.
- Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains.
- Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek.
- 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 would be stored on site.
- 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.
- 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.
- Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt would be scraped from these areas before sweeping. At the end of each workday, the entire site would be cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, or storm drains.
- All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management would be in strict

accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the RWQCB.

- o Temporary fencing is required for sites without existing fencing between the creek and the construction site and would 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 would not be disturbed during construction without prior approval of the City.

Compensatory Mitigation

With the implementation of the City's SCA, no adverse impacts on waters of the U.S. or state are anticipated; therefore, compensatory mitigation is not proposed.

4.2 Special Status Plant Species Occurrences

Western Leatherwood

The western leatherwood is ranked as a 1B.2 species (plants rare, threatened, or endangered in California and elsewhere; fairly endangered in California) on the CNPS California Rare Plant Ranking System. The primary threat to this species is road and trail maintenance activities. This plant is an endemic perennial deciduous shrub found in mesic broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, and riparian woodland habitats. This species is often found on brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities at 82 to 1,394 feet in elevation. The blooming period for this species is from January to March and blooms consist of clustered yellow flowers. The nearest recording of western leatherwood is from 2009, approximately 0.4 mile upstream of the bridge along the "Bridgeview Trail" in Diamond Park (Calflora, 2018).

Survey Results

The 2008 NES determined that there is suitable habitat for western leatherwood in the BSA; however, the project area contains numerous invasive plant species (broom [*Sarothamnus* sp.], blackberry [*Rubus* sp.] cape ivy [*Delairea odorata*], ivy [*Hedera* sp.], and *Acacia* sp.), and is under a heavy tree canopy, which is not ideal for the western leatherwood. This species was not detected during the January 10, 2002 and May 22, 2007 surveys (URS, 2008). The May 2017 biological surveys were conducted outside of the blooming season, and the species could not conclusively be determined absent from the project area. A focused survey for western leatherwood was conducted on March 29, 2018. No western leatherwood shrubs were detected in the project area. A 2009 reference site for the species located approximately one mile upstream of the creek was visited, but the western leatherwood was not observed. The focused survey was also conducted at the end of the blooming period for this species, and because the reference specimen could not be located, it remains possible western leatherwood could be in the BSA.

Project Impacts

The 2008 NES concluded that there would be no permanent impacts on the western leatherwood, but identified potential temporary impacts, including trampling and disturbance of degraded bare soil and upland vegetation. However, with implementation of avoidance and minimization measures included below, no adverse impacts on the western leatherwood are anticipated.

Avoidance and Minimization Efforts

The following measure included in the 2008 NES would be implemented:

- Before construction begins, a botanist would perform a survey of the area during the blooming season (January to March) to look for western leatherwood shrubs. In the event that individual(s) are identified each would be fenced in construction exclusion fencing and all construction activities would avoid impacting the plants.

Compensatory Mitigation

With the implementation of minimization and avoidance measures, no adverse impacts on the western leatherwood are anticipated; therefore, compensatory mitigation is not proposed.

4.3 Special Status Animal Species Occurrences

4.3.1 INVERTEBRATES

Survey Results

Western Bumble Bee

The western bumble bee is state listed as S1, which means this species is critically imperiled in the state because of extreme rarity (often five or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state. The western bumble bee is a generalist forager and does not depend on one flower type. This species was once common and widespread within northwest America but has declined precipitously, perhaps from disease.

The 2008 NES did not discuss western bumble bee. During the biological survey on May 23, 2017, no western bumble bees were observed in the BSA. However, there are many flowering plants in the BSA for this species and the BSA is within its historical geographical range; therefore, this species has potential to be in the BSA.

Monarch Butterfly– California Overwintering

The overwintering California Monarch butterfly is state listed as S2, which means its imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

The monarch butterfly requires milkweed (*Asclepias* spp.) for breeding and as a food source for larvae. This species roosts in eucalyptus (*Eucalyptus* sp.), Monterey pines (*Pinus radiata*), and Monterey cypresses (*Cupressus macrocarpa*) in California.

The 2008 NES report determined that there is marginal suitable tree cover and water source for the monarch butterfly. Biological surveys conducted on May 23, 2017 also confirmed the presence of suitable tree cover and water source for migrating monarchs; therefore, there is potential for this species to migrate through the BSA.

Project Impacts

The 2008 NES did not discuss impacts on the western bumble bee or overwintering monarch butterfly. The removal of a bee's nest or removal of food sources (flowering plants and trees) during clearing activities could result in temporary impacts on the western bumble bee. Removal of migratory roosting habitat could result in temporary impacts on the overwintering monarch. No permanent impacts on the western bumble bee or monarch are anticipated. With the implementation of avoidance and minimization measures discussed below, no adverse impacts on the western bumble bee or California monarch are anticipated.

Avoidance and Minimization Efforts

The following avoidance and minimization measures would be implemented:

- Vegetation removal and excavation would be minimized to the greatest extent feasible.
- Pesticide/insecticide would not be used as part of the project.
- If a western bumble bee nest is identified within the BSA, an appropriate buffer would be installed, in coordination with the project biologist, and the nest would be avoided.
- Areas temporarily impacted during construction would be re-seeded with native species.

Compensatory Mitigation

With implementation of proposed avoided and minimization measures, no adverse impacts on the western bumble bee or overwintering California monarch butterfly are anticipated; therefore, no compensatory mitigation is proposed.

4.3.2 AMPHIBIANS

Survey Results

<u>California Red-Legged Frog</u>

The California red-legged frog is federally threatened and a state species of special concern (SSC). This species is found in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent vegetation, including cattail (*Typha* sp.), bulrush (*Scirpus* sp)., and willow (*Salix* sp.). This species requires 11 to 20 weeks of permanent water for larval development and may estivate in rodent burrows or cracks during dry periods.

A California red-legged frog site assessment survey was conducted as part of the 2008 NES to evaluate the suitability of habitat for the California red-legged from in the vicinity of the BSA. The survey determined that potential California red-legged breeding and dispersal habitat is limited within the BSA, and no red-legged frogs were observed (URS, 2008). According to 2017 research, the California red-legged frog is also assumed to be extirpated from its nearest recorded occurrence in Thornhill Pond (approximately two miles east of the BSA) (CNDDB, 2017). The BSA is not within an area designated as critical habitat for this species.

The 2017 results habitat assessment results are consistent with the 2008 NES findings regarding breeding and dispersal habitat, and no new barriers to frog passage separating the

Sausal Creek watershed and its tributaries were identified during the 2017 studies; therefore, there is potential for this species to be in the BSA.

Foothill Yellow-Legged Frog

The foothill yellow-legged frog is a state SSC. The foothill yellow-legged frog is found in partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. This species requires cobble-sized substrate for egg-laying and tadpoles require water for at least three or four months to attain metamorphosis. Juveniles take two years to reach adult size.

The 2008 NES report determined that the BSA contained marginally suitable habitat for the foothill yellow-legged frog. According to the 2008 NES, the creek is partially shaded and contains riffles with rocky substrate preferred by this species. When the 2008 NES was prepared, no foothill yellow-legged frogs had been documented in the project area, and none were observed during field surveys for the project (NES, 2008). 2017 survey results are consistent with these findings; however, a foothill yellow-legged frog was observed (2018 unprocessed CNDDB data set) within the Oakland West Quad in a plunge pool within an intermittent tributary to Moraga Creek, 3.3 miles from the BSA (CNDDB, 2018). Therefore, this species has potential to be in the BSA.

Coast Range Newt

The Coast Range newt is a state SSC. The Coast Range newt is found in coastal drainages from Mendocino County to San Diego County. This species is found primarily in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub and mixed chaparral, but is also known from annual grassland and mixed conifer types. The Coast Range newt seeks cover under surface objects such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures such as wells.

The 2008 NES did not discuss Coast Range newt. 2017 surveys determined that there is suitable mixed hardwood forest and drainage habitat in the BSA. The BSA is also within the known geographical range for this species. Therefore, this species has potential to be in the BSA.

Project Impacts

The 2008 NES identified determined that construction activities would result in temporary impacts on California red-legged frog. Temporary impacts identified include trampling and disturbance of degraded bare soil and upland vegetation. The 2008 NES determined that the proposed project may affect, but is not likely to adversely affect, the red-legged frog. The findings of this 2018 NES are consistent with the 2008 NES.

The 2008 NES did not identify any impacts on the foothill yellow-legged frog, because the project would not include work within the creek. The findings of this 2018 Supplemental NES are consistent with the 2008 NES.

The 2008 NES did not discuss the Coast Range newt. This species could potentially be in the aquatic and/or upland habitat within the BSA. If either the Coast Range newt were to be in the upland areas, they could be directly impacted by construction equipment, and other project activities. Movement through the BSA could also be temporarily inhibited during construction.

Construction materials, dust, and debris could also result in temporary impacts on newts if they were to enter flowing water within the BSA. In addition, if individuals were to be trapped in the BSA, they would be more vulnerable to predation.

The avoidance and minimization measures included in the 2008 NES would remain sufficient to avoid and minimize impacts on California red-legged foothill yellow-legged frog, and Coast Range Newt. An additional measure, which was not included in the 2008 NES, is included to further minimize impacts on the Coast Range newt. With implementation of these measures, the project may affect, but is not likely to adversely effect, the California red-legged frog. With implementation of these measures, adverse impacts on the foothill yellow-legged frog and Coast Range newt, including take, are not anticipated.

Avoidance and Minimization Efforts

The following avoidance and minimization measures included in the 2008 NES would be implemented:

- No work would be conducted within Sausal Creek.
- Disturbance to existing vegetation would be limited to the BSA. Placement of all staging areas and other facilities would avoid and limit disturbance to habitat for amphibians to the maximum extent practicable. Existing ingress and egress points would be used and staging and material storage areas confined to the bridge deck or at an offsite location.
- Projects proponents would, to the maximum extent practicable, reduce the amount of disturbance within the BSA to the absolute minimum necessary to accomplish the project. Topsoil would be removed, stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into amphibian habitats. All disturbed soils would undergo erosion control treatment prior to the rainy season and after construction is terminated. Treatment typically includes temporary seeding with native species and sterile straw mulch. All topsoil would be replaced in a manner to as closely as possible represent pre-disturbance conditions.
- Project proponents must exercise every reasonable precaution to protect amphibians and their habitat from pollution due to fuels, oils, lubricants, and other harmful materials. Vehicles and equipment that are used during the course of a project would be fueled and serviced in a “safe” area (i.e., outside of sensitive habitats) in a manner that would not affect amphibians or their habitats. Spills, leaks, and other problems of a similar nature must be resolved immediately to prevent unnecessary effects. A plan for the emergency clean up of any spills of fuel or other material would be available on site and adequate materials for spill cleanup would be maintained on site.
- Project proponents would exercise every reasonable precaution to protect amphibians and their habitat from construction by-products and pollutants such as construction chemicals, fresh cement, saw-water, or other deleterious materials. Water containing mud, silt, concrete, etc. from construction activities would be treated by filtration, retention in a settling pond, etc. Fresh cement or concrete would not be allowed to enter flowing water of streams. Construction pollutants would be collected and transported to an authorized disposal area, as appropriate, and per all federal, state, and local laws and regulations.

- All hazardous material would be stored in properly designated containers in a storage area with an impermeable membrane between the ground and the hazardous material. The storage area would be encircled by a berm to prevent the discharge of pollutants to ground water or runoff into federally-listed species habitats. A plan for the emergency clean up of any hazardous material would be available on site and adequate materials for spill cleanup would be maintained on site.
- All construction material, wastes, debris, sediment, rubbish, vegetation, trash, fencing, etc. would be removed from the site once the project is completed and transported to an authorized disposal area, as appropriate, and per all federal, state, and local laws and regulations.
- Construction activities would be timed to occur during the dry season (non-breeding season for California red-legged frog) (April 15 to October 15) to avoid take of dispersing frogs.
- A qualified USFWS-approved biologist would conduct pre-construction surveys of all ground disturbance areas within riparian habitats to determine if red-legged frogs are present prior to the start of construction. These surveys would be conducted less than two days prior to start of retrofit activities. If California red-legged frogs are found during any preconstruction surveys, the biologist would contact the USFWS to determine if moving them is appropriate. If the USFWS gives approval for relocation, a USFWS-approved biologist with a 10(a)(1)(A) permit would be allowed sufficient time to move the California red-legged frogs from the work site before activities begin.
- Prior to construction, a qualified biologist would conduct training sessions to familiarize all construction personnel with the following: identification of California-red legged frog, their habitat, general provisions and protections afforded by the Endangered Species Act, measures implemented to protect the species, and a review of project boundaries.
- Exclusion fences comprised of silt fence material would be installed at the margins of the work area to prevent workers from encroaching into adjacent habitat and to prevent California red-legged frogs from entering the construction area. The fence would be monitored periodically. A fine (less than 0.4 inch) mesh would be used to avoid entrapment of amphibians in the silt fence. The silt fence would be monitored periodically during construction to evaluate its effectiveness. All fencing in this area would be maintained for the duration of construction and removed on project completion.
- To avoid attracting predators, food-related trash would be kept in closed containers and removed daily from the action area.
- In the unlikely event that a red-legged frog is encountered during construction, any work that would potentially result in take of the individual or its habitat would be suspended and the USFWS would be contacted to determine the appropriate actions to be taken.
- If live Coast Range newts are found in the construction area, they would be relocated by the project biologist away from the construction area to an area of suitable habitat.

Compensatory Mitigation

With implementation of proposed avoided and minimization measures, there would be no adverse impacts on California red legged frog, yellow-legged frog, and Coast Range newt; therefore, no compensatory mitigation is required.

4.3.3 FISH

<u>Central California Coast Steelhead</u>

The central California coast DPS steelhead is federally listed as threatened and state listed as S2S3 (imperiled and vulnerable). This species is found in the Russian River, south to Soquel Creek and to, but not including, Pajaro River. This species is also found in the San Francisco and San Pablo Bay basins. This species requires adequate stream flow for migration and protection of eggs from the gravel after spawning during the freshwater phase of their life cycle.

Survey Results

The 2008 NES identified that the BSA contains marginally suitable habitat for the central California coast steelhead; however, because of downstream barriers to migration including culverts and tall drops the 2008 NES concluded that the species has no potential to be in the project area. The 2017 survey findings are consistent with the 2008 NES. Since the 2008 NES was approved, progress has been made to increase salmonid passage thought the watershed. The Sausal Creek Restoration Project, completed by the City of Oakland in July 2016, included the removal of over 250 feet of underground culvert conveying water from the creek and concrete spillway near Wellington Street. However, there continues to be downstream blockages such as culverts and drop structures to salmonid passage; therefore, this species is not expected to be in the BSA.

Project Impacts

The 2008 NES did not identify any impacts on steelhead habitat, but concluded that the project may affect, but would not likely to adversely affect the central California coast steelhead. Following completion of the 2008 NES, a request was submitted to the NMFS in 2009 to concur with this determination. The NMFS reviewed the information, and determined that the project would have no effect on this species. The findings of the 2018 Supplemental NES are consistent with the NMFS determination that the project would have no effect on the central California coast steelhead. Although this species is not expected to be in the BSA, the City's SCA for Hydrology and Water Quality, discussed above in Section 4.1.1, would be implemented to avoid indirect downstream water quality impacts on the central California coast steelhead.

Avoidance and Minimization Efforts

The avoidance and minimization measures included City's SCA for Hydrology and Water Quality, discussed above in Section 4.1.1, would be implemented.

Compensatory Mitigation

With implementation of the City's SCA for Hydrology and Water Quality, the project would have no effect on the central California coast steelhead; therefore, no compensatory mitigation is proposed.

4.3.4 REPTILES

Western Pond Turtle

The western pond turtle is a state SSC. This species is found in slow moving rivers, streams, lakes ponds, wetlands, reservoirs, brackish estuarine waters, and irrigation ditches. This species prefers areas that provide logs, algae, or vegetation for cover, and boulders for basking. The western pond turtle requires well vegetated upland refuge sites to escape predators or high water levels. Nesting habitat for this species is generally along south-facing slopes within five to 100 meters of water. This species is generally found below 6,000 feet elevation.

Survey Results

The 2008 NES determined that the BSA provides suitable basking and upland habitat for western pond turtle. The 2008 NES also concluded that this species has potential to be in the BSA because it was observed in the upper reaches of Sausal Creek. The findings of the 2017 surveys are consistent with the 2008 NES. Therefore, there is potential for this species to be in the BSA.

Project Impacts

The 2008 NES concluded that construction would not result in habitat loss or nesting failure for western pond turtle; rather, it concluded that the project could have a positive effect on potential western pond turtle by opening up the tree canopy, which could improve basking and upland nesting sites, resulting in a beneficial impact on habitat for the western pond turtle.

The findings of the 2017 studies are consistent with the 2008 NES discussion on western pond turtle that there would be no habitat loss nor resulting nest failure. However, construction materials, dust, and debris could result in temporary impacts on western pond turtle if they were to enter flowing water within the BSA.

The avoidance and minimization measures included in the 2008 NES would remain sufficient to avoid and minimize impacts on western pond turtle. With implementation of these measures, adverse impacts on the western pond turtle are not anticipated.

Avoidance and Minimization Efforts

The following avoidance and minimization measure included in the 2008 NES would be implemented:

- A qualified biologist will conduct a pre-construction survey of the BSA to examine the site for western pond turtles. The preconstruction survey will be conducted prior to clearing of vegetation to construct the access road and temporary work platform. In the event that individuals are found, they will be removed to suitable habitat outside of the BSA. No work will be conducted within aquatic habitats in the BSA.

Compensatory Mitigation

With implementation of proposed avoided and minimization measures, impacts on the western pond turtle are not anticipated; therefore, no compensatory mitigation is required.

4.3.5 BIRDS

During biological surveys conducted on May 23, 2017, 10 bird species were observed foraging or flying over the BSA, including California scrub jay (*Aphelocoma californica*), oak titmouse, Anna's hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), bushtit (*Psaltriparus minimus*), black phoebe (*Sayornis nigricans*), American robin (*Turdus migratorius*), and mourning dove (*Zenaida macroura*). Raptors observed in the BSA included a red-tailed hawk (*Buteo jamaicensis*). Additional observations of birds, including a great horned owl (*Bubo virginianus*), have been documented in the watershed by the Friends of Sausal Creek.

The BSA is situated in a residential park area with a creek corridor. There are trees and other vegetation within and adjacent to the BSAs that provide suitable habitat for nesting birds. Therefore, there is potential for migratory birds to nest within the BSA.

Survey Results

<u>Cooper's Hawk</u>

The Cooper's hawk is on the state watch list (WL). The Cooper's hawk is found in mature forests, open woodlands, wood edges, and river groves. This species nests in coniferous, deciduous, and mixed woodlands with tall trees. This species nests mainly in riparian growths of deciduous trees, often in canyon bottoms on river flood-plains, and will also nest in live oaks.

No Cooper's hawks were observed during 2007 surveys conducted for the 2008 NES; however, based on known range and recordings nearby, the 2008 NES identified a potential for this species to be in the BSA. The findings of this 2018 Supplemental NES are consistent with the 2008 NES. There are several large trees within the canyon and there is a waterway, Sausal Creek. Therefore, this species has potential to forage and nest in the BSA.

<u>Oak Titmouse</u>

The oak titmouse is ranked as state S4. This species is found in warm, dry oak woodlands from southern Oregon to Baja California. This species is a cavity nester.

The 2008 NES did not discuss oak titmouse. The 2017 surveys concluded that there is suitable foraging and nesting habitat in the BSA for the oak titmouse. An oak titmouse was observed foraging in the BSA during the biological survey on May 23, 2018; therefore, this species has potential to forage and nest in the BSA.

<u>American Peregrine Falcon</u>

The American peregrine falcon is a state FP species. This species is found near water, on cliffs, banks, dunes, mounds, and human-made structures. Nests consist of a scrape, depression, or ledge in an open area. American peregrine falcons hunt on the wing and are known for taking pigeons, as well as a variety of other birds. This species may fly up to 17 miles to favorite foraging areas.

The 2008 NES did not discuss American peregrine falcon. The 2017 surveys determined that there is suitable foraging and nesting habitat in the BSA for the American peregrine falcon. Therefore, this species has potential to forage and nest in the BSA.

Osprey

The osprey is currently on the state WL. The osprey is found along ocean shore, bays, fresh-water lakes, and riparian forest along larger streams. This species builds large nests in tree-tops within 15 miles of a good fish-producing body of water.

The 2008 NES did not discuss osprey. The 2017 studies determined that there is suitable foraging and nesting habitat in the BSA for osprey. There are several large trees and the San Francisco Bay is approximately four miles away. Therefore, this species has potential to forage and nest in the BSA.

Rufous Hummingbird

The rufous hummingbird is a S4 state ranked species. The rufous hummingbird typically breeds in open or shrubby areas, forest openings, yards, and parks, and sometimes in forests, thickets, swamps, and meadows from sea level to approximately 6,000 feet in Alaska and northwest Canada. This species migrates 4,000 miles and winters mostly in pine-oak woods in Mexico.

The 2008 NES did not discuss rufous hummingbird. The 2017 surveys determined that there is suitable foraging and nesting habitat in the BSA for rufous hummingbird. Therefore, there is potential for this species to forage and nest in the BSA.

Yellow Warbler

The yellow warbler is a state SSC. The yellow warbler is found in riparian forest, riparian scrub, and riparian woodland habitats in close proximity to water. This species is frequently found nesting and foraging in willow shrubs and thickets, and can also be found in cottonwoods, sycamores, ash, and alders.

The 2008 NES did not discuss yellow warbler. The 2017 surveys determined that there is suitable foraging and nesting habitat in the BSA for yellow warbler. There is riparian habitat in within the creek corridor. Therefore, this species has potential to forage and nest in the BSA.

Lawrence's Goldfinch

The Lawrence's goldfish is ranked S3S4 within the state. This species is considered vulnerable due to restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation, but it is also apparently secure. The Lawrence's goldfinch nests very locally in the foothills of California and Baja in oak woodland chaparral, riparian woodland and other habitats in arid regions, but usually near water, and periodically is found wandering throughout much of western North America.

The 2008 NES did not discuss Lawrence's goldfinch. The 2017 surveys identified that there is suitable foraging and nesting habitat in the BSA for Lawrence's goldfinch. Therefore, this species has potential to forage and nest in the BSA.

Project Impacts

The 2008 NES concluded that habitat alteration and noise could result in temporary or permanent loss of habitat for nesting birds. 2017 survey results are consistent with the 2008 NES findings. However, with implementation of the City's SCA for Tree Removal During Bird

Breeding Season, no adverse impacts on nesting migratory birds are anticipated.

Avoidance and Minimization Efforts

To avoid and/or minimize impacts on nesting birds and raptors, the following City's SCA for Tree Removal During Bird Breeding Season would be implemented:

Pursuant to SCA 26 Tree Removal During Bird Breeding Season

- To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of birds would 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 would be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds.
- Pre-removal surveys must be conducted within 15 days prior to the start of work and would be submitted to the City for review and approval.
- If the survey indicates the potential presence of nesting raptors or other birds, the biologist would determine an appropriately sized buffer around the nest in which no work would be allowed until the young have successfully fledged.
- The size of the nest buffer would be determined by the biologist in consultation with the CDFW and would 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

Compensatory Mitigation

With the implementation of the City's SCA for for Tree Removal During Bird Breeding Season, no adverse impacts on nesting birds or raptors are anticipated; therefore, compensatory mitigation is not proposed.

4.3.6 MAMMALS

Survey Results

A single bat was detected and observed during surveys on May 23, 2017. Acoustic data indicates that the bat was 40 kilohertz *Myotis* species. These results do not preclude the potential for other species of bats to be in the BSA.

Pallid Bat

The pallid bat is a state SCC. The pallid bat is found year around in a variety of low-elevation habitats in most parts of California, including grasslands, shrub lands, woodlands and forests. This species is thought to prefer open, dry habitats with rocky areas for roosting. The pallid bat day roosts in caves, crevices, mines, and hollow trees, buildings, and bridges, and night roosts in more open sites, such as porches, open buildings and bridges. Roosts must protect bats from high temperatures, and this species will move deeper into cover if temperatures rise. The pallid bat is highly sensitive to disturbance.

The 2008 NES identifies habitat and potential species presence. 2017 survey results indicate that there is suitable habitat in the BSA for pallid bat. Trees in the project area could provide suitable day roosting habitat for this species. Therefore, this species has potential to be in the BSA.

Townsend's Big-Eared Bat

The Townsend's big-eared bat is a state SCC. This bat is found in a variety of habitat types, including coniferous forests, deserts, native prairies, riparian communities, agricultural areas, and coastal habitats. This species roosts in caves, and cave-like structures, such as exposed cavity-forming rock and mines. Townsend's big-eared bats prefer to roost in large rooms and do not use cracks and crevices like many bat species.

The 2008 NES determined that there was suitable habitat and potential for this species to be in the BSA. The 2017 survey results are consistent with the 2008 NES. Because there are no cave-like structures for day or night roosting, this species has potential to forage in the BSA, but is not expected to roost in the BSA.

Silver-Haired Bat

The silver haired bat has a state ranking of S3S4. The silver haired bat is a solitary tree-roosting species that is found in forested areas. This species roosts in small tree hollows, beneath tree bark, in buildings, rock crevices, in wood piles, and on cliff faces. The silver-haired bat feeds over streams, ponds, and open brushy areas. This species requires drinking water.

The 2008 NES identifies marginally suitable habitat and potential for this species to be in the BSA. The 2017 survey was consistent with the 2008 NES. Therefore, there is potential for this species to be in the BSA.

Hoary Bat

The hoary bat is ranked by the state as a S4 species. This bat prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosting in dense foliage of medium to large trees, this species feeds primarily on moths and requires water.

The 2008 NES did not discuss hoary bat. There is suitable habitat in the BSA for this species. Trees could provide suitable day roosting habitat. The park corridor provides a water source and areas for feeding. Therefore, there is potential for this species to be in the BSA.

Fringed Myotis

The fringed myotis bat is ranked by the state as a S3 species. This species prefers hardwood and coniferous forests, and roosts in caves, mine tunnels, rock crevices, and buildings.

The 2008 NES identified marginally suitable habitat and potential for the species to be in the BSA. The 2017 survey is consistent with the 2008 NES. The fringed myotis forages in hardwood forests and roosts in crevices Therefore, there is potential for this species to forage in the BSA.

Yuma Myotis

The Yuma myotis is a state S4 ranked species. This species is found in lower and upper montane coniferous forest, riparian forest, and riparian woodland. Optimal habitats for this species are open forests and woodlands with sources of water over which to feed. Distribution of the Yuma myotis is closely tied to bodies of water. The Yuma myotis roosts in buildings, mines, caves, or crevices, including trees. The species also has been seen roosting in abandoned swallow nests and under bridges. Separate, often more open, night roosts may be used.

The 2008 NES did not discuss yuma myotis. There is suitable habitat in the BSA for Yuma myotis. Trees could provide suitable day roosting habitat. The park corridor provides a water source and areas for feeding. Therefore, there is potential for this species to be in the BSA.

Long-Legged Myotis

The long-legged myotis is found in nearly all brush, woodland, and forest habitats, from sea level to at least 8,800 feet, especially in coniferous woodlands and forests. This species summer roosts include cliff crevices, old buildings, cracks in the ground, and hollows in snags or hollow areas under exfoliating bark and in living trees.

The 2008 NES identified marginally suitable habitat and potential for this species to be in the BSA. The 2017 survey is consistent with the 2008 NES. Trees, brush, and cracks in the ground could provide suitable summer roosting and foraging habitat. Therefore, there is potential for this species to be in the BSA.

Project Impacts

The 2008 NES determined that the project could result in the removal of suitable roosting and nesting sites for bats including trees and bridge sections. The 2017 studies are consistent with the 2008 NES concur with the 2008 NES findings that bats have the potential to be in the BSA. Implementation of the following avoidance and minimization measures would be sufficient to avoid and minimize impacts on bats. With implementation of these measures, no adverse impacts on bats are anticipated.

Avoidance and Minimization Efforts

To avoid and/or minimize potential indirect impacts on the bats potentially roosting in the BSA, the following measures would be implemented:

- Any tree removal would be conducted during the month of October to avoid bat maternity and hibernation seasons, where feasible. Removal would be conducted as close to sunset as possible.
- At least 30 days prior to tree removal, all trees to be removed would be surveyed by a qualified biologist to assess the presence of bats or potential bat-roosting cavities. If bats or bat-roosting cavities are identified, then during the non-breeding and active season (typically October), bats would be safely evicted and excluded from trees to be removed, to the extent feasible, under the direction of a qualified biologist, to prevent bats from roosting in these cavities prior to tree removal.

- A qualified biological monitor would be onsite during tree removal in the event that all bats were not able to be excluded from the trees to be removed. If bats are disturbed during tree removal, work would be safely stopped until bats have left the vicinity on their own. Work would resume only once all bats have left the site and/or approval to resume work is given by a qualified biologist.
- Surveys and exclusion measures are expected to prevent maternal colonies from becoming established in trees to be removed. In the event that a maternal colony of bats is found, no work would be conducted within 100 feet of the maternal roosting site until the maternal season is over or the bats have left the site, or as otherwise directed by a qualified biologist. The site would be designated as a sensitive area and protected as such until the bats have left the site. No activities would be authorized adjacent to the roosting site. Combustion equipment, such as generators, pumps, and vehicles, would not to be parked nor operated under or adjacent to the roosting site. Construction personnel would not be authorized to enter areas beneath the colony, especially during the evening exodus.

Compensatory Mitigation

With the implementation of minimization and avoidance measures, adverse impacts on bats are not anticipated; therefore, no compensatory mitigation is proposed.

4.4 Cumulative Impacts

4.4.1 CUMULATIVE SETTING

For the purposes of this analysis, the cumulative setting for jurisdictional features and aquatic species is considered suitable habitat within the Sausal Creek watershed. The cumulative setting for avian and mammal species is considered suitable habitat within the San Francisco Bay area. The land within the BSA is currently a park and not available for commercial and residential development. The park designation helps to preserve the natural and scenic resources.

4.4.2 CUMULATIVE IMPACTS

The proposed project is the seismic retrofitting of an existing bridge. There are no other planned actions in the vicinity that would contribute to a cumulatively considerable impact in combination with the proposed action.

2017 results are consistent with the 2008 NES findings that impacts resulting from the proposed project would be temporary in nature. Although other unforeseen projects could be conducted within the watershed resulting in added impacts on the central California coast steelhead, no future projects are anticipated. Therefore, the project would not contribute to regional cumulative impacts on this species.

Chapter 5 – Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

Consistent with the 2008 NES, the findings, conclusions, and determinations made in this Supplemental NES and with implementation avoidance and minimization measures, the project may affect, but not likely to adversely affect the California red-legged frog. As part of the 2008 NES, coordination was conducted through the JARPA with the NMFS regarding impacts on the federally threatened central California coast steelhead. This 2018 Supplemental NES is consistent with the findings, conclusions, and determinations made in the 2008 BA, that the project would have no effect on the central California coast steelhead.

5.2 Essential Fish Habitat Consultation Summary

An EFH query for the project was conducted on February 21, 2018. Survey results indicated that the project area contained EFH for four fish species. Consultation with NMFS was completed in 2009. NMFS evaluated the proposed project and determined that it will not affect EFH for any fish species managed under the MSA (see **Appendix G**).

5.3 California Endangered Species Act Consultation Summary

The 2008 NES did not include a discussion on any state listed threatened or endangered species, because the only species with potential to be in the BSA, the foothill yellow-legged frog, was not listed at that time. There is potential for the state candidate foothill yellow-legged frog to be in the BSA during construction activities. Based on project analysis, take of this species is not expected; therefore, an incidental take permit (ITP) is not anticipated. No other state listed or candidate species are expected to be in the BSA; therefore, coordination with the CDFW under CESA is not anticipated.

5.4 Wetlands and Other Waters Coordination Summary

The JARPA was also submitted to the CDFW in March 2006. The CDFW determined on August 8, 2007 that the project may proceed without a Lake or Streambed Alteration Agreement. The City submitted a draft JARPA to the USACE in April 2006. The USACE determined on June 5, 2006 that USACE authorization would not be required for the project because project activities would not involve the discharge of dredged or fill material into a water of the United States.

Changes to the project since this original coordination was completed have not resulted in any changes to the jurisdictional impacts. Excavation activities would still be limited to upland habitat underneath the bridge deck where the bridge supporting columns are located, approximately 75 to 80 feet from either side of the creek. In addition, no work would be conducted within Sausal Creek or the riparian zone. With implementation of measures in Section 4.0, potential directs and indirect impacts on jurisdictional waters of the U.S. and state would be avoided.

5.5 Invasive Species

Invasive species were not discussed specifically in the 2008 NES. There are several invasive plant species growing in the BSA (see **Appendix D**). Soil disturbance, improper disposal of graded and excavated soils, or landscaping with invasive species could result in the spread of invasive species. However, the following standard measures would be implemented to prevent the spread of invasive species:

- Vegetation removed from the BSA would be treated and disposed of in a manner that would prevent the spread of invasive species onsite or offsite.
- New landscaping materials, including erosion control seed mixes and other plantings, would be composed of non-invasive species and would be clear of weeds, and all erosion control and landscape planting would be conducted in a manner that would not result in the spread of invasive species.
- Plants listed in the Pest Ratings of Noxious Weed Species and Noxious Weed Seed (California Department of Food and Agriculture, 2003) would not be used as part of the project.

With implementation of these measures, the project would be in compliance with Executive Order 13112.

5.6 Migratory Birds

The 2008 NES determined that trees associated with Sausal Creek in the BSA could provide suitable nesting habitat for various migratory birds. Nesting birds could be directly impacted by construction activities, if they were to be nesting in trees or vegetation within the construction area. In addition, noise, vibration, dust, and human activity could result in indirect impacts on migratory birds if they were nesting within 300 feet of the construction area during construction, or raptors nesting within 500 feet of construction. Construction activities could disturb birds and raptors to the extent that they abandon their nests, or the eggs or fledglings could fail to survive. The findings of this 2018 Supplemental NES are consistent with the 2008 NES. During the biological surveys performed on May 23, 2017, several bird species were observed foraging within the BSA. No swallow nests were observed on the underside of the bridge deck.

The City's SCA for Tree Removal During Bird Breeding Season included in Section 4.0 would help to avoid or minimize impacts on migratory birds. With implementation of these measures, the project would be in compliance with the MBTA and California Fish and Game Code.

5.7 Protected Trees

Trees that meet specific criteria are protected under the City of Oakland's Tree Protection Ordinance (OMC Chapter 12.36).

Survey Results

Previous studies conducted by URS in 2008 on May 22, 2007, indicated that there were 20 trees in the 2008 BSA that met the criteria for protection under the Oakland City Protected Tree Ordinance. The focused tree survey performed on March 29, 2018 included all trees that met the criteria for City protection that could be removed or have 25 percent of their canopies trimmed, during project construction (see **Figure 5** and **Table 1**). Thirteen trees meeting the above criteria were tagged, measured, and logged using Geographical Information System (GIS). Two trees, located directly under the bridge on the western bank of the creek, were not tagged during the survey because they could not be safely reached. The dbh of the two untagged trees were estimated. The location and direction of the construction access path were determined by physically walking the area and flagging the shortest and safest route to the bridge. The proposed construction access path would descend the slope from the project staging area to the existing trail (see **Figure 5**).

Table 1. City Protected Trees

Tree Tag ID	Species Type	Native/Non-Native	Number of Trunks/Stems	Total DBH (Inches)	Action	Total DBH (Inches) Removed
1	*Acacia* sp.	Non-Native	2	11	Remove	11
2	*Acacia* sp.	Non-Native	2	12	Remove	12
3	Coast Live Oak	Native	1	12	Remove	12
4	California Bay	Native	3	39	Trim	--
5	Coast Live Oak	Native	1	5	Remove	5
6	California Bay	Native	5	53	Trim 2 stems/trunks	--
7	California Bay	Native	3	37	Trim 1 stem/trunk	--
8	Coast Live Oak	Native	1	4	Remove	4
9	Coast Live Oak	Native	1	11	Remove	11
10	Coast Live Oak	Native	1	17	Trim	--
11	*Acacia* sp.	Non-Native	1	14	Trim	--
12	Coast Live Oak	Native	1	14	Trim	--
13	Coast Live Oak	Native	1	6	Remove	6
No Tag 1	California Bay	Native	1	12	Trim	--

No Tag 2	*Acacia* sp.	Non-Native	1	16	Trim	--
	Total	**--**	**25**	**263**	**--**	**61**

CITY OF OAKLAND

FIGURE 5. Potential Construction Access Path and Protected Trees
Leimert Boulevard Bridge Seismic Retrofit Project

Project Impacts

The 2008 NES determined that a tree protection permit may be required for the project, but did not specifically discuss impacts on trees. The 2018 tree survey determined that 15 protected trees have the potential to be impacted within the *Umbellularia Californica Acacia* Forest Alliance. Approximately eight trees would be trimmed and seven trees would be removed. Of the seven trees to be removed, five are native tree species, and two are non-native trees with a dbh greater than nine inches. No trees with a dbh of 36 inches or greater would be removed by the project.

The loss of protected trees would be a direct Impact Additionally, there is potential for damage to protected trees that would remain in the project area during construction, if construction activities encroached into a tree's root zone, or through inadvertent collisions with construction equipment. Implementation of the following avoidance and minimization measures would be sufficient to avoid and minimize impacts on protected trees. With implementation of these measures, no adverse impacts on protected trees are anticipated.

The cumulative number of inches of the trees that would be removed, as measured by dbh, is approximately 61 inches. The City's CEQA threshold of significance for tree removal would be approximately 20,254 square inches of tree area to be removed in relation to the lot size[1]. The project would result in the removal of 2,921 square inches of protected trees, which would not exceed the City's threshold of significance.

Avoidance and Minimization Efforts

To avoid and/or minimize impacts on protected trees, the following measures from the City's Tree Protection Ordinance and the City's Tree Replacement SCA would be implemented:

- The permit application would include site plans indicating the location, species, and diameter at breast height (dbh) of all protected trees located within 30 feet of proposed development activity on the subject property, regardless of whether or not the protected trees in question are included on any tree removal permit application; those protected tree(s) which are proposed for removal would also be clearly identified.
- Pursuant to City of Oakland Municipal Code 12.36, replacement plantings are required accordance with the City's criteria.
- No tree replacement is required for the removal of nonnative species.

Tree Protection During Construction

Adequate protection would be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:

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[1] The total lot area of the project area is approximately 140,652 square feet or 20,253,888 square inches. One-tenth of one percent (0.1 percent) of the total lot area would be approximately 20,254 square inches.

- Before the start of any clearing, excavation, construction, or other work in the project area, every protected tree deemed to be potentially endangered would be securely fenced off at a distance from the base of the tree to be determined by the project's consulting arborist. Such fences would remain in place for duration of all such work. All trees to be removed would be clearly marked. A scheme would be established for the removal and disposal of logs, brush, earth and other debris which would avoid injury to any protected tree.
- Where proposed development or other project area work is to encroach upon the protected perimeter of any protected tree, special measures would 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 would be minimized. No change in existing ground level would 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 would occur near or within the protected perimeter of any protected tree.
- No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees would 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 would 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 would 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, would be attached to any protected tree.
- Periodically during construction, the leaves of protected trees would be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.
- If any damage to a protected tree occurs during or as a result of work in the project area, the project applicant [contractor] would immediately notify the Public Works Department and the project's consulting arborist would 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 would 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.
- All debris created as a result of any tree removal work would be removed by the project applicant [contractor] from the property within two weeks of debris creation, and such debris would be properly disposed of by the project applicant [contractor] in accordance with all applicable laws, ordinances, and regulations.

<u>Pursuant to SCA No. 54 Tree Replacement Plantings</u>

The replacement plantings are required in accordance with the following criteria:

1. No tree replacement would 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.

2. Replacement tree species would consist of *Sequoia sempervirens* (Coast Redwood), Coast Live Oak, *Ancutus merciesii* (Madrone), *Aesculus californica* (California Buckeye) or California Bay Laurel.
3. Replacement trees would be of twenty-four (24) inch box size, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.
4. Minimum planting areas must be available on site as follows: a. For Sequoia sempervirens, three hundred fifteen square feet per tree; b. For all other species listed in subsection (B)(2) of this section, seven hundred (700) square feet per tree.
5. In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee as determined by the master fee schedule of the city may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians.
6. Plantings would be maintained by the applicant [City] until established. The Tree Reviewer may require a landscape plan showing the replacement planting and the method of irrigation. Any replacement planting which fails to become established within one year of planting would be replanted.

Compensatory Mitigation

Pursuant to SCA No. 54 Tree Replacement Plantings, five new 24-inch box size coast live oaks will be planted within the project vicinity.

Chapter 6 - References

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Appendix A

California Natural Diversity Database Species List

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Briones Valley (3712282) OR Hayward (3712261) OR Hunters Point (3712263) OR Las Trampas Ridge (3712271) OR Oakland East (3712272) OR Oakland West (3712273) OR Richmond (3712283) OR San Leandro (3712262) OR Walnut Creek (3712281))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Accipiter striatus sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G2G3	S2S3	1B.2
Anniella pulchra northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
Arctostaphylos pallida pallid manzanita	PDERI04110	Threatened	Endangered	G1	S1	1B.1
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G2	S2	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	
California macrophylla round-leaved filaree	PDGER01070	None	None	G4	S4	1B.2
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Calystegia purpurata ssp. saxicola coastal bluff morning-glory	PDCON040D2	None	None	G4T2T3	S2S3	1B.2
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081	None	None	G2T1	S1	1B.2
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T4	S2	2B.1
Circus cyaneus northern harrier	ABNKC11010	None	None	G5	S3	SSC
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
Clarkia franciscana Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G3G4T1	S1	
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eriogonum luteolum var. caninum Tiburon buckwheat	PDPGN083S1	None	None	G5T2	S2	1B.2
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Fissidens pauperculus minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3	None	None	G5T2	S2	1B.1
Gilia millefoliata dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	PDAST4R065	None	None	G5T1T2	S1S2	1B.2
Heteranthera dubia water star-grass	PMPON03010	None	None	G5	S2	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2	S2	1B.1
Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Hydroprogne caspia Caspian tern	ABNNM08020	None	None	G5	S4	
Isocoma arguta Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
Juglans hindsii Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Meconella oregana Oregon meconella	PDPAP0G030	None	None	G2G3	S2	1B.1
Melospiza melodia maxillaris Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2S3	SSC
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
Microcina leei Lee's micro-blind harvestman	ILARA47040	None	None	G1	S1	
Microcina lumi Lum's micro-blind harvestman	ILARA47050	None	None	G1	S1	
Microtus californicus sanpabloensis San Pablo vole	AMAFF11034	None	None	G5T1T2	S1S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Maritime Chaparral Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Oenothera deltoides ssp. howellii Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061	None	None	G3T2Q	S2	1B.2
Plagiobothrys diffusus San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0	None	None	GH	SH	1A
Polygonum marinense Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05016	Endangered	Endangered	G5T1	S1	FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Rynchops niger black skimmer	ABNNM14010	None	None	G5	S2	SSC
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
Scapanus latimanus parvus Alameda Island mole	AMABB02031	None	None	G5THQ	SH	SSC
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
Spergularia macrotheca var. longistyla long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Stuckenia filiformis ssp. alpina slender-leaved pondweed	PMPOT03091	None	None	G5T5	S3	2B.2
Suaeda californica California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Triphysaria floribunda San Francisco owl's-clover	PDSCR2T010	None	None	G2?	S2?	1B.2
Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3
Xanthocephalus xanthocephalus yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 117

Appendix B

United States Fish and Wildlife Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: February 08, 2018
Consultation Code: 08ESMF00-2018-SLI-1153
Event Code: 08ESMF00-2018-E-03358
Project Name: Leimert Blvd Bridge over Sausal Creek, Oakland, CA

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2018-SLI-1153

Event Code: 08ESMF00-2018-E-03358

Project Name: Leimert Blvd Bridge over Sausal Creek, Oakland, CA

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.81225048102347N122.21362632073654W

Counties: Alameda, CA

Endangered Species Act Species

There is a total of 16 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Western Snowy Plover *Charadrius alexandrinus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) *Masticophis lateralis euryxanthus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5524	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Bay Checkerspot Butterfly *Euphydryas editha bayensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2320	Threatened
Callippe Silverspot Butterfly *Speyeria callippe callippe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3779	Endangered
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Pallid Manzanita *Arctostaphylos pallida* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8292	Threatened
Presidio Clarkia *Clarkia franciscana* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3890	Endangered
Robust Spineflower *Chorizanthe robusta var. robusta* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9287	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix C

National Marine Fisheries Service List and Confirmation Email

From:	Dawn Cunningham
To:	"nmfswcrca.specieslist@noaa.gov"
Subject:	Caltrans District 4- Leimert Boulevard Bridge Seismic Retrofit Project STPLZ-5012(124)
Date:	Monday, June 18, 2018 2:09:00 PM

Federal Agency Name and Address:

Caltrans District 4
111 Grand Avenue
Oakland, CA 94612

-

Non-federal Agency Name and Address:

City of Oakland, Public Works Agency
250 Frank Ogawa Plaza, Suite 4314
Oakland, CA 94612

-

Point-of-contact Name and Contact Information:

GPA Consulting
Attn: Dawn Cunningham
2600 Capitol Ave, Suite 100
Sacramento, CA 95816
dawn@gpaconsulting-us.com
(310) 792-2690

Search results:

Quad Name	**Oakland East**
Quad Number	**37122-G2**

ESA Anadromous Fish

SONCC Coho ESU (T) -	
CCC Coho ESU (E) -	
CC Chinook Salmon ESU (T) -	
CVSR Chinook Salmon ESU (T) -	
SRWR Chinook Salmon ESU (E) -	
NC Steelhead DPS (T) -	
CCC Steelhead DPS (T) -	**X**
SCCC Steelhead DPS (T) -	
SC Steelhead DPS (E) -	
CCV Steelhead DPS (T) -	
Eulachon (T) -	
sDPS Green Sturgeon (T) -	**X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -	
CCC Coho Critical Habitat -	

CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - **X**
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH - **X**

Highly Migratory Species EFH -

<u>MMPA Species (See list at left)</u>

<u>ESA and MMPA Cetaceans/Pinnipeds</u>

See list at left and consult the NMFS Long Beach office

562-980-4000

From:	NMFSWCRCA Specieslist - NOAA Service Account
To:	Dawn Cunningham
Subject:	Re: Caltrans District 4- Leimert Boulevard Bridge Seismic Retrofit Project STPLZ-5012(124)
Date:	Monday, June 18, 2018 2:09:58 PM

Receipt of this message confirms that NMFS has received your email to nmfswcrca.specieslist@noaa.gov. If you are a federal agency (or representative) and have followed the steps outlined on the California Species List Tools web page (http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html), you have generated an official Endangered Species Act species list.

Messages sent to this email address are not responded to directly. For project specific questions, please contact your local NMFS office.

Northern California/Klamath (Arcata) 707-822-7201

North-Central Coast (Santa Rosa) 707-387-0737

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

Appendix D

Species Observed During Biological Surveys

Scientific Name	Common Name	Native Status	Rare Plant Rank
Plant Species			
ANGIOSPERMS (EUDICOTS)			
AMARANTHACEAE	AMARANTH FAMILY		
Amaranthus sp.	amaranth		
ANACARDIACEAE	SUMAC FAMILY		
Toxicodendron diversilobum	poison oak	native	
APIACEAE	CARROT FAMILY		
Foeniculum vulgare	sweet fennel	invasive non native	
Heracleum maximum	common cowparsnip	native	
ARALIACEAE	GINSENG FAMILY		
Hedera canariensis	canary ivy	invasive non native	
Hedera helix	English ivy	invasive non native	
ASTERACEAE	ASTER FAMILY		
Carduus pycnocephalus	Italian thistle	invasive non native	
Cichorium intybus	chicory	non native	
Delairea odorata	cape ivy	invasive non native	
Helminthotheca echioides	bristly ox-tongue	invasive non native	
Lactuca serriola	prickly lettuce	non native	
Mattricaria discoidea	pineapple weed	native	
Sonchus oleraceus	common sow thistle	non native	
BETULACEAE	BIRCH FAMILY		
Alnus rhombifolia	white alder	native	
BRASSICACEAE	MUSTARD FAMILY		
Hirschfeldia incana	short podded mustard	invasive non native	
Lepidium strictum	peppergrass	native	
Raphanus sp.	wild radish		
BUXACEAE	BOXWOOD FAMILY		
Buxus sp.	boxwood		
CARYOPHYLLACEAE	PINK FAMILY		
Spergularia rubra	red sand spurry	non native	
Stellaria sp.	stitchwort		
CELASTRACEAE	BITTERSWEET FAMILY		

Maytenus boaris	mayten tree	non native	
COMMELINACEAE	SPIDERWORT FAMILY		
Tradescantia fluminensis	small leaf spiderwort	non native	
CONVOLVULACEAE	MORNING-GLORY FAMILY		
Calystegia occidentalis	chaparral false bindweed	native	
ERICACEAE	HEATH FAMILY		
Rhododendron sp.	rhododendron		
EUPHORBIACEAE	SPURGE FAMILY		
Euphorbia sp.	spurge		
FABACEAE	PEA FAMILY		
Acacia dealbata	silver wattle	non native	
Genista monspessulana	French broom	invasive non native	
Trifolium sp.	clover		
Vicia sp.	vetch		
FAGACEAE	BEECH FAMILY		
Quercus agrifolia	coast live oak	native	
Quercus wizlizeni	interior live oak	native	
GERANIACEAE	GERANIUM FAMILY		
Geranium dissectum	cut leaved geranium	invasive non native	
HAMMAMELDACEAE	WITCH-HAZEL FAMILY		
Liquidambar styraciflua	sweet gum	non native	
LAMIACEAE	MINT FAMILY		
Salvia sp.	sage		
Stachys rigida	rough hedgenettle	native	
LAURACEAE	LAUREL FAMILY		
Umbellularia californica	California bay	native	
MAGNOLIACEAE	MAGNOLIA FAMILY		
Magnolia soulangiana	saucer magnolia	non native	
MALVACEAE	MALLOW FAMILY		
Malva sp.	mallow		
OXALIDACEAE	WOOD-SORREL FAMILY		
Oxalis articulata	windowbox woodsorrel	non native	
PAPAVERACEAE	POPPY FAMILY		
Eschscholzia californica	California poppy	native	
PITTOSPORACEAE	PITTOSPORUM FAMILY		
Pittosporum crassifolium	stiffleaf cheesewood	non native	
Pittosporum undulatum	Australian cheesewood	non native	
PLANTAGINACEAE	PLANTAIN FAMILY		

Plantago lanceolata	English plantain	invasive non native	
POLYGONACEAE	BUCKWHEAT FAMLY		
Polygonum aviculare	prostrate knotweed	non native	
Rumex sp.	dock		
PORTULACACEAE	PURSLANE FAMILY		
Claytonia perfoliata	miner's lettuce	native	
ROSACEAE	ROSE FAMILY		
Cotoneaster sp.	cotoneaster		
Pyracantha sp.	firethorn		
Rubus armeniacus	Himalayan blackberry	invasive non native	
RUBIACEAE	MADDER FAMILY		
Galium aparine	common bedstraw	native	
SAXIFRAGACEAE	SAXIFRAGE FAMILY		
Tellima grandifolia	fringe cups	native	
ZYGOPHYLLACEAE	CREOSOTE-BUSH FAMILY		
Tribulus terrestris	puncture vine	non native	
ANGIOSPERMS (MONOCOTS)			
POACEAE	GRASS FAMILY		
Avena barbata	slender oat	invasive non native	
Bromus madritensis	foxtail chess	non native	
Ehrharta erecta	panic veldtgrass	invasive non native	
Elymus caput-medusae	Medusa head	invasive non native	
Festuca perennis	Italian rye grass	invasive non native	
Hordeum sp.	barley		
FERNS			
EQUISETACEAE	HORSETAIL FAMILY		
Equisetum sp.	horsetail		
GYMNOSPERMS			
CUPRESSACEAE	CYPRESS FAMILY		
Sequoia sempervirens	coast redwood	native	
PINACEAE	PINE FAMILY		
Cedrus sp.	cedar		

Scientific Name	Common Name
Wildlife Species	
Aphelocoma californica	California scrub jay
Baeolophus inornatus	Oak titmouse
Buteo jamaicensis	Red-tailed hawk
Calypte anna	Anna's hummingbird
Corvus brachyrhynchos	American crow
Haemorhous mexicanus	House finch
Psaltriparus minimus	Bushtit
Sayornis nigricans	Black pheobe
Turdus migratorius	American robin
Zenaida macroura	Mourning dove

Appendix E

Photographs of Biological Study Area

Photo 1. Leimert Boulevard Bridge, Facing East (May 2017)

Photo 2. Leimert Boulevard Bridge, Facing West (May 2017)

Photo 3. Leimert Boulevard Bridge, Facing North (May 2017)

Photo 4. Leimert Boulevard Bridge, Facing South (May 2017)

Photo 5. Underneath Leimert Boulevard Bridge, Facing Northwest (May 2017)

Photo 6. Underneath Leimert Boulevard Bridge, Facing North (May 2017)

Photo 7. Underneath Leimert Boulevard Bridge, View of Sausal Creek, Facing Northwest (May 2017)

Photo 8. Underneath Leimert Boulevard Bridge, Facing Southwest (May 2017)

Photo 9. Underneath Leimert Boulevard Bridge, Facing Southwest, Downstream of Sausal Creek (May 2017)

Photo 10. Underneath Leimert Boulevard Bridge, Facing Northeast, Upstream of Sausal Creek (May 2017)

Photo 11. Underneath Leimert Boulevard Bridge, Facing Southwest, Downstream of Sausal Creek (May 2017)

Photo 12. Underneath Leimert Boulevard Bridge, Facing North, Upstream of Sausal Creek (May 2017)

Photo 13. Underneath Leimert Boulevard Bridge, Facing Northwest, Steep Hillside of Dimond Canyon (May 2017)

Photo 14. Staging Area along Park Boulevard, Chicory (Cichorium intybus) (May 2017)

Photo 15. Staging Area along Park Boulevard, Facing East (April 2017)

Photo 16. Tagged Tree for Removal or Trimming, Facing Northwest (March 29, 2018)

Photo 17. Tagged Tree for Removal or Trimming (March 29, 2018)

Photo 18. Construction Staging Area and Access Point, Facing Northeast (March 29, 2018)

Photo 19. Proposed Construction Access Route, Facing Southeast (March 29, 2018)

Figure 20. Marked Out Construction Access Route, Facing Southeast (March 29, 2018)

Figure 21. Construction Access Route Merging with Existing Pathway to Bridge, Facing Southwest (March 29, 2018)

Appendix F

Species with Potential to be in the Biological Study Area

Special-Status Species and Natural Communities with Potential to be in the BSA Based on Geographical Location

Common and Scientific Names	Status			General Habitat Description*	Habitat Present/ Absent	Rationale for Species Presence/Absence
	Federal USFWS	State CDFW	CNPS			
Plants						
Amsinckia lunaris Bent-flowered fiddleneck	--	S2S3	1B.2	The bent-flowered fiddleneck is an annual herb found in coastal bluff scrub, cismontane woodland, and valley and foothill grassland. Typical blooming period: March to June Typical elevation range: 10 to 1,640 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Androsace elongata ssp. *Acuta* California androsace	--	S3S4	4.2	The California androsace is an annual herb found on slopes in chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grassland habitats. Typical blooming period: March to June Typical elevation range: 492 to 4,281 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Anomobryum julaceum Slender silver moss	--	S2	4.2	The slender silver moss is a bryophyte (moss) that is found in broadleaved upland forest, lower montane coniferous forest, and north coast coniferous forest. Typical blooming period: March to June Typical elevation range: 328 to 3,280 feet	A	There is no suitable habitat in the BSA, the BSA is outside the known elevational range for this species, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

Arctostaphylos pallida Pallid manzanita	FT	SE	1B.1	The pallid manzanita is shrub that is found in siliceous shale, sandy, or gravelly soils in chaparral, foothill woodland, mixed evergreen forest, and costal scrub. Typical blooming period: December to March Typical elevation range: 606 to 1,525 feet	A	There is no suitable habitat in the BSA, the BSA is outside the known elevational range for this species, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Astragalus tener var. *tener* Alkali milk-vetch	--	S2	1B.2	The alkali milk-vetch is an annual herb found in alkali playa, valley and foothill grassland, and vernal pools. This species grows on low ground, alkali flats, and flooded lands, in annual grassland, playas, or vernal pools. Typical blooming period: March to June Typical elevation range: Three to 551 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Balsamorhiza macrolepis Big-scale balsamroot	--	S2	1B.2	The big-scale balsamroot is perennial herb that is often found in serpentinite soils of chaparral, valley and foothill grassland, and cismontane woodland. Typical blooming period: March to June Typical elevation range: 295 to 4,593 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

Blepharizonia plumosa Big tarplant	--	S2	1B.1	The big tarplant is an annual herb usually found in clay soils in valley and foothill grassland, foothill woodland, and chaparral. Typical blooming period: July to October Typical elevation range: 98 to 1,656 feet	A	There is no suitable habitat or soils in the BSA. Therefore, this species is not expected to be in the BSA.
California macrophylla Round-leaved filaree	--	S3?	1B.2	The round-leaved filaree is an annual herb found in clay soils in cismontane woodland, and valley and foothill grassland. Typical blooming period: March to May Typical elevation range: 49 to 3937 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Calochortus pulchellus Mt. Diablo fairy-lantern	--	S2	1B.2	The Mt. Diablo fairy-lantern is a perennial bulbiferous herb found in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Typical blooming period: April to June Typical elevation range: 98 to 2,756 feet	HP	There is riparian habitat in the BSA; however, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species not expected to be in the BSA.
Calochortus umbellatus Oakland star-tulip	--	S4	4.2	The Oakland star-tulip is a perennial bulbiferous herb often found in serpentinite soils in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. Typical blooming period: March to May Typical elevation range: 328 to 2,297 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

Calystegia purpurata ssp. *saxicola* Coastal bluff morning-glory	--	S2S3	1B.2	The coastal bluff morning-glory is a perennial herb found in coastal bluff scrub, coastal dunes, coastal scrub, and north coast coniferous forest. Typical blooming period: April to September Typical elevation range: 33 to 344 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Carex comosa Bristly sedge	--	S2	2B.1	The bristly sedge is a perennial grass-like rhizomatous herb found in coastal prairie, marshes and swamps (lake margins), and valley and foothill grassland. Typical blooming period: May to September Typical elevation range: Zero to 2,051 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Castilleja ambigua var. *ambigua* Johnny-nip	--	S4	4.2	The Johnny-nip is a hemiparasitic annual herb found in coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pool margins. Typical blooming period: March to August Typical elevation range: Zero to 1,428 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	--	S2	1B.1	The Congdon's tarplant is an annual herb found in alkaline valley and foothill grassland. Typical blooming period: May to October	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the

				Typical elevation range: Zero to 755 feet		BSA.
Chloropyron maritimum ssp. *palustre* Point Reyes salty bird's-beak	--	S2	1B.2	The Point Reyes salty bird's-beak is a hemiparasitic annual herb found in coastal salt marshes and swamps. Typical blooming period: June to October Typical elevation range: Zero to 33 feet	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Chorizanthe cuspidata var. *cuspidata* San Francisco Bay spineflower	--	S1	1B.2	The San Francisco Bay spineflower is an annual herb found in sandy soils in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub. Blooming period: April to July Typical elevation range: 10 to 705 feet	A	There is no suitable habitat or soils in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Chorizanthe robusta var. *robusta* Robust spineflower	FE	S1	1B.1	The robust spineflower is an annual herb found in sandy or gravelly soils in chaparral (maritime), cismontane woodland (openings), coastal dunes, and coastal scrub. Typical blooming period: April to September Typical elevation range: 10 to 984 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Cicuta maculata var. *bolanderi* Bolander's water-hemlock	--	S2	2B.1	The Bolander’s water-hemlock is a perennial herb found in coastal, fresh, or brackish marshes and swamps. Typical blooming period: July to September Typical elevation range: Zero to 656 feet	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Cirsium andrewsii	--	S3	1B.2	The Franciscan thistle is a perennial herb	A	There is no suitable habitat in the BSA,

Franciscan thistle				is found in mesic, sometimes serpentinite, soils in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. Typical blooming period: March to July Typical elevation range: Zero to 492 feet		and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Clarkia concinna ssp. *automixa* Santa Clara red ribbons	--	S3	4.3	The Santa Clara red ribbons is an annual herb found in chaparral and cismontane woodland. Typical blooming period: May to June Typical elevation range: 295 to 4,921 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Clarkia franciscana Presidio clarkia	FE	SE	1B.1	The Presidio clarkia is an annual herb found in northern coastal scrub and valley and foothill grassland in serpentinite soils. Typical blooming period: May to July Typical elevation range: 82 to 1,099 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Dirca occidentalis Western leatherwood	--	S2	1B.2	The western leatherwood is a perennial deciduous shrub found in mesic broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, and riparian woodland habitats. Typical blooming period: January to March Typical elevation range: 82 to 1,394 feet	HP	There is riparian habitat in the BSA. This species was not observed in the BSA but is known to be present upstream 0.4 mile upstream along Sausal Creek in Diamond Park (Calfora, 2018). Therefore, there is potential for this species to be in the BSA.
Eriogonum luteolum var.	--	S2	1B.2	The Tiburon buckwheat is an annual herb found in serpentinite, sandy to	A	There is no suitable habitat in the BSA and this species was not observed

caninum Tiburon buckwheat				gravelly soils in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. Typical blooming period: May to September Typical elevation range: Zero to 2,297 feet		during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Eryngium jepsonii Jepson's coyote-thistle	--	S2?	1B.2	The Jepson's coyote thistle is a perennial herb found in clay soils in valley and foothill grassland, and vernal pools. Typical blooming period: April to August Typical elevation range: 10 to 984 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Extriplex joaquinana San Joaquin spearscale	--	S2	1B.2	The San Joaquin spearscale is an annual herb found in chenopod scrub, alkali meadow, playas, and valley and foothill grassland. This species grows in seasonal alkali wetlands or alkali sink scrub with *Distichlis spicata* and *Frankenia* sp. Typical blooming period: April to October Typical elevation range: Three to 2,740 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Fissidens pauperculus Minute pocket moss	--	S2	1B.2	The minute pocket moss is a moss found in damp coastal soil in north coast coniferous forest. Typical blooming period: N/A Typical elevation range: 33 to 3,360 feet	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Fritillaria agrestis	--	S3	4.2	Stinkbells is a perennial bulbiferous herb found in cismontane woodland,	HP	There is suitable habitat in the BSA. However, this species was not observed

Stinkbells				chaparral, pinyon and juniper woodland, and valley and foothill grassland. They grow most often in non-native grassland, or in grassy openings in clay soil. This species is sometimes found on serpentine soils. Typical blooming period: March to June Typical elevation range: 33 to 5,102 feet		during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Fritillaria liliacea Fragrant fritillary	--	S2	1B.2	The fragrant fritillary is often found on serpentinite soils, but usually on clay in grasslands. The general habitats for this species are cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. Typical blooming period: February to April Typical elevation range: 10 to 1,345 feet	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Gilia capitata ssp. *chamissonis* Blue coast gilia	--	S2	1B.1	The blue coast gilia is an annual herb found in coastal dunes and coastal scrub. Typical blooming period: April to July Typical elevation range: Seven to 656 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Gilia millefoliata Dark-eyed gilia	--	S2	1B.2	The dark-eyed gilia is an annual herb found in coastal dunes. Typical blooming period: April to July Typical elevation range: Seven to 98 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

Helianthella castanea Diablo helianthella	--	S2	1B.2	The Diablo helianthella is a perennial herb usually found on rocky, axonal soils in partial shade in broadleaved upland forest, chaparral, cismontane woodland, northern coastal scrub, riparian woodland, and valley and foothill grassland. Typical blooming period: March to June Typical elevation range: 197 to 4,265 feet	HP	There is riparian habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Hemizonia congesta ssp. *congesta* Congested-headed hayfield tarplant	--	S1S2	1B.2	The congested-headed hayfield tarplant is an annual herb found in valley and foothill grassland and sometime along roadsides. Typical blooming period: April to November Typical elevation range: 66 to 1,237 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Hesperevax caulescens Hogwallow starfish	--	S3	4.2	The hogwallow starfish is an annual herb sometimes found in alkaline soil in valley and foothill grassland (mesic, clay), and vernal pools (shallow). Typical blooming period: March to June Typical elevation range: Zero to 1,657 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Heteranthera dubia Water star-grass	--	S2	2B.2	The water star-grass is an aquatic perennial herb that requires a pH of seven or higher and is usually found in slightly eutrophic waters of marshes and swamps (alkaline, still or slow-moving water).	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

				Typical blooming period: July to October Typical elevation range: 98 to 4,905 feet		
Hoita strobilina Loma Prieta hoita	--	S2	1B.1	The Loma Prieta hoita is a perennial herb found in serpentinite and mesic soil in chaparral, cismontane woodland, and riparian woodland. Typical blooming period: May to July Typical elevation range: 98 to 2,822 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Holocarpha macradenia Santa Cruz tarplant	FT	FE	1B.1	The Santa Cruz tarpart is an annual herb often found in clay and sandy soil in coastal prairie, coastal scrub, and valley and foothill grassland. Typical blooming period: June to October Typical elevation range: 33 to 722 feet	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Horkelia cuneata var. *sericea* Kellogg's horkelia	--	S1?	1B.1	The Kellogg's horkelia is a perennial herb is found in sandy or gravelly openings in closed-cone coniferous forest, chaparral (maritime), coastal dunes, and coastal scrub. Typical blooming period: April to September Typical elevation range: 33 to 656 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Iris longipetala Coast iris	--	S3	4.2	The coast iris is a perennial rhizomatous herb found in mesic habitats of coastal prairie, lower montane coniferous forest, and meadows and seeps. Typical blooming period: March to May Typical elevation range: Zero to 1,969	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

				feet		
Isocoma arguta Carquinez goldenbush	--	S1	1B.1	The Carquinez goldenbush is a perennial shrub found in valley and foothill grassland (alkaline). Typical blooming period: August to December Typical elevation range: Three to 66 feet	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Juglans californica Southern California black walnut	--	S3	4.2	The southern California black walnut is a perennial deciduous tree often found in alluvial habitats in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Typical blooming period: March to June Typical elevation range: 164 to 2,953 feet	HP	There is riparian habitat in the BSA. However, this species was not observed during the biological survey. Therefore, this species is not expected to be in the BSA.
Juglans hindsii Northern California black walnut	--	S1	1B.1	The northern California black walnut is a perennial deciduous tree found in riparian forest and riparian woodland. Typical blooming period: April to May Typical elevation range: Zero to 1,444 feet	HP	There is riparian habitat in the BSA. However, this species was not observed during the biological survey. Therefore, this species is not expected to be in the BSA.
Lasthenia conjugens Contra Costa goldfields	FE	S1	1B.1	The Contra Costa goldfields is an annual herb found in mesic habitats in cismontane woodland, playas (alkaline), valley and foothill grassland, and vernal pools. Typical blooming period: March to June	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

				Typical elevation range: Zero to 1,542 feet		
Layia carnosa Beach layia	FE	SE	1B.1	The beach layia is an annual herb found in coastal dunes and coastal scrub (sandy). Typical blooming period: March to July Typical elevation range: Zero to 197 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Leptosiphon acicularis Bristly leptosiphon	--	S3	4.2	The bristly leptosiphon is an annual herb found in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. Typical blooming period: April to July Typical elevation range: 180 to 4,921 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Leptosiphon rosaceus Rose leptosiphon	--	S1	1B.1	The rose leptosiphon is an annual herb found in coastal bluff scrub. Typical blooming period: April to July Typical elevation range: Zero to 328 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Malacothamnus hallii Hall's bush-mallow	--	S2	1B.2	The Hall's bush-mallow is a perennial evergreen shrub found in chaparral and coastal scrub. Some populations are found in serpentine soils. Typical blooming period: May to September Typical elevation range: 33 to 2,395 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

Meconella oregana Oregon meconella	--	S2	1B.1	The Oregon meconella is an annual herb found in coastal prairie and coastal scrub. Typical blooming period: March to April Typical elevation range: 820 to 2,034 feet	A	There is no suitable habitat in the BSA and the BSA is outside the known elevational range for this species. Therefore, this species is not expected to be in the BSA.
Monolopia gracilens Woodland woollythreads	--	S3	1B.2	The woodland woolythreads is an annual herb with an affinity to serpentine soil found in breadleaved upland forest (openings), chaparral (openings), cismontane woodland, north coast coniferous forest (openings), and valley and foothill grassland. Typical blooming period: March to July Typical elevation range: 328 to 3,937 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Oenothera deltoides ssp. *howellii* Antioch Dunes evening-primrose	FE	SE	1B.1	The Antioch Dunes evening-primrose is a perennial herb found in inland dunes. Typical blooming period: March to September Typical elevation range: Zero to 98 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Piperia michaelii Michael's rein orchid	--	S3	4.2	The Michael’s rein orchid is a perennial herb found in coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Typical blooming period: April to August Typical elevation range: 10 to 3,002 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

Plagiobothrys chorisianus var. *chorisianus* Choris' popcornflower	--	S2	1B.2	The Choris' popcornflower is an annual herb found in mesic habitats in chaparral, coastal prairie, and coastal scrub. Typical blooming period: March to June Typical elevation range: 10 to 525 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Plagiobothrys diffusus San Francisco popcornflower	--	SE	1B.1	The San Francisco popcornflower is an annual herb found in coastal prairie and valley and foothill grassland. Typical blooming period: March to June Typical elevation range: 197 to 1,181 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Plagiobothrys glaber Hairless popcornflower	--	SH	1A	The hairless popcornflower is an annual herb found in meadows and seeps (alkaline) and marshes and swamps (coastal salt). Typical blooming period: March to May Typical elevation range: 49 to 591 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Polygonum marinense Marin knotweed	--	S2	3.1	The Marin knotweed is an annual herb found in marshes and swamps (coastal salt or brackish). Typical blooming period: May to August Typical elevation range: Zero to 33 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Ranunculus lobbii Lobb's aquatic buttercup	--	S3	4.2	The Lobb's aquatic buttercup is an aquatic annual herb. This species is found in shallow-water habitat, including forest ponds and vernal pools in cismontane woodland, north coast	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this

				coniferous forest, valley and foothill grassland, and vernal pools. Typical blooming period: February to May Typical elevation range: 49 to 1,542 feet		species is not expected to be in the BSA.
Sanicula maritima Adobe sanicle	--	Rare	1B.1	The adobe sanicle is a perennial herb found in clay and serpentinite soil in chaparral, coastal prairie, meadows and seeps, and valley and foothill grassland. Typical blooming period: February to May Typical elevation range: 98 to 787 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Streptanthus albidus ssp. *peramoenus* Most beautiful jewelflower	--	S2	1B.2	The most beautiful jewelflower is an annual herb found in serpentinite outcrops on ridges and slopes in chaparral, cismontane woodland, and valley and foothill grassland. Typical blooming period: April to September Typical elevation range: 312 to 3,281 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Stuckenia filiformis ssp. *alpina* Slender-leaved pondweed	--	S3	2B.2	The slender-leaved pondweed is an aquatic perennial rhizomatous herb found in marshes and swamps (assorted shallow freshwater). Typical blooming period: May to July Typical elevation range: 984 to 7,054 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.

Suaeda californica California seablite	FE	S1	1B.1	The California seablite is a perennial evergreen shrub found in marshes and swamps (coastal salt). Typical blooming period: July to October Typical elevation range: Zero to 49 feet	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Trifolium hydrophilum Saline clover	--	S2	1B.2	The saline clover is an annual herb found in marshes and swamps, valley and foothill grassland (mesic, alkaline), and vernal pools. Typical blooming period: April to June Typical elevation range: Zero to 984 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Triphysaria floribunda San Francisco owl's-clover	--	S2?	1B.2	San Francisco owl's-clover is annual herb usually found in serpentinite soil in coastal prairie, coastal scrub, and valley grassland. Typical blooming period: April to June Typical elevation range: 33 to 525 feet	A	There is no suitable habitat in the BSA, and this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Viburnum ellipticum Oval-leaved viburnum	--	S3?	2B.3	The oval-leaved viburnum is a perennial deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest. Typical blooming period: May to June Typical elevation range: 705 to 4,593 feet	HP	There is suitable habitat in the BSA. However, this species was not observed during the biological survey, which was conducted during the typical blooming period for this species. Therefore, this species is not expected to be in the BSA.
Invertebrates						
Bombus crotchii Crotch bumble bee	--	S1S2		The Crotch bumble bee is found in open grassland and scrub habitats in coastal California east to the Sierra-Cascade	A	There is no suitable habitat in the BSA, and the BSA is outside the known geographical range for this species.

			crest and south into Mexico. This species nests underground in abandoned rodent burrows. Food plant genera for the Crotch bumblebee include *Antirrhinum* sp., *Phacelia* sp., *Clarkia* sp., *Dendromecon* sp., *Eschscholzia* sp., and *Eriogonum* sp.		Therefore, this species is not expected to be in the BSA.
Bombus occidentalis Western bumble bee	--	S1	The western bumble bee is a generalist forager and does not depend on one flower type. This species was once common and widespread within northwest America, but has declined precipitously perhaps from disease.	HP	There is suitable habitat in the BSA. The BSA is within a historical geographical range for this species; therefore, this species has potential to be in the BSA.
Speyeria callippe callippe Callippe silverspot butterfly	FT	--	The Callippe silverspot butterfly is restricted to the northern coastal scrub of the San Francisco Peninsula. This species' hostplant is *Viola pedunculata* Adults of this species tend to be found on east facing slopes with males congregating on hilltops in search of females.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Cicindela hirticollis gravida Sandy beach tiger beetle	--	S2	The sandy beach tiger beetle is found in areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico in coastal dunes habitat. This species prefers clean, dry, light-colored sand in the upper zone and subterranean larvae prefer moist sand not affected by wave action.	A	There is no suitable habitat in the BSA Therefore, this species is not expected to be in the BSA.
Danaus plexippus pop. 1 Monarch - California overwintering	--	S2	The monarch butterfly requires milkweed for breeding and as a food source for larvae. This species roosts in	HP (Migrate)	There is some tree cover and a water source for this species. However, there are no eucalyptus, Monterey pines, or Monterey cypress in the BSA Therefore,

population			eucalyptus, Monterey pines, and Monterey cypresses in California.		this species has potential to migrate through the BSA, but is not expected to breed in the BSA.
Efferia antiochi Antioch efferian robber fly	--	S1S2	The Antioch efferian robber fly is known only from Contra Costa and Fresno counties. This species inhabits interior dunes.	A	There is no suitable habitat in the BSA and the BSA is outside the known geographical range for this species. Therefore, this species is not expected to be in the BSA.
Euphydryas editha bayensis Bay checkerspot butterfly	FT	S1	The Bay checkerspot butterfly is restricted to native grasslands on serpentine soil outcrops in the vicinity of the San Francisco Bay. Host plants for this species include *Plantago erecta*, *Orthocarpus densiflorus*, and *Orthocarpus purpurscens*. Habitats preferred by this species include coastal dunes, ultramafic formation, and valley and foothill grassland.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Microcina leei Lee's micro-blind harvestman	--	S1	The Lee's micro-blind harvestman is a spider that inhabits very dry habitats in the San Francisco Bay region. This species is found beneath sandstone rocks in open oak grassland.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Callophrys mossii bayensis San Bruno Elfin butterfly	FE	S1	The San Bruno Elfin butterfly is found in coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain in San Mateo County. Colonies of this species are located on steep, north-facing slopes within the fog belt. The larval host plant is *Sedum spathulifolium*.	A	There is no suitable habitat or larval host plant and the BSA is outside the known geographical range for this species. Therefore, this species is not expected to be in the BSA.
Trachusa gummifera San Francisco Bay Area	--	S1	The San Francisco Bay Area leaf-cutting bee nests in tunnels in sandy soil facing	A	There is no suitable habitat in the BSA. Therefore, this species is not expected

leaf-cutter bee			southwest. This species prefers plants with smooth leaves, such as *Cornus glabrata* and *Cercis occidentalis*.		to be in the BSA.
Mollusks					
Anodonta californiensis California floater	--	S2?	The California floater is a mollusk found in freshwater lakes, slow-moving streams and rivers, and some reservoirs with mud or sand substrates. This species is found at low elevations and requires host fish, such as hardhead, pit sculpin, Sacramento pikeminnow, tule perch, and the non-native green sunfish, to reproduce and disperse. This species prefers softer substrates, such as sand and silt, which are characteristic of permanently flooded wetlands, lakes, and reservoirs.	A	There is no suitable habitat in the BSA. Sausal Creek is a cobble dominated stream that does not contain mud and sand substrates. Therefore, this species is not expected to be in the BSA.
Gonidea angulata Western ridged mussel	--	S1S2	The western ridged mussel is found primarily in creeks and rivers and less often in lakes on the bottom of streams, rivers and lakes with substrates that vary from gravel to firm mud, and include at least some sand, silt or clay. This species was historically found in most of California, but has been extirpated from central and southern California.	A	There is no suitable habitat in the BSA. Sausal Creek is a cobble dominated stream that does not contain mud and sand substrates. Therefore, this species is not expected to be in the BSA.
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	--	S1S2	The Bridges’ coast range shoulderband is an invertebrate found in open hillsides of Alameda and Contra Costa counties. This species tends to colonize under tall grasses and weeds in valley and foothill grassland.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

Tryonia imitator Mimic tryonia (=California brackishwater snail)	--	S2	The mimic tryonia is found in coastal lagoons, estuaries, and salt marshes, from Sonoma County south to San Diego County. This species is found only in permanently submerged areas in a variety of sediment types and is able to tolerate a wide range of salinities.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Crustaceans					
Branchinecta lynchi Vernal pool fairy shrimp	FT	S3	The vernal pool fairy shrimp is endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. This species inhabits small, clear-water sandstone-depression pools and grassland swale, earth slump, or basalt-flow depression pools.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Fish					
Acipenser transmontanus White sturgeon	--	SSCH	The white sturgeon is an anadromous fish species that spends most of its time in the sea, close to shore, before entering estuaries of large rivers to spawn inland. The range of this species stretches from Alaska Bay to Monterey with landlock populations in Columbia River drainage and perhaps Lake Shasta.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Archoplites interruptus Sacramento perch	--	SSC	The Sacramento perch is historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. This species prefers warm water with aquatic vegetation for young.	A	There is no suitable habitat in the BSA and the BSA is outside the known geographical range for this species. Therefore, this species is not expected to be in the BSA.
Eucyclogobius newberryi	FE	SSC	The tidewater goby is found in shallow lagoons and lower stream reaches and	A	There is no suitable habitat in the BSA. Sausal Creek is a freshwater creek and

Tidewater goby			requires fairly still but not stagnant water and high oxygen levels. This species prefers brackish, slow-moving water with emergent vegetation.		this species mainly inhabits the brackish, slow moving waters. Therefore, this species is not expected to be in the BSA.
Hypomesus transpacificus Delta smelt	FT	SE	The Delta smelt is found in the Sacramento-San Joaquin Delta. This species is found seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. The Delta smelt is most often found in water with salinities at less than two parts per thousand (ppt) and seldom at salinities greater than 10 ppt.	A	There is no suitable habitat in the BSA. Sausal Creek is a freshwater creek and this species mainly inhabits the freshwater-saltwater mixing zones of estuaries. The BSA is also located outside of the known range for this species. Therefore, this species is not expected to be in the BSA.
Spirinchus thaleichthys Longfin smelt	Candidate	ST	The longfin smelt is an anadromous fish found in open waters of estuaries, mostly in the middle or bottom of the water column. This species prefers salinities of 15 to 30 ppt), but can be found in completely freshwater to almost pure salt water.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Oncorhynchus mykiss irideus Steelhead - central California coast Distinct Population Segment (DPS)	FT	S2S3	The central California coast DPS steelhead is found in the Russian River, south to Soquel Creek and to, but not including, Pajaro River. This species is also found in the San Francisco and San Pablo Bay basins. This species requires adequate stream flow for migration and protection of eggs from the gravel after spawning during the freshwater phase of their life cycle.	HP	There is suitable aquatic habitat within Sausal Creek. However, many downstream blockages to salmonids are present along Sausal Creek. Therefore, this species is not expected to be in the BSA.
Oncorhynchus mykiss	FT	S2S3	The northern California DPS steelhead is inclusively found in coastal basins from	A	The BSA is outside the known regional range for this species. Therefore, this

irideus Steelhead - northern California DPS			Redwood Creek south to the Gualala River. This DPS does not include summer-run steelhead.		species is not expected to be in the BSA.
Oncorhynchus tshawytscha Chinook salmon - Central Valley fall / late fall-run ESU	--	SSC	The Chinook salmon - Central Valley fall/late fall-run ESU is found in the Sacramento River and San Joaquin River and their tributaries. Adults migrate from the ocean to their natal freshwater streams and rivers to mate. Fall-run chinook return to freshwater in September to October, and late-fall-run chinook in December or January. This species feeds on terrestrial and aquatic insects and other crustaceans while young, and mostly on other fish when adults. Currently, the late fall-run chinook salmon are found primarily in the Sacramento River, where most spawning and rearing of juveniles takes place in the reach between the Red Bluff Diversion Dam and Redding.	A	The BSA is outside the known regional range for this species. Therefore, this species is not expected to be in the BSA.
Amphibians					
Ambystoma californiense California tiger salamander	FT	ST	California tiger salamanders are found in cismontane woodlands, meadows and seeps, riparian woodlands, valley and foothill grasslands, and wetlands, and require underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding. The Central Valley Distinct Population Segment (DPS) of the California tiger salamander is federally listed as threatened. In Santa Barbara and Sonoma counties, this DPS is	A	There is riparian woodland and a water source for this species in the BSA. However, the BSA is out of the known geographical range for this species. There is also an absence of small upland burrows for aestivation. This species rarely uses streams for breeding, especially if predatory fish are present. In addition, the closest know extant occurrence is located over 15 miles northeast of the BSA (CNDDB 2018). Therefore, this species is not

			federally listed as endangered.		expected to be in the BSA.
Rana boylii Foothill yellow-legged frog	--	SSC	The foothill yellow-legged frog is found in partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. This species requires cobble-sized substrate for egg-laying and juveniles need at least 15 weeks to attain metamorphosis.	HP	There is suitable aquatic habitat in the BSA. The closest CNDDB reported sighting of the foothill yellow-legged frog was in a plunge pool on an intermittent tributary to Moraga Creek, 3.32 miles from the BSA in 1997 (CNDDB 2017). Therefore, this species has potential to be in the BSA.
Rana draytonii California red-legged frog	FT	SSC	The California red-legged frog is found in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent vegetation, including *Typha* sp., *Scirpus* sp., and *Salix* sp. This species requires 11 to 20 weeks of permanent water for larval development and may estivate in rodent burrows or cracks during dry periods. This species was probably extirpated from the floor of the Central Valley before 1960 (United States Fish and Wildlife Service, 1996a) The last verifiable record of this species on the valley floor was a sighting in Lodi in 1957 (United States Fish and Wildlife Service, 2002).	HP	There is aquatic and upland habitat in the BSA. However, Sausal Creek lacks deep pools with dense, shrubby, or emergent vegetation, and does not connect to known source populations of California red-legged frog. In addition, multiple reconnaissance level surveys did not identify this species presence (URS, 2008). The California red-legged frog is also assumed to be extirpated from its nearest recorded occurrence in Thornhill Pond (approximately two miles east of the BSA) (CNDDB 2017). Therefore, there is potential for this species to be in the BSA.
Taricha torosa Coast Range newt	--	SSC	The Coast Range newt is found in coastal drainages from Mendocino County to San Diego County. This species is found primarily in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub and mixed chaparral, but is also known from annual grassland and mixed conifer types. The Coast Range newt seeks	HP	There is suitable mixed hardwood forest and drainage habitat in the BSA. The BSA is also within the known geographical range for this species. Therefore, this species has potential to be in the BSA.

			cover under surface objects such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures such as wells.		
Reptiles					
Emys marmorata Western pond turtle	--	SSC	The western pond turtle is found in slow moving rivers, streams, lakes ponds, wetlands, reservoirs, brackish estuarine waters, and irrigation ditches. This species prefers areas that provide logs, algae, or vegetation for cover, and boulders for basking. The western pond turtle requires well vegetated upland refuge sites to escape predators or high water levels. Nesting habitat for this species is generally along south-facing slopes in sandy or grassy slopes within five to 100 meters of water. This species is generally found below 6,000 feet elevation.	HP	There is marginally suitable aquatic habitat in the BSA for western pond turtle. No turtles were observed by GPA and URS biologists during biological surveys. Sausal Creek is contained within steep heavily vegetated canyon walls, which reduce light time for basking turtles. The BSA also lacks suitable sandy or grassy slopes for egg laying. Therefore, this species has potential to be in the BSA, but is not expected to breed in the BSA.
Masticophis lateralis euryxanthus Alameda whipsnake	FT	ST	The Alameda whipsnake is found in chaparral and scrub habitats, but will also use adjacent grassland, oak savanna, and woodland habitats. This species prefers south-facing slopes and ravines with rock outcrops, deep crevices, or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	A	There is woodland habitat in the BSA. However, there are a lack of features desired by this species such slope orientation (slopes are west and east facing), ravines with rock outcrops, vegetative mosaics, and rodent burrows in the BSA. Therefore, this species is not expected to be in the BSA.
Phrynosoma blainvillii Coast horned lizard	--	SSC	The coast horned lizard is found in a wide variety of habitats including grasslands, coniferous forests, woodlands, coastal scrub, and chaparral, but is most common in lowlands along	A	There is woodland habitat in the BSA. However, features preferred by this species such as sandy washes with scattered low bushes and open areas for basking are absent from the BSA.

			sandy washes with scattered low bushes. This species requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of harvester ants and other insects. Coast horned lizards often bask in the early morning on the ground or on elevated objects such as low boulders or rocks. Predators and extreme heat are avoided by horned lizards by burrowing into loose soil. Periods of inactivity and winter hibernation are spent burrowed into the soil under surface objects such as logs or rocks, in mammal burrows, or in crevices. The coast horned lizard can be found at elevations between sea level and 8,000 feet.		Therefore, this species is not expected to be in the BSA.
Birds					
Accipiter cooperii Cooper's hawk	--	WL	The Cooper's hawk is found in mature forests, open woodlands, wood edges, and river groves. This species nests in coniferous, deciduous, and mixed woodlands with tall trees. This species nests mainly in riparian growths of deciduous trees, often in canyon bottoms on river flood-plains, and will also nest in live oaks.	HP (Foraging and Nesting)	There is suitable habitat in the BSA. There are several large trees within a canyon containing a waterway. Therefore, this species has potential to forage and nest in the BSA.
Accipiter striatus Sharp-shinned hawk	--	S4	The sharp-shinned hawk is found in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffery pine habitat. This species also prefers north-facing slopes with plucking perches. This species nests are usually within 275 feet of water.	A	There is no suitable habitat in the BSA. Therefore, there this species is not expected to be in the BSA.

Ammodramus savannarum Grasshopper sparrow	--	SSC	The grasshopper sparrow is found in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. Loosely colonial when nesting, this species favors native grasslands with a mix of grasses, forbs, and scattered shrubs.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Anser albifrons elgasi Tule greater white-fronted goose	--	SSC	The tule greater white-fronted goose winter range is restricted mainly to the vicinity of federal and state refuges and the Butte Sink in the Sacramento Valley, Grizzly Island Wildlife Area, and adjacent duck clubs in Suisun Marsh, and marginally, the Napa Marshes.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Aquila chrysaetos Golden eagle	--	FP/WL	The golden eagle is found in open and semi-open county with native vegetation and primarily found in mountains, canyons, and riverside cliffs and bluffs. This species avoids developed areas and uninterrupted stretches of forest. Cliff-walled canyons and large trees provide nesting habitat in most parts of their range.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Ardea alba Great egret	--	S4	The great egret is found in brackish marsh, estuary, freshwater marsh, riparian forests, and wetlands. Breeding colonies are located within two to four miles near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. This species nests colonially in large trees. The great egret feeds mainly on small fish, but will also eat amphibians, reptiles, small mammals, and invertebrates.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

Ardea herodias Great blue heron	--	S4	The great blue heron nests colonially in tall trees, cliff sides, and sequestered spots on marshes. This species forages in marshes, lake margins, tide flats, rivers, streams, and wet meadows. Most breeding colonies are located within two to four miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Asio flammeus Short-eared owl	--	SSC	The short-eared owl is found in swamp lands, both fresh and salt, lowland meadows, and irrigated alfalfa fields. This species requires tule patches or tall grass for nesting and daytime seclusion. Nests are on dry ground in depressions concealed with vegetation.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Asio otus Long-eared owl	--	SSC	The long-eared owl is found in riparian bottomlands of tall willows and cottonwoods and belts of live oak paralleling stream courses. This species requires adjacent open land with mice and old nests from crows, hawks, or magpies for nesting.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Athene cunicularia Burrowing owl	--	SSC	The burrowing owl is found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. This species is a subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel. The burrowing owl is also common in disturbed areas, including roadsides, and may develop burrows in debris piles. Burrowing owls are opportunistic feeders and prey upon insects,	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

			scorpions, small mammals, birds, amphibians, and reptiles.		
Baeolophus inornatus Oak titmouse	--	S4	The oak titmouse is found in warm, dry oak woodlands from southern Oregon to Baja California. This species is a cavity nester.	HP (Foraging and Nesting)	There is suitable foraging and nesting habitat in the BSA. An oak titmouse was observed in the BSA during the biological survey. Therefore, this species has potential to forage and nest in the BSA.
Botaurus lentiginosus American bittern	--	--	The American bittern range includes most of North America. This species is a wading bird found in marshes and the coarse vegetation at the edge of lakes and ponds. Nests are constructed above the water, usually amount bulrushes and cattails.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Branta hutchinsii leucopareia Cackling (=Aleutian Canada) goose	Delisted	S3	The cackling goose winters in Sacramento and San Joaquin counties on lakes, reserves, ponds, and can be found in inland prairies. This species forages on natural or cultivated pastures.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Buteo regalis Ferruginous hawk	--	WL	The ferruginous hawk is found in open country and breeds in grasslands, sagebrush country, saltbrush-greasewood shrublands, and edges of pinyon-juniper forests at low to moderate elevations. This species avoids areas of intensive agriculture, urban, and suburban development and nests on cliffs, outcrops, and in tree groves. The ferruginous hawk eats mostly lagomorphs, ground squirrels, and mice.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

Charadrius alexandrinus nivosus Western snowy plover	FT	SSC	The western snowy plover is found on sandy beaches, salt pond levees, and shores of large alkali lakes. This species requires sandy, gravelly, or friable soils for nesting.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Circus cyaneus Northern harrier	--	SSC	The northern harrier is found in coastal salt and fresh-water marsh. This species nests on ground in shrubby vegetation, usually at marsh edges; nests are built of a large mound of sticks in wet areas.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Egretta thula Snowy egret	--	S4	The snowy egret is found in marshes and swamps, meadows and seeps, riparian forest, riparian woodland, and wetlands. This species is a colonial nester with nest sites situated in protected beds of dense tules or within trees or shrubs five to 10 feet up from the ground. Rookery sites are situated close to foraging areas. The snowy egret forages in shallow water for fish, insects, and crustaceans, and may also forage in open fields.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Elanus leucurus White-tailed kite	--	FP	The white-tailed kite is found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. This species favors open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Empidonax traillii brewsteri Little willow flycatcher	--	FE	The little willow flycatcher is found from Tulare County north, along the western side of the Sierra Nevada and Cascades, and extends to the coast in northern	A	The BSA is outside the known regional range for this species. Therefore, this species is not expected to be in the

			California. This species breeds in moist meadows with perennial streams, lowland riparian woodlands dominated by willows and cottonwoods, or smaller spring-fed areas with willows or alders.		BSA.
Eremophila alpestris actia California horned lark	--	WL	The California horned lark is found in coastal regions, chiefly from Sonoma County to San Diego County. This species is also found in the main part of San Joaquin Valley and east to the foothills. The California horned lark is found in short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Falco columbarius Merlin	--	WL	The Merlin is a winter migrant in California. This species is found in open woodland, grasslands, savannahs, coastal areas, farms, ranches, and along rivers. This species requires clumps of trees or windbreaks for roosting and nests near forested openings, in fragmented woodlands, near rivers, lakes, or bogs and on lake islands. Merlins will lay their eggs in abandoned crow or hawk nests in conifers or deciduous trees.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Falco mexicanus Prairie falcon	--	WL	The prairie falcon is found in grasslands, shrubby deserts, shrub-steppe (a low rainfall grassland) and other open areas up to about 10,000 feet elevation. In the winter, the majority of this species are found in the Great Plains and Great Basin, where they feed mostly on other birds such as horned larks and meadowlarks. In the summer, this	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

			species eats mostly small mammals, such as ground squirrels, pikas, birds, and insects. The prairie falcon nests on ledges, cavities, and crevices of cliff faces, or uses abandoned nests of eagles, hawks, or ravens.		
Falco peregrinus anatum American peregrine falcon	Delisted	Delisted, FP	The American peregrine falcon is found near water, on cliffs, banks, dunes, mounds, and human-made structures. Nests of this species consist of a scrape, depression, or ledge in an open area. Peregrines hunt on the wing and are known for taking pigeons, as well as a variety of other birds. This species may fly up to 17 miles to favorite foraging areas.	HP (Foraging and Nesting)	There is suitable foraging and nesting habitat in the BSA. Therefore, this species has potential to forage and nest in the BSA.
Geothlypis trichas sinuosa Saltmarsh common yellowthroat	--	SSC	The saltmarsh common yellowthroat is a resident of the San Francisco Bay region. This species is found in fresh and salt water marshes with thick continuous cover such as tall grasses, tule patches, and willow for foraging and nesting.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Haliaeetus leucocephalus Bald eagle	Delisted	SE/FP	The bald eagle is found in old growth lower montane coniferous forest along ocean shore, lake margins, and rivers for both nesting and wintering. Most nests are in one mile of water. This species nests in large, old-growth, or dominant live trees with open branches, especially ponderosa pine. The bald eagle roosts communally in winter.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Hydroprogne caspia Caspian tern	--	S4	The Caspian tern is found in inland freshwater lakes and marshes, and brackish or salt waters of estuaries and	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

			bays. Nests are on sandy or gravelly beaches and shell banks in small colonies inland and along the coast.		
Lanius ludovicianus Loggerhead shrike	--	SSC	The loggerhead shrike is found in semi-open country with lookout posts, such as wires, trees, and scrub. This species builds nests in thorny vegetation in semi-open terrain, from large clearings in wooded regions to open grassland or desert with a few scattered trees or large shrubs.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Laterallus jamaicensis coturniculus California black rail	--	ST; FP	The California black rail is found in freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. This species requires a stable water depth of approximately one inch and dense vegetation for nesting.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Melospiza melodia maxillaris Suisun song sparrow	--	SSC	The Suisun song sparrow is found in brackish marshes and sloughs surrounding the Suisun Bay. This species requires cattails, tules, and other sedges, and *Salicornia*.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Melospiza melodia pusillula Alameda song sparrow	--	SSC	The Alameda song sparrow is found in salt marshes bordering the south arm of the San Francisco Bay. This species requires *Grindelia* bushes and *Salicornia* for nesting.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Melospiza melodia samuelis San Pablo song sparrow	--	SSC	The San Pablo song sparrow is found in salt marshes and tidal sloughs along the north side of San Francisco and San Pablo bays. This species requires *Salicornia* and *Grindelia* for nesting.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

Numenius americanus Long-billed curlew	--	WL	The long-billed curlew is found in Great Basin grasslands and meadows and seeps. This species breeds in upland shortgrass prairies and wet meadows in northeastern California. The long-billed curlew prefers gravelly soils and gently rolling terrain.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Nycticorax nycticorax Black-crowned night heron	--	--	The black-crowned night heron is a colonial nester, nesting usually in trees in riparian woodland and forest, and occasionally in tule patches. Rookery sites are located adjacent to foraging areas: lake margins, mud-bordered bays, and marshy spots.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Pandion haliaetus Osprey	--	WL	The osprey is found along ocean shore, bays, fresh-water lakes, and riparian forest along larger streams. This species builds large nests in tree-tops within 15 miles of a good fish-producing body of water.	HP (Foraging and Nesting)	There is suitable foraging and nesting habitat in the BSA. There are several large trees and the bay is approximately four miles away. Therefore, this species has potential to forage and nest in the BSA.
Passerculus sandwichensis alaudinus Bryant's savannah sparrow	--	SSC	The Bryant's savannah sparrow occupies low tidally influenced habitats with *Salicornia*, adjacent ruderal, most grasslands within and just above the fog bet.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Pelecanus occidentalis californicus California brown pelican	Delisted	Delisted; FP	The California brown pelican is found on rocky, sandy, or vegetated offshore islands, beaches, open sea, harbors, marinas, estuaries, and breakwaters. This species nests in colonies, often on isolated islands.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

Phalacrocorax auritus Double-crested cormorant	--	WL	The double-crested cormorant is a colonial nester on coastal cliffs, offshore islands, riparian forest, and scrub or woodland habitat near lake margins. This species builds nests near water on cliff ledges, on the ground on islands, or at any height in trees. The double-crested cormorant feeds on fish and other aquatic life near the mid to upper levels of the water.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Pica nuttalli Yellow-billed magpie	--	--	The yellow-billed magpie is colony bird found in open oak woodlands of central and southern California. This species nests are made primarily of sticks and mud, which are high up in large trees.	A	The BSA is outside the known regional range for this species. Therefore, this species is not expected to be in the BSA.
Rallus longirostris obsoletus California clapper rail	FE	SE; FP	The California rail is found in tidal salt and brackish marshes around San Francisco Bay. Brood nests are high tide refuges and consist of a platform of woven stems without a substantial canopy.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Rynchops niger Black skimmer	--	SSC	The black skimmer is found in alkali playas and sandy shores devoid of vegetation. Nests are on gravel bars, low islets, and sandy beaches. Nesting colonies are usually less than 200 breeding pairs.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Selasphorus rufus Rufous hummingbird	--	S4	The rufous hummingbird typically breeds in open or shrubby areas, forest openings, yards, and parks, and sometimes in forests, thickets, swamps, and meadows from sea level to approximately 6,000 feet in Alaska and	HP (Foraging and Nesting)	There is suitable foraging and nesting habitat in the BSA. Therefore, there is potential for this species to forage and nest in the BSA.

			northwest Canada. This species migrates 4,000 miles and winters mostly in pine-oak woods in Mexico.		
Setophaga petechia Yellow warbler	--	SSC	The yellow warbler is found in riparian forest, riparian scrub, and riparian woodland habitats in close proximity to water. This species is frequently found nesting and foraging in willow shrubs and thickets, and can also be found in cottonwoods, sycamores, ash, and alders.	HP (Foraging and Nesting)	There is suitable foraging and nesting habitat in the BSA. There is riparian habitat in close proximity to Sausal Creek. Therefore, this species has potential to forage and nest in the BSA.
Spinus lawrencei Lawrence's goldfinch	--	S3S4	The Lawrence's goldfinch nests very locally in the foothills of California and Baja in oak woodland chaparral, riparian woodland and other habitats in arid regions, but usually near water, and periodically is found wandering throughout much of western North America.	HP (Foraging and Nesting)	There is suitable foraging and nesting habitat in the BSA. Therefore, this species has potential to forage and nest in the BSA.
Sternula antillarum browni California least tern	FE	SE; FP	The California least tern is found along the coast from San Francisco Bay south to northern Baja California. This species is a colonial breeder and prefers sites that are bare, sparsely vegetated, contain flat substrates, sandy beaches, alkali flats, landfills, or paved areas.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Thalasseus elegans Elegant tern	--	WL	The elegant tern is found near coastal waters along the Pacific Coast. Nests on low, flat, sandy islands on the ground.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Xanthocephalus xanthocephalus Yellow-headed blackbird	--	SSC	The yellow-headed blackbird nests in freshwater emergent wetlands often along borders of lakes or ponds with dense vegetation and deep water. This	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.

			species only nests where large insects such as Odonata are abundant and nesting is timed with maximum emergence of aquatic insects. Nests are lashed to standing vegetation growing in water, usually no more than three feet above the water's surface. This species forages on the ground in open fields, near the edge of water, and in low marsh vegetation.		
Mammals					
Antrozous pallidus Pallid bat	--	SSC	The pallid bat is found year around in a variety of low-elevation habitats in most parts of California, including grasslands, shrub lands, woodlands and forests. This species is thought to prefer to open, dry habitats with rocky areas for roosting. The pallid bat day roosts in caves, crevices, mines, and hollow trees, buildings, and bridges, and night roosts in more open sites, such as porches, open buildings and bridges. Roosts must protect bats from high temperatures, and this species will move deeper into cover if temperatures rise. The pallid bat is highly sensitive to disturbance.	HP (Foraging and Roosting)	There is suitable habitat in the BSA. Trees could provide suitable day roosting habitat. Therefore, this species has potential to be in the BSA.
Corynorhinus townsendii Townsend's big-eared bat	--	SSC	The Townsend's big-eared bat is found in a variety of habitat types, including coniferous forests, deserts, native prairies, riparian communities, agricultural areas, and coastal habitats. This species roosts in caves, and cave-like structures, such as exposed cavity-forming rock and mines. Townsend's big-eared bats prefer to roost in large	HP (Foraging)	There is suitable habitat for foraging in the BSA. However, there are no cave-like structures for day or night roosting. Therefore, this species has potential to forage in the BSA, but is not expected to roost in the BSA.

			rooms and do not use cracks and crevices like many bat species do.		
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	--	S1	The Berkeley kangaroo rat is found in chaparral and cismontane woodland with fine, deep, well-drained soil for burrowing.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Eumops perotis californicus Western mastiff bat	--	SSC	The western mastiff bat is a cliff dwelling species that generally roosts under rock slabs or crevices in large boulders or buildings. This species is not known to roost in bridges, although some potential exists. This species forages in dry desert washes, flood plains, chaparral, oak woodland, grassland, agricultural, and urban areas. Roosts typically provide a vertical drop to allow individuals to drop into flight.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Lasionycteris noctivagans Silver-haired bat	--	S3S4	The silver haired bat is a solitary tree-roosting species that is found in forested areas. This species roosts in small tree hollows, beneath tree bark, in buildings, rock crevices, in wood piles, and on cliff faces. The silver-haired bat feeds over streams, ponds, and open brushy areas. This species requires drinking water.	HP (Foraging and Roosting)	There is suitable habitat in the BSA. Trees could provide suitable day roosting habitat. Therefore, there is potential for this species to be in the BSA.
Lasiurus cinereus Hoary bat	--	S4	The hoary bat prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosting in dense foliage of medium to large trees, this species feeds primarily on moths and requires water.	HP (Foraging and Roosting)	There is suitable habitat in the BSA. Trees could provide suitable day roosting habitat. Therefore, there is potential for this species to be in the BSA.

Microtus californicus sanpabloensis San Pablo vole	--	SSC	The San Pablo vole is found in the saltmarshes of San Pablo Creek, on the south shore of San Pablo Bay. This species constructs networks to burrows in soft soil and feeds on grasses, sedges, and herbs.	A	The BSA is outside the known regional range for this species. Therefore, this species is not expected to be in the BSA.
Myotis thysanodes Fringed myotis	--	S3	The fringed myotis is found in hardwood and coniferous forests. This species roosts in caves, mine tunnels, rock crevices, and buildings.	HP (Foraging and Roosting)	There is suitable habitat in the BSA. This species forages in hardwood forests and roosts in crevices Therefore, there is potential for this species to be in the BSA.
Myotis yumanensis Yuma myotis	--	S4	The Yuma myotis is found in lower and upper montane coniferous forest, riparian forest, and riparian woodland. Optimal habitats for this species are open forests and woodlands with sources of water over which to feed. Distribution of the Yuma myotis is closely tied to bodies of water. The Yuma myotis roosts in buildings, mines, caves, or crevices, including trees. The species also has been seen roosting in abandoned swallow nests and under bridges. Separate, often more open, night roosts may be used.	HP (Foraging and Roosting)	There is suitable habitat in the BSA. Trees could provide suitable day roosting habitat and there is a source of water over which to feed. Therefore, there is potential for this species to be in the BSA.
Myotis Volans Long-legged myotis	--	S3	The long-legged myotis is found in nearly all brush, woodland, and forest habitats, from sea level to at least 8,800 feet, especially in coniferous woodlands and forests. This species summer roosts include cliff crevices, old buildings, cracks in the ground, and hollows in snags or hollow areas under exfoliating bark and in living trees.	HP (Foraging and Roosting)	There is suitable habitat in the BSA. Trees, brush, and cracks in the ground could provide suitable summer roosting and foraging habitat. Therefore, there is potential for this species to be in the BSA.

			trees.		
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	--	SSC	The San Francisco dusky-footed woodrat is found in chaparral and redwood forests of moderate canopy and moderate to dense understory. This species constructs nests of shredded grass, leaves, and other materials.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Nyctinomops macrotis Big free-tailed bat	--	SSC	The big-free tailed bat is found in low-lying arid areas in Southern California. This species requires high cliffs or rocky outcrops for roosting sites and feeds principally on large moths.	A	There is no suitable habitat and the BSA is outside the known regional range for this species. Therefore, this species is not expected to be in the BSA.
Reithrodontomys raviventris Salt-marsh harvest mouse	FE	SE; FP	The salt-marsh harvest mouse is found only in the saline emergent wetlands of San Francisco Bay and its tributaries. This species primary habitat is *Salicornia* adjacent to grasslands. Nests are loosely organized with grasses or abandoned bird nests.	A	There is no suitable habitat in the BSA. Therefore, this species is not expected to be in the BSA.
Scapanus latimanus parvus Alameda Island mole	--	SSC	The Alameda Island mole is found in valley and foothill grasslands on Alameda Island. This species prefers moist, friable soils.	A	There is no suitable habitat and the BSA is outside the known regional range for this species. Therefore, this species is not expected to be in the BSA.
Sorex vagrans halicoetes Salt-marsh wandering shrew	--	SSC	The salt-marsh wandering shrew is found in the south arm of San Francisco Bay. This species prefers to be in marshes six to eight feet above sea level containing scattered driftwood and *Salicornia*.	A	There is no suitable habitat and the BSA is outside the known regional range for this species. Therefore, this species is not expected to be in the BSA.
Taxidea taxus American badger	--	SSC	The American badger is most abundant in drier open stages of most shrub, forest, and herbaceous habitats with	A	There is no suitable habitat in the BSA. Therefore, this species is not expected

			friable soils. This species needs sufficient food, friable soils and open, uncultivated ground. The American badger feeds on burrowing rodents, reptiles, and insects and digs burrows.		to be in the BSA.
Natural Communities					
Northern Coastal Salt Marsh	S3.2 = threatened (10,000 to 50,000 acre)		Northern coastal salt marsh is a highly productive plant community dominated by herbaceous, suffrutescent (subshrubby), salt-tolerant hydrophytes (water plants), typically forming a dense mat of vegetation up to three feet high.	A	There is no northern coastal salt marsh in the BSA. Therefore, this natural community is absent from the BSA.
Serpentine Bunchgrass	S2.2 = threatened (2,000 to 10,000 acres)		Serpentine bunchgrass occurs on soils derived from serpentine and generally has less overall vegetation cover. Bunchgrasses typically occur in patches and are primarily dominated by medusa head, goatgrass (*Aegilops triuncialis*), and foxtail brome (*Bromus madritensis*).	A	There is no serpentine bunchgrass in the BSA. Therefore, this natural community is absent from the BSA.
Valley Needlegrass Grassland	S3.1 = very threatened (10,000 to 50,000 acres)		Valley Needlegrass Grassland is a midheight (to two feet) grassland that is dominated by perennial, tussock-forming *Stipa pulchra*. Native and introduced annuals are found between the perennials and can exceed the bunchgrass in cover.	A	There is no valley needlegrass grassland in the BSA. Therefore, this natural community is absent from the BSA.

Table Key: Absent [A] – The plant species/vegetation community was not observed in the BSA during the biological survey. No Potential [NP] – Habitat in the BSA does not provide the necessary habitat requirements for the species (foraging, breeding, substrate, hydrology, vegetation community) and/or the project is outside of the known range of the species. Not Expected [NE] – The BSA lacks the habitat/vegetation communities preferred by this species; therefore, this species is not expected to be found in the BSA. The BSA is in the known range for the species. Low Potential [LP] – There is a low potential for the species to be in the BSA. Moderate Potential [MP] – there is a moderate potential for the species to be in the BSA. High Potential [HP] - there is a high potential for the species to be in the BSA. Present [P] – the species was observed in the BSA during the biological survey. Status: Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Threatened (ST); Fully Protected (FP); Federally Delisted (FD); Watch List (WL); State Species of Special Concern (SSC); California Native

Plant Society (CNPS), etc. 1A = Plants presumed extirpated in California and either rare, or extinct elsewhere;1B= Plant species that are rare, threatened, or endangered in California and elsewhere; 2B= Plant species that are rare, threatened, or endangered in California, but are more common elsewhere; 3= Plants about which we need more information; 4 = Plants of limited distribution; 0.1=seriously threatened in California; 0.2 = moderately threatened in California; 0.3 = Not very threatened in California; S1 = critically imperiled, less than 1,000 individuals; S2 = imperiled, 1,000 to 3,000 individuals; S3 = vulnerable, 3,000 to 10,000 individuals; S4 = apparently secure in California, there is narrow habitat.

*Information for the habitat requirements was obtained from CNPS Rare and Endangered Plant Inventory, developed and maintained by the CNPS Rare Plant Program; the California Natural Diversity Database species habitat descriptions, updated and maintained by the CDFW; California Herps online database; Cornell Lab of Ornithology All About Birds; Audubon Guide to North American Birds; and Preliminary Descriptions of the Terrestrial Natural Communities of California by Robert F. Holland (1986) were consulted during preparation of the species table and are listed in the references.

Appendix G

National Marine Fishery Service and United States Fish and Wildlife Service Letters of Concurrence

DEPARTMENT OF TRANSPORTATION
111 Grand Avenue
P.O. Box 23660
Oakland, CA 94623-0660
Tel: (510) 286-6371

Flex your power!
Be energy efficient!

February 13, 2009

Mr. Nader Z. Rabahat
City of Oakland
250 Frank H. Ogawa Plaza, Ste. 4314
Oakland, CA 94612-2033

Federal Project No.: STPLZ – 5012 (025)
Leimert Blvd. Bridge
Bridge No. 33C-0215
04-ALA-0-OAK

Subject: Concurrence from the National Marine Fisheries Service

Dear Mr. Rabahat:

The California Department of Transportation (Caltrans), Office of Local Assistance initiated consultation with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) both on January 21, 2009. Enclosed for your record is a copy of the letter of concurrence from NMFS dated February 4, 2009. A response from USFWS is still pending.

If you have any questions regarding this letter, please contact me at (510) 622-8790.

Sincerely,

Hugo Alvarado FOR

Boris Deunert
Senior Environmental Planner

cc: LA files

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

February 4, 2009

In response refer to:
2009/00273:GRS

Jo Ann Cullom
Environmental Coordinator for Local Assistance Projects
Department of Transportation
Office of Local Assistance
111 Grand Avenue
P.O. Box 23660
Oakland, California 94623-0660

Dear Ms. Cullom:

Thank you for your letter of January 21, 2009, requesting the initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) for the City of Oakland's Leimert Boulevard Bridge project. This consultation pertains to the proposed seismic retrofit of the Leimert Boulevard Bridge over Sausal Creek in Oakland, California (Caltrans #04-ALA-BR 33C-0215). The California Department of Transportation (Caltrans) proposes to provide funding to the City of Oakland as a Local Assistance project.

The proposed project involves the seismic retrofit of an existing bridge over Sausal Creek in the City of Oakland, Alameda County, California. The Leimert Boulevard Bridge would be strengthened by placing steel casings around 17 bents, adding a concrete brace, and placing steel jackets around the arch ribs. Construction would occur from the deck of the existing bridge structure and from elevated platforms built on the hill slope adjacent to the bridge deck.

For the Leimert Boulevard Bridge project, Caltrans prepared a biological assessment regarding potential impacts to special-status species in May 2008, and completed a Natural Environmental Study in December 2008. Caltrans' letter of January 21, 2009, requests concurrence from NMFS with Caltrans' finding that the proposed project is not likely to adversely affect ESA-listed fish species or critical habitat.

Endangered Species Act

NMFS has reviewed the project description and other information provided in the project's Natural Environment Study and biological assessment. The project site is located on Sausal

Creek approximately three miles upstream of San Francisco Bay. The one mile-long lowermost portion of Sausal Creek is composed of buried storm drains, culverts, and other structures that create impassable barriers to anadromous fish passage. NMFS concurs with the findings of the project's biological assessment that Central California Coast (CCC) steelhead and other anadromous fishes have no potential to occur at the project site due to impassable barriers downstream in Sausal Creek (May 2008 Biological Assessment, pages 7-9). Sausal Creek and the project site are not within designated critical habitat for CCC steelhead or any other listed species under the jurisdiction of NMFS. In addition, no construction will be performed in the wetted portions of the creek. Since all work will be occur on elevated platforms built above ground, indirect effects to San Francisco Bay three miles downstream of the project site are very unlikely. Therefore, NMFS has determined the proposed project will have no effect on listed species or critical habitat under the jurisdiction of NMFS.

Magnuson-Stevens Fishery Conservation and Management Act

Your letter of January 21, 2009, also requests consultation for potential adverse affects to Essential Fish Habitat (EFH) pursuant to section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). NMFS has evaluated the proposed project and determined that the project will not affect EFH for any fish species managed under the MSFCMA.

If you have questions concerning these comments, please contact Gary Stern at (707) 575-6060.

Sincerely,

for Rodney R. McInnis
Regional Administrator

cc: Russ Strach, NMFS, Sacramento, California
Korie Schaeffer, NMFS, Santa Rosa, California
Ryan Olah, USFWS, Sacramento, California
Copy to file 151422SWR2009SR00072

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2009-I-0394

JUL 28 2009

Ms. Jo Ann Cullom
Environmental Coordinator
Office of Local Assistance
Department of Transportation
111 Grand Avenue
P.O. Box 23660
Oakland, California 94623-0660

Subject: Informal Consultation for the Proposed Seismic Retrofit of the Leimert Boulevard Bridge Over Sausal Creek Project, City of Oakland, Alameda County, California.

Dear Ms. Cullom:

This letter is in response to the California Department of Transportation's (Caltrans) January 21, 2009, request for informal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Seismic Retrofit of the Leimert Boulevard Bridge (Bridge No. 33C-0215) Over Sausal Creek Project in the City of Oakland, Alameda County, California. Your request was received by the Service on January 23, 2009. At issue are the potential effects of the proposed project on the threatened California red-legged frog (*Rana aurora draytonii*) (red-legged frog). This response is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

The City of Oakland proposes to implement a seismic retrofit of the Leimert Boulevard Bridge over Sausal Creek. The seismic retrofit consists of strengthening bent columns by placing steel casing around them; adding a concrete brace between bents and the bridge arch; strengthening the arch by placing steel jackets around the arch ribs; and removing the existing bracing between bent columns. No habitat would be removed or permanently modified by the proposed action.

California red-legged frog

This threatened amphibian requires aquatic habitat for breeding and successful development of its early stages, along with upland areas for feeding, aestivation, movement, and other essential behaviors. California red-legged frogs have been documented using a variety of upland habitats as well riparian corridors for migration. They have been recorded migrating overland in approximately straight lines without apparent regard to vegetation type or topography. A study in northern Santa Cruz County found that the animals traveled distances from 0.25 miles to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

Sausal Creek is one of the few historically perennial creeks in Oakland. Habitat within the proposed action area includes a greenbelt of California bay (*Umbellularia californica*) forest and woodland and non-native grassland vegetation, surrounded by dense residential development. The adjacent hillslopes of Sausal Creek are steep and highly eroded. According to the CNDDB (2009), there is an historic red-legged frog occurrence 1.9 miles northeast of the site from the 1940s. The nearest recent record was in 1997, 3.8 miles northeast of the site (CNDDB 2009). However, no records exist for Sausal Creek or other creeks in the vicinity. In addition, most of the work would occur from the deck of the existing bridge structure and from elevated platforms built on the hill slope adjacent to the bridge deck, no construction activities would occur in Sausal Creek, and excavation activities would occur in already highly disturbed upland areas 75-80 feet from either side of the creek. Based on our review of the information provided with your request, other information available to the Service, and the implementation of the proposed minimization and avoidance measures, as described in the in the *Leimert Boulevard Bridge Seismic Retrofit Project Final Natural Environment Study* dated December 2008, the Service concurs that the proposed project may affect, but is not likely to adversely affect the red-legged frog.

Therefore, unless new information reveals effects of the project that may affect federally listed species or critical habitat in a manner not identified to date, or if a new species is listed or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary.

If you have any questions regarding our response on the proposed Seismic Retrofit of the Leimert Boulevard Bridge Over Sausal Creek Project, please contact Ben Solvesky or Ryan Olah of my staff at the letterhead address, telephone (916) 414-6600, or electronic mail at Ben_Solvesky@fws.gov or Ryan_Olah@fws.gov.

Sincerely,

Cay C. Goude

Cay C. Goude
Assistant Field Supervisor

cc:
Scott Wilson, California Department of Fish and Game, Yountville, California

Literature Cited

Bulger, J. B., N. J. Scott, Jr., and R. B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. Biological Conservation 110:85-95.

California Natural Diversity Data Base (CNDDB). 2009. Natural Heritage Division. California Department of Fish and Game, Sacramento, California.

Appendix H

Soil Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

Alameda County, California, Western Part

March 16, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map (Leimert Bridge)

Map Scale: 1:1,810 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 25, 50, 100, 150

Feet: 0, 50, 100, 200, 300

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Alameda County, California, Western Part
Survey Area Data: Version 12, Sep 12, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 7, 2013—Nov 1, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Leimert Bridge)

Alameda County, California, Western Part (CA610)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
127	Maymen-Los Gatos complex, 30 to 75 percent slopes	3.5	53.8%
158	Xerorthents-Los Osos complex, 30 to 50 percent slopes	1.1	16.2%
159	Xerorthents-Millsholm complex, 30 to 50 percent slopes	2.0	30.0%
Totals for Area of Interest		**6.6**	**100.0%**

Map Unit Descriptions (Leimert Bridge)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Alameda County, California, Western Part

127—Maymen-Los Gatos complex, 30 to 75 percent slopes

Map Unit Setting

National map unit symbol: hb6m
Elevation: 400 to 4,250 feet
Mean annual precipitation: 22 to 70 inches
Mean annual air temperature: 46 to 68 degrees F
Frost-free period: 130 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Maymen and similar soils: 50 percent
Los gatos and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maymen

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 19 inches: loam
H2 - 19 to 23 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 75 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Los Gatos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Convex, linear

Across-slope shape: Convex, linear
Parent material: Residuum weathered from sedimentary rock

Typical profile
H1 - 0 to 19 inches: loam
H2 - 19 to 40 inches: loam
H3 - 40 to 44 inches: unweathered bedrock

Properties and qualities
Slope: 30 to 75 percent
Depth to restrictive feature: 24 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Millsholm
Percent of map unit: 10 percent
Hydric soil rating: No

Rock outcrop
Percent of map unit: 5 percent
Hydric soil rating: No

158—Xerorthents-Los Osos complex, 30 to 50 percent slopes

Map Unit Setting
National map unit symbol: hb7m
Elevation: 100 to 3,500 feet
Mean annual precipitation: 14 to 35 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 225 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition
Xerorthents: 70 percent
Los osos and similar soils: 20 percent

Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerorthents

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sedimentary rock

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 10 inches: clay loam
H2 - 10 to 30 inches: silty clay loam
H3 - 30 to 34 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Altamount

Percent of map unit: 5 percent
Hydric soil rating: No

Climara

Percent of map unit: 3 percent
Hydric soil rating: No

Millsholm

Percent of map unit: 2 percent
Hydric soil rating: No

159—Xerorthents-Millsholm complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hb7n
Elevation: 300 to 3,700 feet
Mean annual precipitation: 12 to 50 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 130 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Xerorthents and similar soils: 75 percent
Millsholm and similar soils: 20 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerorthents

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 60 inches: silt loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.4 inches)

Description of Millsholm

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 20 inches: silt loam
H2 - 20 to 24 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Maymen

Percent of map unit: 3 percent
Hydric soil rating: No

Los gatos

Percent of map unit: 2 percent
Hydric soil rating: No

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Appendix I

Hydrology Report

FLOODPLAIN EVALUATION REPORT SUMMARY

Dist. 4 Co. Alameda Rte. Sausal Creek Bridge on Leimert Blvd. K.P. ______
Project No.: 04-928221L Bridge No. 33C-0215
Limits: Bridge structure

Floodplain Description: The bridge is located over Sausal Creek in Dimond Canyon. Sausal Creek is a natural stream channel and a natural riparian corridor.

		No	Yes
1.	Is the proposed action a longitudinal encroachment of the base floodplain?	X	
2.	Are the risks associated with the implementation of the proposed action significant?	X	
3.	Will the proposed action support probable incompatible floodplain development?	X	
4.	Are there any significant impacts on natural and beneficial floodplain values?	X	
5.	Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain.		X
6.	Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q).	X	
7.	Are Location Hydraulic Studies that document the above answers on file? If not explain.		X

PREPARED BY:

______________________ 7/2/07
Signature - Dist. Hydraulic Engineer Date

REGISTERED PROFESSIONAL ENGINEER
JEANNE HUDSON
No. C [illegible]
Exp. 6/30/08
CIVIL
STATE OF CALIFORNIA

______________________ ________
Signature - Dist. Environmental Branch Chief Date

______________________ ________
Signature - Dist. Project Engineer Date

FLOODPLAIN EVALUATION REPORT SUMMARY
SUPPORTING INFORMATION

1. The Liemert Boulevard bridge crosses perpendicular to the Sausal Creek floodplain. The bridge is a concrete arch spanning Sausal Creek. The bridge footings are located on the sides of the canyon above and away from the floodplain of the creek. Therefore, the bridge does not encroach on the floodplain.

2. The seismic retrofit project consists of strengthening the bent columns by placing steel casings around them and adding a concrete brace between Bents 6 and 14 and the bridge arch, and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns would also be removed as part of this project. These activities would not measurably change the cross sectional area of the bridge. Therefore, there would be no changes in the flood risks.

3. The bridge spans Dimond Canyon Park, a City of Oakland public park. All lands on either side of the canyon are privately owned and have been developed for residences. Because of these land uses and the fact that the project will not alter existing access in the area, the proposed action will not support incompatible floodplain development.

4. The seismic retrofit project will require excavation of some of the footings of bent columns supporting the bridge, as well as removal of vegetation around the bent columns beneath the bridge and temporary construction areas 30 feet on either side of the bridge. Areas of excavation will be returned to preconstruction grades. A revegetation program will be implemented in accordance with the City of Oakland Creek Protection Permit required for the project to restore the natural habitats damaged during construction. For these reasons, the project will not significantly impact natural and beneficial floodplain values.

5. A revegetation program will be implemented to restore natural habitat disturbed during project construction. This program will be defined in the Creek Protection Permit required for the project from the City of Oakland.

6. The proposed project will improve the seismic stability of the Leimert Boulevard Bridge; therefore, it will reduce the potential for interruption or termination of a transportation facility which is needed for emergency vehicles. The Leimert Boulevard Bridge is not the only evacuation route for the neighborhoods it serves. Because the project will not measurably change the cross section of the bridge and bridge footings are located outside the Sausal Creek floodplain, the project will not result in a significant flood risk. The project construction site will be brought back to its original grade and vegetation will be restored; therefore, the project will not have a significant impact on natural and beneficial floodplain values. Finally, the project will not encourage, allow, service, or otherwise

facilitate base floodplain development. The base floodplain is located in Dimond Canyon Park, a City of Oakland public park, that is not available for development.

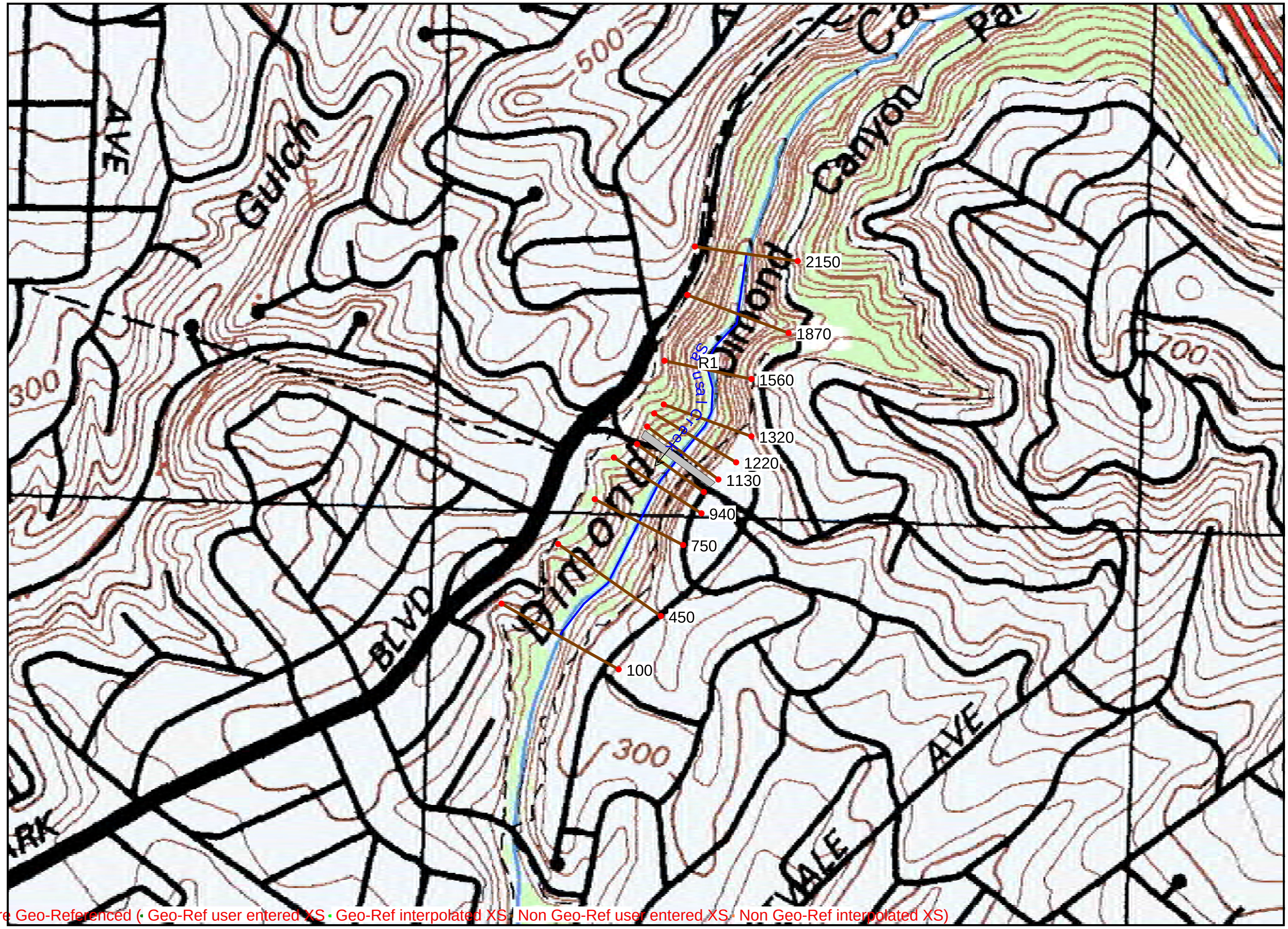
HEC-RAS Output for 100-Year Flood Event on Sausal Creek

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
R1	2150	100-Year	1300	290	292.81	294.1	296.92	0.110089	16.27	79.88	36.86	1.95
R1	1870	100-Year	1300	259	261.09	262.21	265.07	0.117352	16.01	81.22	53.44	2.29
R1	1560	100-Year	1300	254	257.66	257.6	258.81	0.030598	8.58	151.54	62.74	0.97
R1	1320	100-Year	1300	248	253.14		254.06	0.013499	7.7	168.83	45.7	0.71
R1	1220	100-Year	1300	246	250.42	250.42	252.15	0.026334	10.54	123.37	35.79	1
R1	1130	100-Year	1300	244	246.68	247.41	249.16	0.040736	12.62	103.01	46.77	1.5
R1	1085		Bridge									
R1	1040	100-Year	1300	241	243.61	244.54	246.66	0.042129	14.02	92.73	41	1.64
R1	940	100-Year	1300	239	242.24	241.69	242.91	0.009884	6.56	198.14	75.87	0.72
R1	750	100-Year	1300	235	238.92	238.72	240.01	0.025733	8.36	155.5	59.25	0.91
R1	450	100-Year	1300	227	231.3	231.09	232.58	0.02371	9.11	142.77	46.45	0.92
R1	100	100-Year	1300	220	223.73	223.49	224.95	0.020012	8.86	146.7	48.65	0.9

Model Inputs/ Assumptions

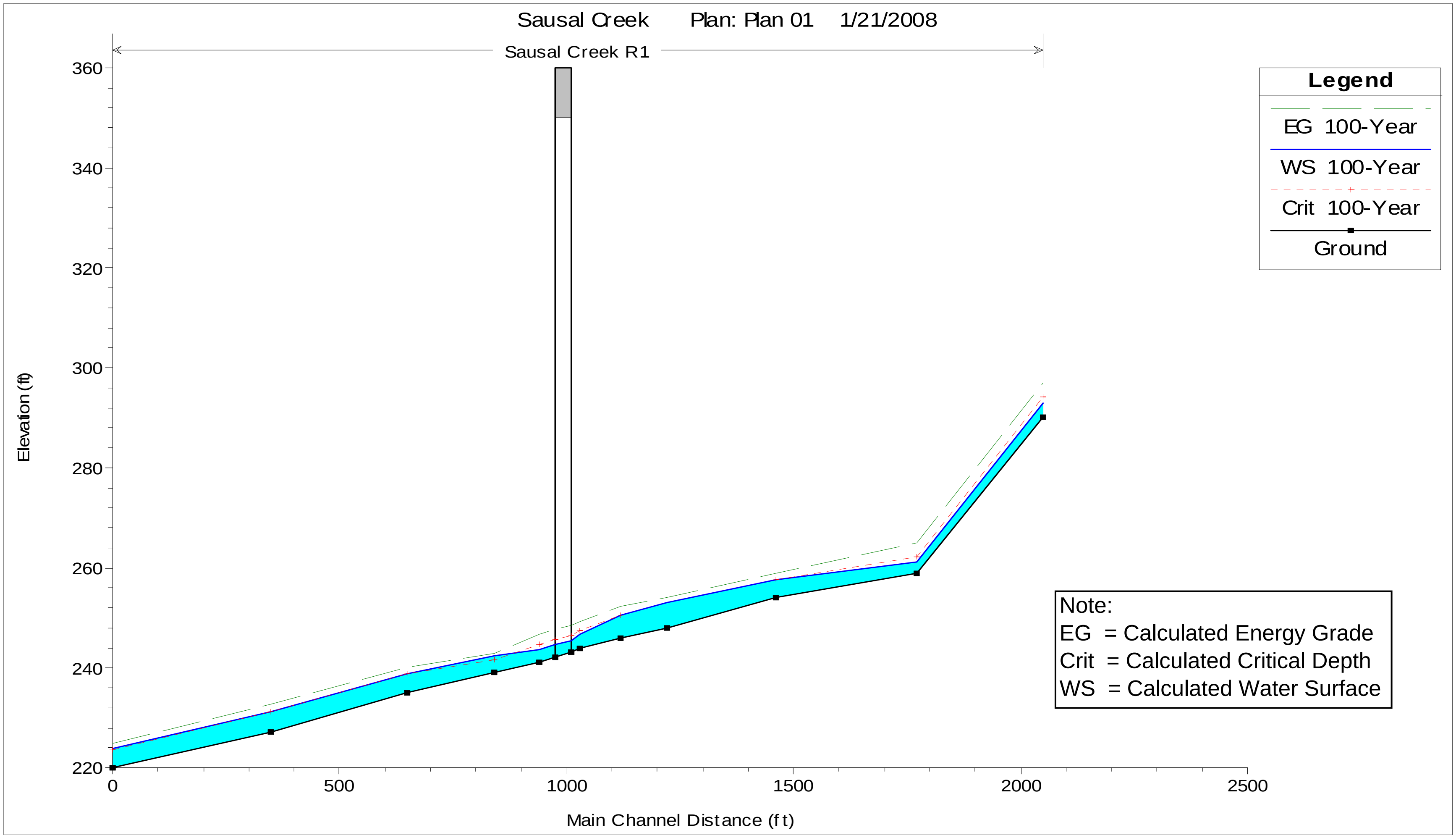
1) Cross-sections were measured from the Oakland East USGS 7.5 minute topographic map.
2) Manning's n was assumed to be 0.06 for the channel banks and 0.04 in the channel bed, except for the concrete channel below the bridge, which was assigned an n value of 0.025.
3) Peak 100-year flow of 1,300 cfs based on value from FEMA FIS for location just downstream of bridge site.
4) Assumed normal depth as upstream and downstream water level boundary conditions based on channel slope.
5) The river stations for the cross sections are measured in feet starting approximately at Casterline Road.

HEC-RAS Schematic for Sausal Creek

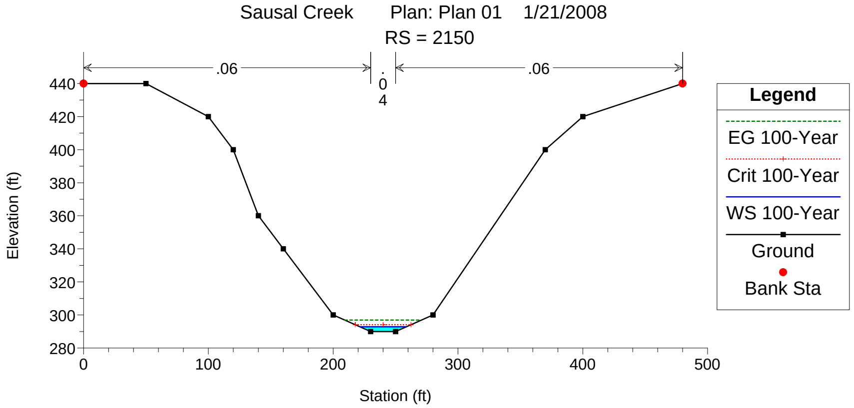


None of the XS's are Geo-Referenced (Geo-Ref user entered XS Geo-Ref interpolated XS Non Geo-Ref user entered XS Non Geo-Ref interpolated XS)

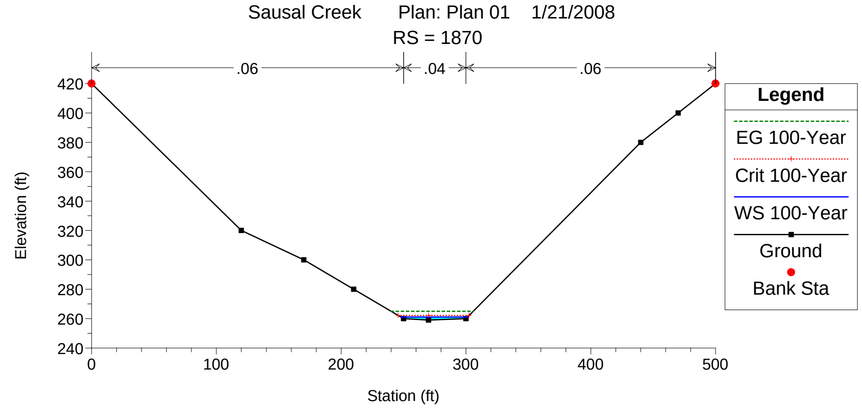
Water Surface Profile Along Sausal Creek for the 100-Year Flood Event



X:\x_env\Oakland Bridges\Hydrology\Leimert Blvd\flow_calcs\hecras_output_sausal.xls profile



Sausal Creek Plan: Plan 01 1/21/2008
RS = 2150
.06
.04
.06
Legend
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)



Sausal Creek Plan: Plan 01 1/21/2008
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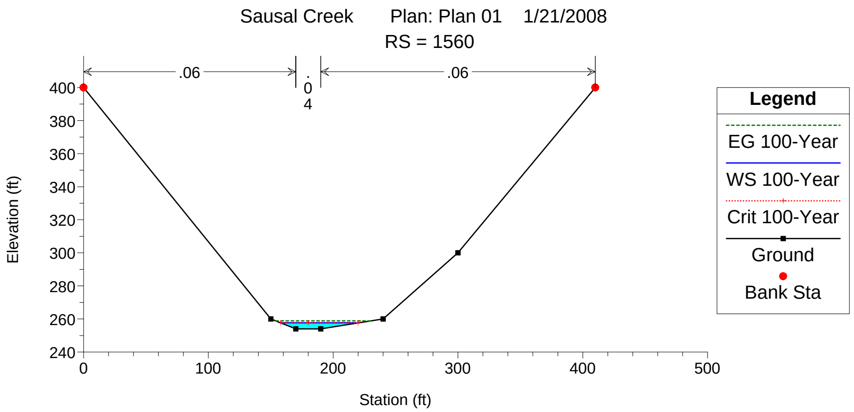
.06
.04
.06
Legend
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)



Sausal Creek Plan: Plan 01 1/21/2008
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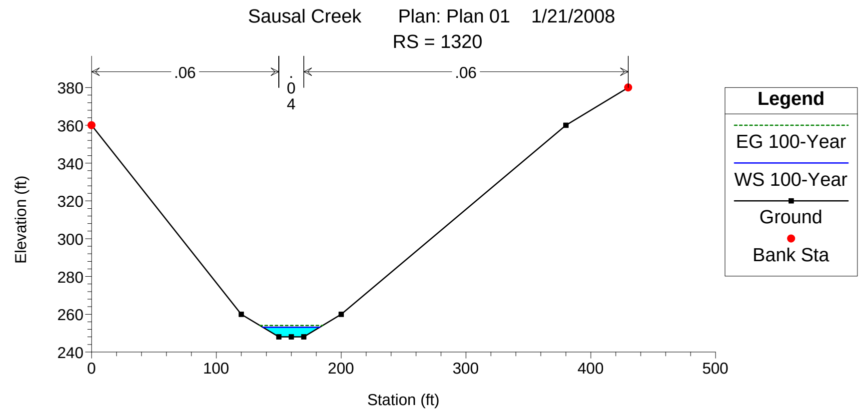
.06
.04
.06
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)



Sausal Creek Plan: Plan 01 1/21/2008
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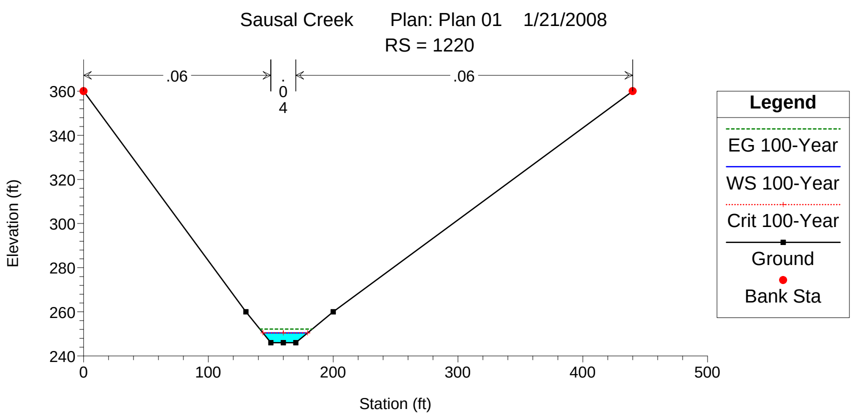
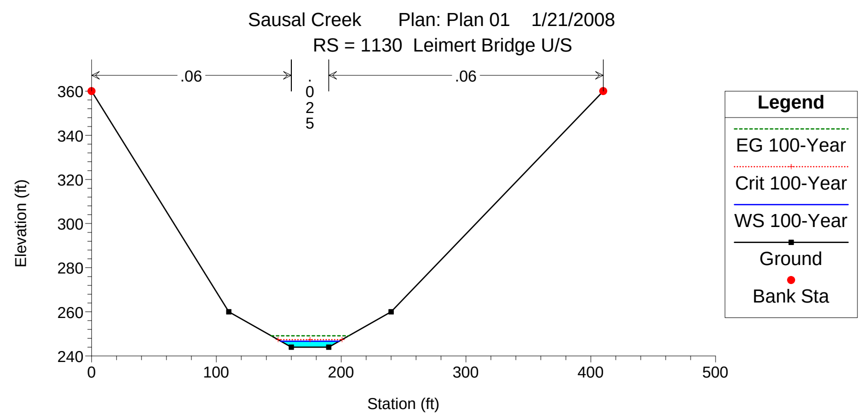
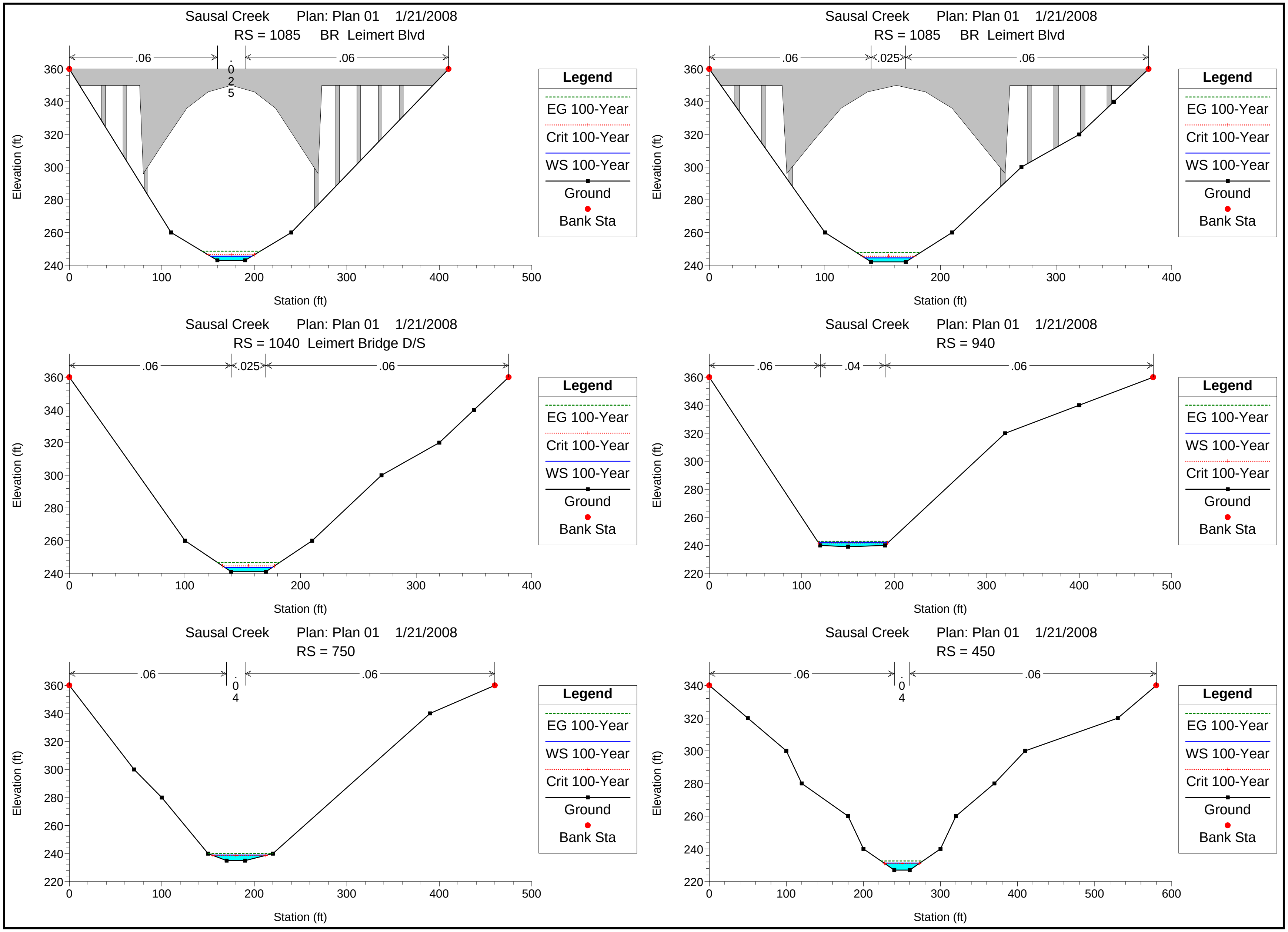
.06
.04
.06
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)



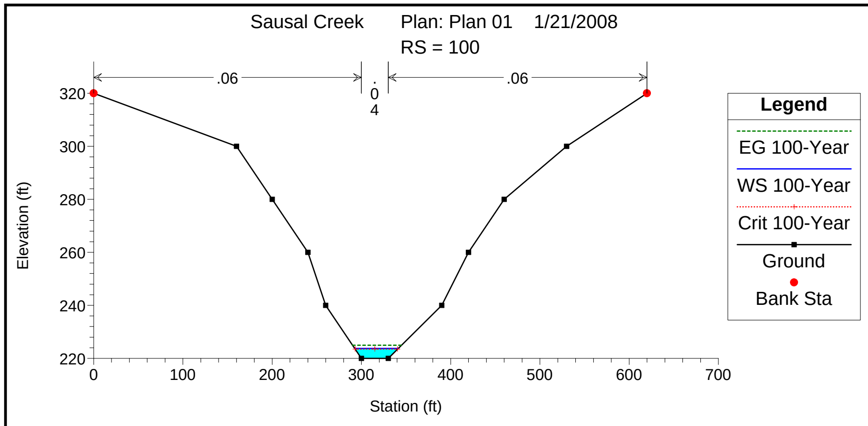
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1220
.06
.04
.06
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)



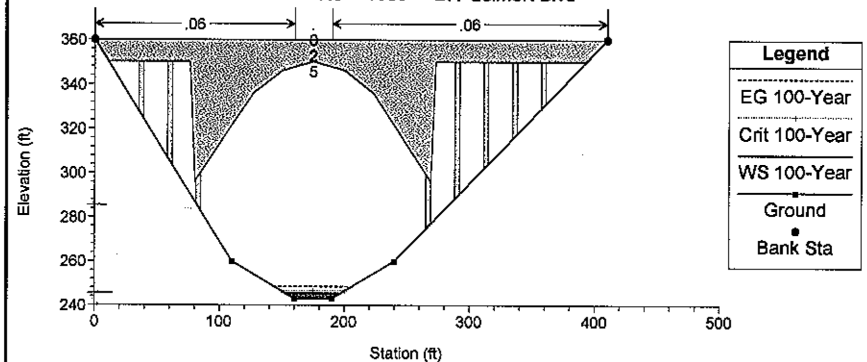
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1130 Leimert Bridge U/S
.06
.025
.06
Legend
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)



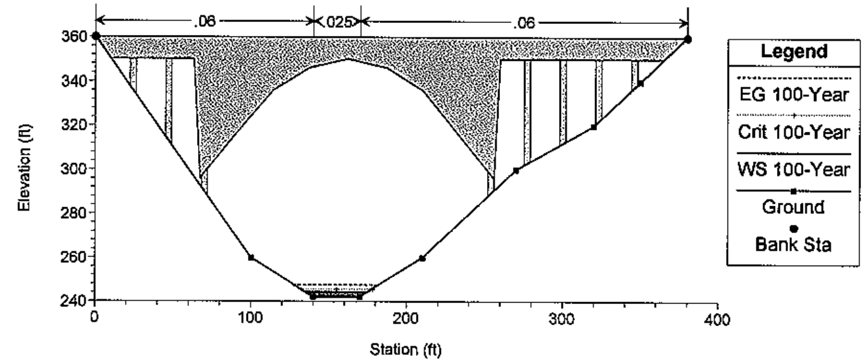
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1085 BR Leimert Blvd
.06
.025
.06
Legend
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1085 BR Leimert Blvd
.06
.025
.06
Legend
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1040 Leimert Bridge D/S
.06
.025
.06
Legend
EG 100-Year
Crit 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Sausal Creek Plan: Plan 01 1/21/2008
RS = 940
.06
.04
.06
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Sausal Creek Plan: Plan 01 1/21/2008
RS = 750
.06
.04
.06
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
Sausal Creek Plan: Plan 01 1/21/2008
RS = 450
.06
.04
.06
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)


Sausal Creek Plan: Plan 01 1/21/2008
RS = 100
.06
.
0
4
.06
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
320
300
280
260
240
220
0
100
200
300
400
500
600
700
Station (ft)

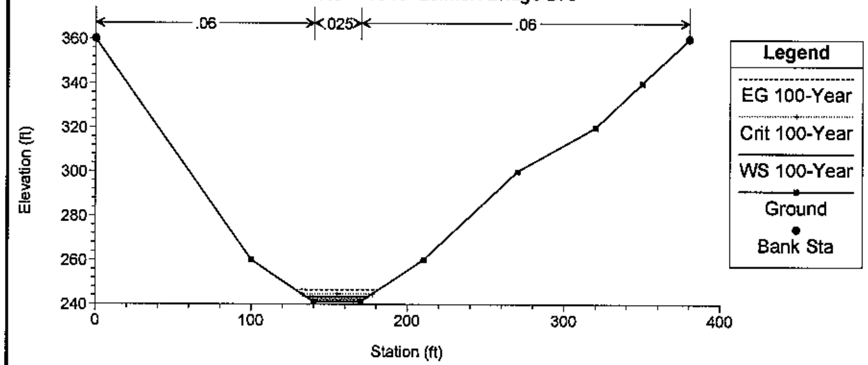
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1085 BR Leimert Blvd



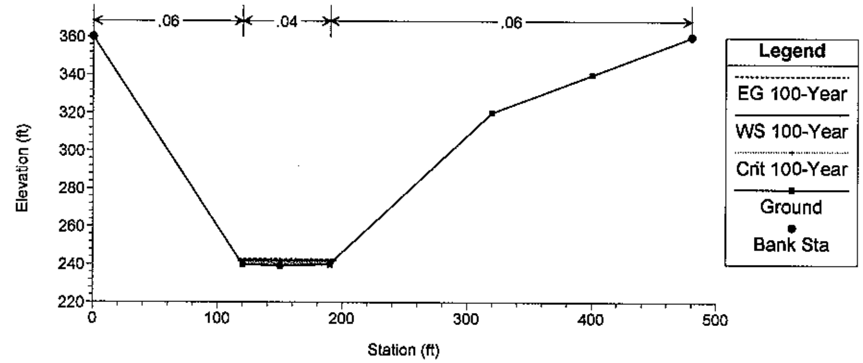
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1085 BR Leimert Blvd



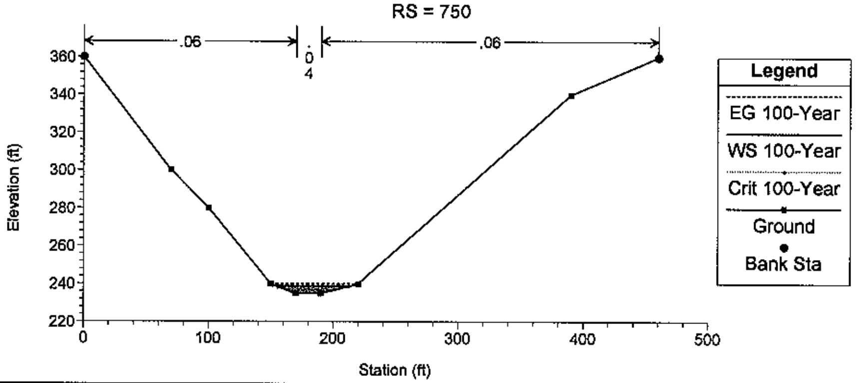
Sausal Creek Plan: Plan 01 1/21/2008
RS = 1040 Leimert Bridge D/S



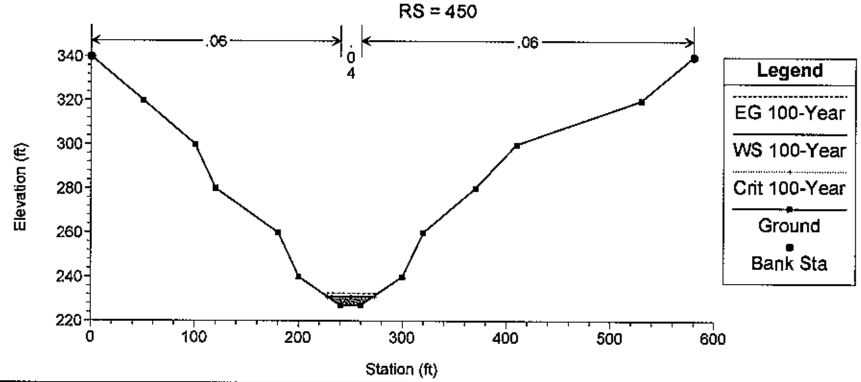
Sausal Creek Plan: Plan 01 1/21/2008
RS = 940



Sausal Creek Plan: Plan 01 1/21/2008
RS = 750



Sausal Creek Plan: Plan 01 1/21/2008
RS = 450



Attachment E: Cultural Resources Documentation (Supplemental Historic Property Survey Report; Finding of No Adverse Effect; Secretary of the Interior Action Plan);

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF LOCAL ASSISTANCE
111 GRAND AVENUE-MS 10B
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5530
FAX (510) 286-5229
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

JULY 17, 2018

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Subject: Eligibility Determinations for the Proposed Sausal Creek Bridge Seismic Retrofit Project in the City of Oakland in Alameda County.

Dear Ms. Polanco,

The California Department of Transportation (Caltrans) is initiating consultation with the State Historic Preservation Officer (SHPO) regarding the Sausal Creek Bridge Seismic Retrofit Project (Undertaking). Caltrans, on behalf of City of Oakland, is proposing the undertaking. A full project description can be found on Page 1 of the enclosed Supplemental Historic Property Survey Report (HPSR). The change to the undertaking since the previous submittal includes the redesign of the seismic retrofit project. This required an expanded Area of Potential Effect (APE) to include a portion of Sausal Creek that was channelized by the Works Progress Administration.

Section 106 responsibilities for the Undertaking are being conducted in accordance with the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (hereafter, the PA).

Enclosed you will find the Supplemental HPSR for the proposed Undertaking. In accordance with Stipulation VIII.C.6 of the PA, Caltrans is requesting SHPO's concurrence on the National Register of Historic Places (NRHP) eligibility of the following built resource, which was recorded and evaluated on the attached DPR form.

The following property has been determined ***not eligible*** for inclusion in the NRHP as a result of this study:

- Segment of the Channelized Sausal Creek under Sausal Creek Bridge at Leimert Boulevard

The vertical ground disturbance within the expanded APE will be limited to Bent 15 with a maximum depth of three feet below current ground surface. The ground disturbance surrounding the base of Bent 15 will be limited to areas of previously disturbed soils from the initial construction of Bent 15. Based on the previous level of ground disturbance within the APE and the limited ground disturbing activities, there is a low potential to encounter intact buried archaeological resources.

We would appreciate receiving the SHPO's concurrence on the determination of eligibility within 30 days of your receipt of this submittal. If you have any questions, please contact Carrie Reichardt, Senior Environmental Planner, Office of Local Assistance, at 510-286-5530 or via email sent to karen.reichardt@dot.ca.gov.

Thank you for your assistance with this undertaking.

Sincerely,

Kare

KAREN (CARRIE) REICHARDT
Senior Environmental Planner (Cultural Resources)
Office of Local Assistance
California Department of Transportation, District 4

Enclosures
Supplemental Historic Property Survey Report for the Proposed Sausal Creek Bridge Seismic Retrofit Project in the City of Oakland in Alameda County

CC: Alexandra Bevk Neeb, Branch Chief, Section 106 Coordination; OLA files.

SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT

1. UNDERTAKING DESCRIPTION AND LOCATION

District	*County*	*Federal Project. Number. (Prefix, Agency Code, Project No.)*	*Location*	*Previous HPSR Submittal Date*
4	Ala	STPLZ-5012(124)	City of Oakland	March 13, 2008

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA).

Changes to Project Description Since Previous Submittal

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area). The Regional Location, Project Location, and Project Footprint maps are located in Attachment A, Figures 1 through 3. For the full project description and engineering drawings, please refer to Attachment B. The change to the project since the previous submittal includes the redesign of the seismic retrofit project. The previous project description called for: adding steel casings around bents; adding steel jackets around arch ribs; and removing bracing between bent columns. The City has decided to change the project plans to conform with the Secretary of the Interior's Standards. As detailed in Attachment B, the current project description now identifies the following improvements: carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge; a mortared finish would be applied over the CFRP to resemble the existing board-formed finish and maintain the aesthetics of the structure; localized shotcrete would be applied to the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing; the existing asphaltic concrete would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck; graffiti paint would be removed and spalled concrete would be patched; and the chain link fence would be repaired or replaced. The change to the project description now requires temporary construction staging in the following areas: a scaffold that spans over the Sausal Creek; a platform suspended from Leimert Boulevard Bridge; and a staging area in the vacant parcel (APN 029A133001301) north of the bridge. The change in project description required the expansion of the APE from the previous submission as noted on the APE map in Attachment A.

2. CHANGES TO AREA OF POTENTIAL EFFECTS

In accordance with Section 106 Programmatic Agreement Stipulation VIII.A, the revised Area of Potential Effects (APE) for the project was established in consultation with Noah Stewart, Branch Chief, Built Resources/Architectural History, and Tom Holstein, Project Manager/Local Assistance Engineer. The APE map was signed by Karen Reichardt, PQS Principal Investigator-

Historical Archaeology and Ephrem Meharena, Caltrans District Local Assistance Engineer on January 25, 2018. The APE map is located in Attachment A.

The change in the project plans described above required an expanded APE to be inclusive of a portion of the Sausal Creek that was channelized in the (Works Progress Administration) WPA era. Both staging areas will be outside of and above the waterway. The built-environment and archaeological APE were expanded to include the staging area and access road on the parcel northwest of the bridge along Park Boulevard (APN 029A133001301). The expanded APE includes the Channelized Sausal Creek, which was evaluated for National-Register eligibility (Attachment C for DPR forms).

The vertical disturbance within the expanded APE will be limited to Bent 15, with a maximum disturbance depth of three feet. The area surrounding the base of Bent 15 will experience limited excavation into margins of soils previously disturbed from initial construction of Bent 15. Potential negative impacts to historic properties is considered low based on the limited ground disturbing activities.

The expanded APE is inclusive of the previously approved APE (December 18, 2007), as included in the previous HPSR (Attachment D). The previous findings remain and this expanded APE is a continuation of consultation.

3. UPDATED CONSULTING PARTIES / PUBLIC PARTICIPATION

☒ Local Government

- Letter to interested parties was mailed by the City of Oakland Department on May 30, 2018 to City of Oakland Landmarks Preservation Advisory Board

☒ Native American Heritage Commission

- The NAHC was contacted with an additional inquiry on November 16, 2017, requesting an updated database search for sacred lands or other cultural properties of significance to Native Americans. Frank Lienert of the NAHC responded on November 20, 2017 and advised that no sacred lands files are within the APE. Please refer to Attachment E for a copy of NAHC sacred lands request.

☒ Native American Tribes, Groups and Individuals

- The NAHC provided an updated list of contacts on December 20, 2017. Follow-up emails and/or phone calls were placed to each contact on January 11, 2018, January 17, 2018, and May 11, 2018. Mr. Andrew Galvan of the Ohlone Indian Tribe responded on January 11, 2018 by email and requested a copy of the final report. This request was directed to the Caltrans PQS in charge of consultation on January 11, 2018. A final copy of the report will be provided to Mr. Galvan. On May 11, 2018 Irene Zwierlein of the Amah Mutsun Tribal Band recommends that cultural sensitivity training be conducted for all crews involved in ground disturbing activities. Rosemary Cambra of the

Muwekma Ohlone Indian Tribe recommends that in the event that human remains are encountered and she's selected as the Most Likely Decendent, that the Muwekma Tribe monitors and recovers said remains. Please refer to Attachment E for the most recent copies of correspondence and communication records.

☒ Local Historical Society / Historic Preservation Group

- Letter to interested parties was mailed by the City of Oakland Department on May 30, 2018 to Oakland Heritage Alliance, Alameda County Historical Society, the Historic Bridge Foundation, and the City of Oakland's Landmarks Preservation Advisory Board. Follow-up calls were made to each interested party on July 2, 2018. Oakland Heritage requested an electronic copy of the letter, which was sent via email the same day. Voicemails were left with the Alameda County Historical Society, the Historic Bridge Foundation, and the secretary of the City of Oakland's Landmarks Preservation Advisory Board (Pete Vollmann).

4. SUMMARY OF ADDITIONAL IDENTIFICATION EFFORTS

☒ California Historical Resources Information System (CHRIS)

☒ Other Sources consulted:

- Oakland History Room, Oakland Public library.
- Sacramento Public Library, online news databases.
- Los Angeles Public Library, online news databases.
- Betty Marvin, Oakland Planning and Building.
- University of California, Department of Geography. "The Living New Deal." Online, interactive database, accessed on November 16, 2017. www.livingnewdeal.org.
- A pedestrian survey of the segment of the Channelized Sausal Creek in the Project APE was conducted on November 8, 2017.

☒ Results:

- An updated records search of the APE and the surrounding one-mile radius was conducted on December 18, 2017 by staff at the California Historical Resources Information System (CHRIS) North West Information Center at Sonoma State University, Rohnert Park, California (File No. 17-1495). No new resources were identified within the APE as a result of the CHRIS records search (Attachment F).
- Bridge 33C0215/Leimert Boulevard Bridge has been previously determined eligible, based on the Caltrans bridge evaluation report completed March 27, 2003 and that determination is still valid. At the request of Caltrans, that information has been reformatted as a DPR form (Attachment C) and is included as part of this submission.

5. ADDITIONAL PROPERTIES IDENTIFIED

☒ Caltrans has determined there are additional cultural resources within the revised APE that were evaluated as a result of this project and are **not eligible** for inclusion in the NRHP/CHL. Under Section 106 PA Stipulation VIII.C.6, Caltrans requests SHPO's concurrence in this determination.

Name	Address	Local Jurisdiction	OHP Code and Date of Determination	APE Map Reference
Segment of the Channelized Sausal Creek under Leimert Bridge	n/a	Oakland	6Z December 2017	2

6. REVISED FINDING FOR THE UNDERTAKING

☒ Caltrans, pursuant to Section 106 PA Stipulation IX.B has determined that there are historic properties within the revised APE that may be affected by the undertaking. **Effects are still undetermined**, so in accordance with Section 106 PA Stipulation X, Caltrans will continue consultation with CSO and/or SHPO in the future on the assessment of effects.

7. ADDITIONAL CEQA CONSIDERATIONS

☒ Not applicable; **Caltrans is not the lead agency under CEQA**.

8. LIST OF ATTACHED DOCUMENTATION

☒ Previous HPSR Submittals, as appropriate

- Attachment D: *Historic Property Survey Report, Leimert Boulevard Bridge (33C-0215) STPLZ-5012(025), Leimert Boulevard, California*, prepared by URS – Oakland, March 2008

☒ Revised Regional Location, Project Location, Project Footprint, and APE Maps

- Attachment A: Regional Location, Project Location, Project Footprint, and APE Maps

☒ Other

- Attachment B: Project Description and Drawings/Plans
- Attachment C: DPR Forms
- Attachment E: Memorandum from Jennifer Darcangelo (Chief, Office of Cultural Resource Studies) to Sylvia Fung (Office Chief, Local Assistance), regarding "Section 106

compliance for the Leimert Boulevard Bridge seismic retrofit project in the City of Oakland, Alameda County," April 14, 2009

- Attachment F: Updated NAHC Correspondence conducted by Brenna Wheelis, William Self Associates, Inc., December 2017-January 2018
- Attachment G: Updated NWIC Records Search Results prepared by Nazih Fino, William Self Associates, Inc., December 2017
- Attachment H: Caltrans Local Historic Bridge Inventory

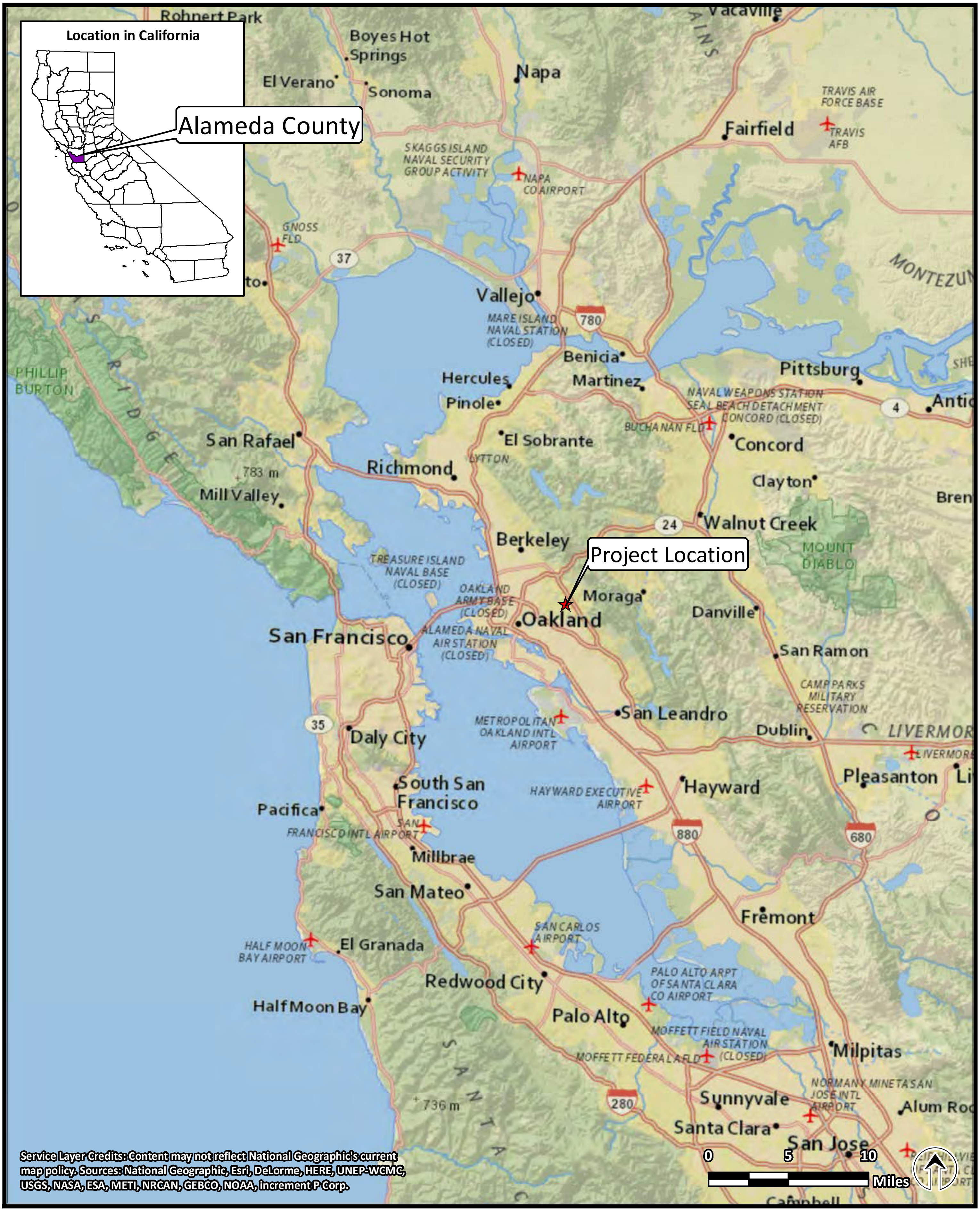
9. SUPPLEMENTAL HPSR PREPARATION AND CALTRANS APPROVAL

Prepared by: C. [signature] July 2, 2018
Christine Cruiess, Senior Architectural Historian Date
GPA Consulting
2600 Capitol Avenue, Suite 100
Sacramento, CA 95816

Reviewed for
Approval by: [signature] 7-16-2018
Charles Palmer
District 4 Caltrans PQS Principal Architectural Historian Date

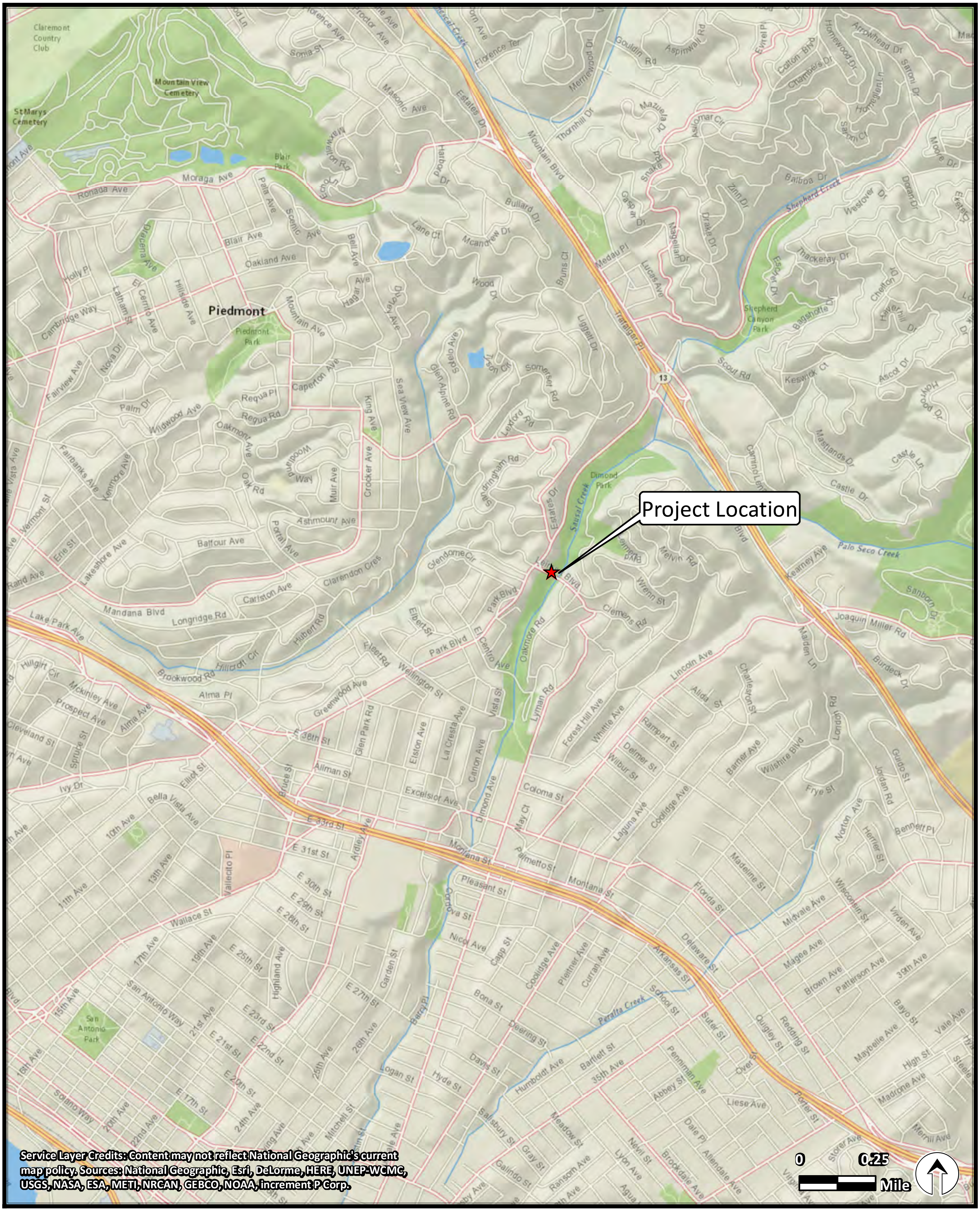
Approved by: Karen 07/16/2018
for Tom Holstein
District 4 EBC Date

Attachment A:
Regional Location, Project Location, Project Footprint, and APE Maps



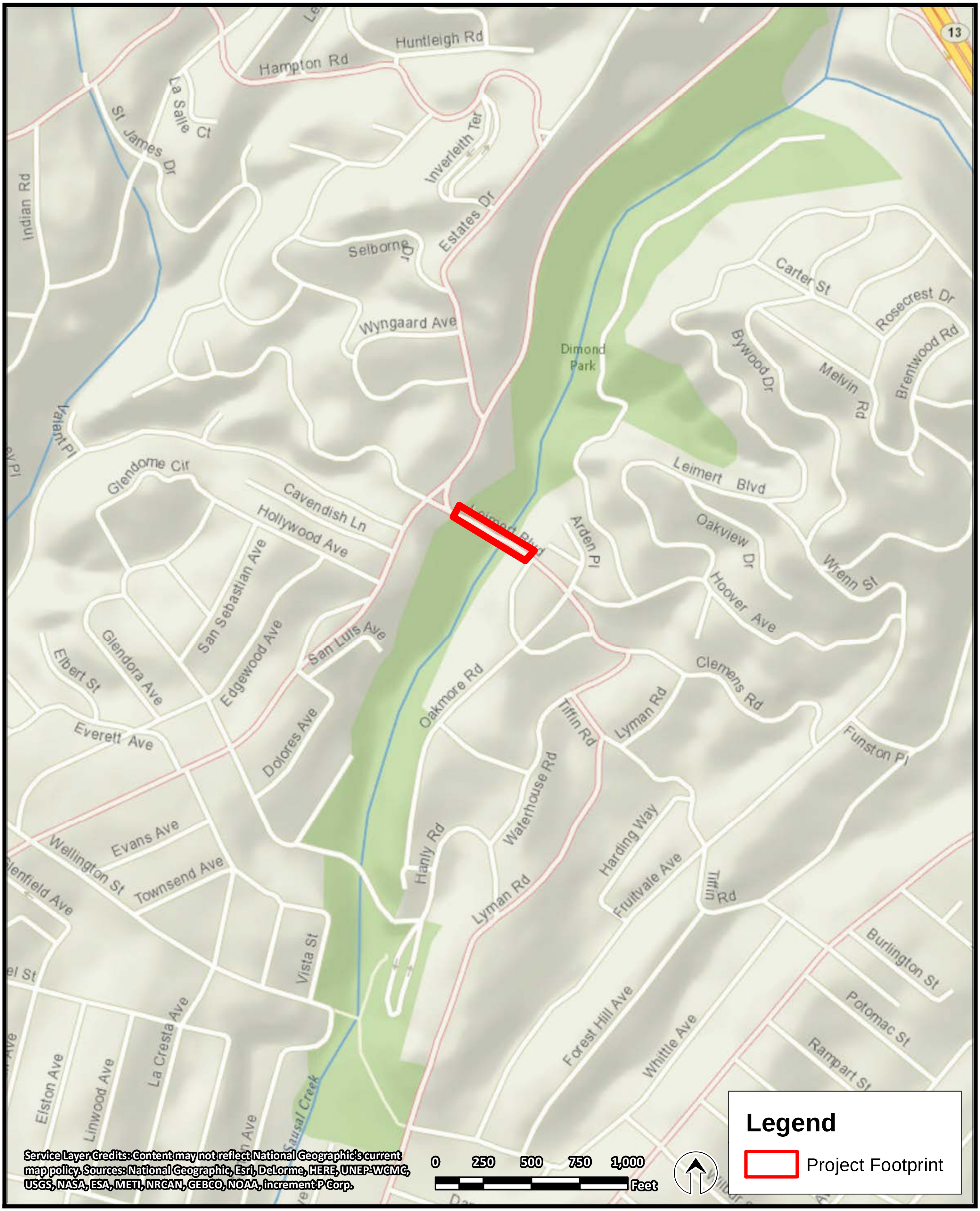
CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Road Bridge Rehabilitation



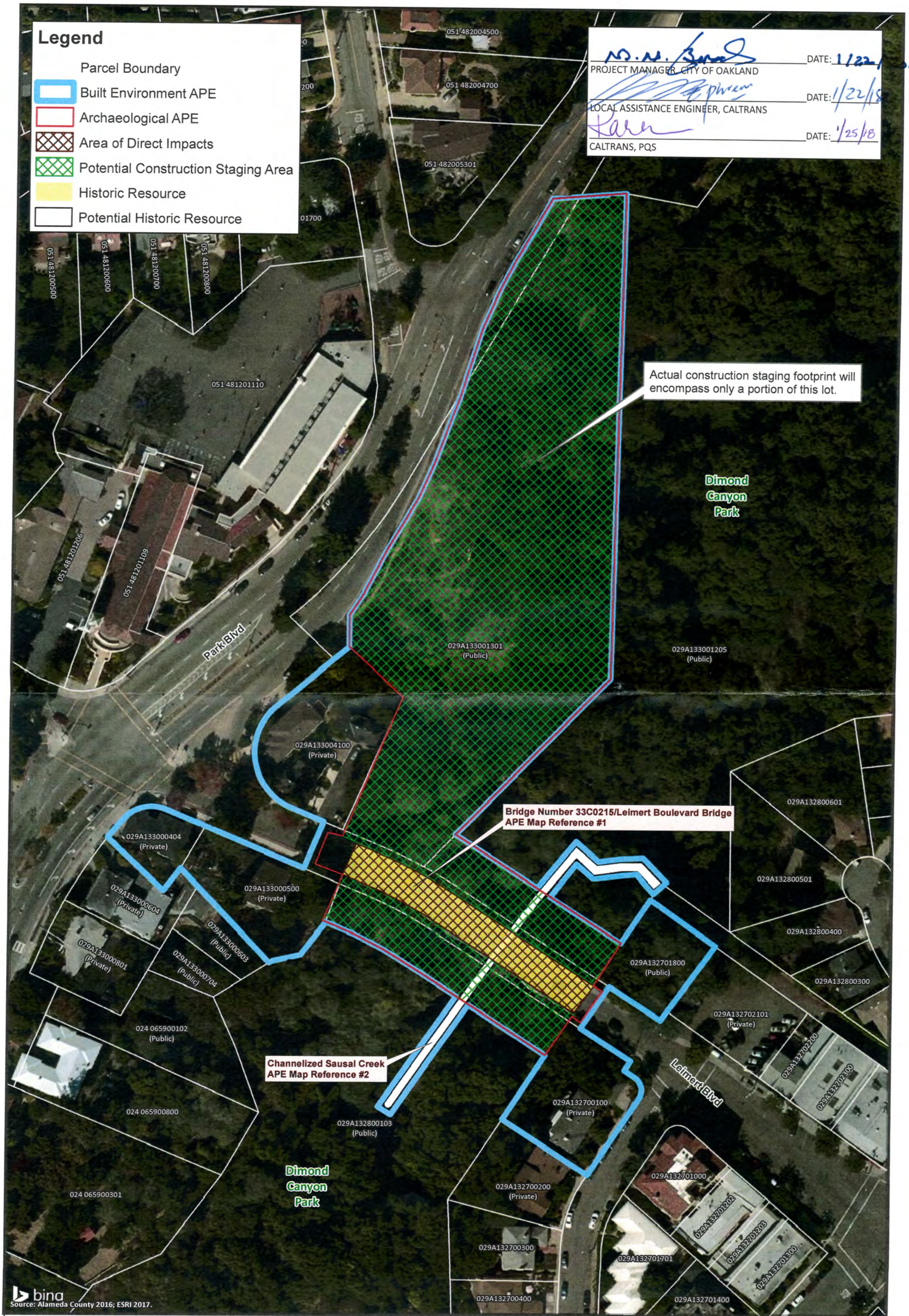
CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

FIGURE 3. PROJECT FOOTPRINT
Leimert Road Bridge Rehabilitation



0 50 100 200 Feet

CITY OF OAKLAND

Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (124)

Area of Potential Effects

Attachment B:
Project Description and Drawings/Plans

Project Description

Introduction

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see **Figure 1**, Regional Location). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area) (see **Figure 2**, Project Location and **Figure 3**, Project Footprint).

The bridge is a 357-foot long open spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock.

The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, include primarily residences, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge.

The bridge was designed by George Posey, who designed notable structures in Oakland. The bridge was constructed in 1926, and was designated as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB). The bridge has also been determined eligible for listing on the National Register for Historic Places (NRHP).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Project Purpose

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Sausal Creek Bridge at Leimert Boulevard to the extent feasible.

Project Need

The project area is located in a region of relatively high seismicity, and is less than a mile southwest of the Hayward fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event.

Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete (AC) overlay, which shows heavy cracking in both longitudinal and transverse direction. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the reinforcement inside.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or materials from falling off the bridge.

Seismic retrofit of the bridge was previously proposed, and a proposed design was previously completed by URS Greiner Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements, process the environmental CEQA and NEPA clearances, certify the required right of way, and issue the project for bid. However, during the course of the environmental review, the State Historic Preservation Office (SHPO) and the LPAB concluded that the proposed bridge retrofit would have a significant impact under CEQA on the historic status of the bridge and, therefore, rejected the proposed retrofit plans. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge’s landmark status and historic integrity.

Proposed Project

The following improvements are proposed (see **Figure 4**, Engineering Drawings):

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.
- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.
- Localized "shotcrete" would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.
- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.
- Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.
- The chain link fence would be repaired or replaced.

Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

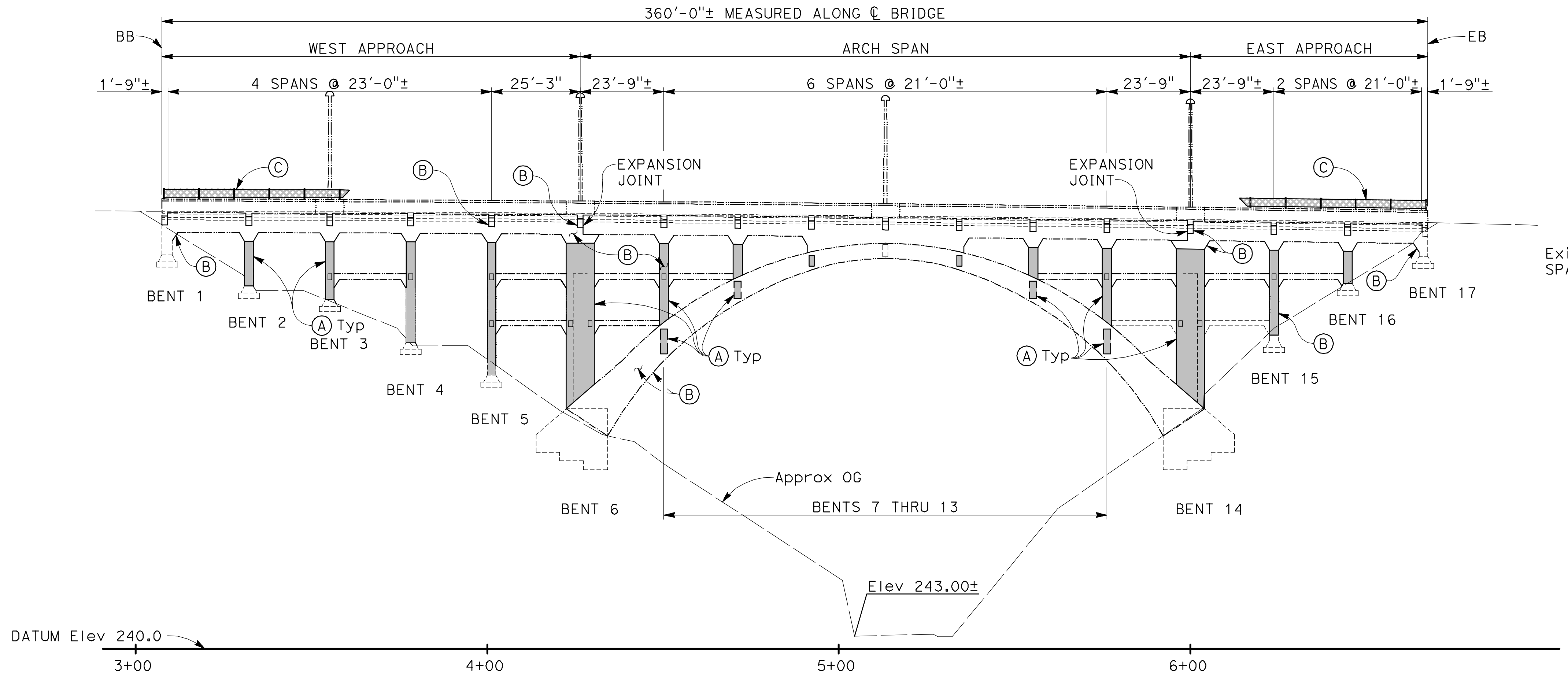
Partial lane or full bridge closures may be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane or full bridge closures may be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane or full bridge closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic or night time hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine months, and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

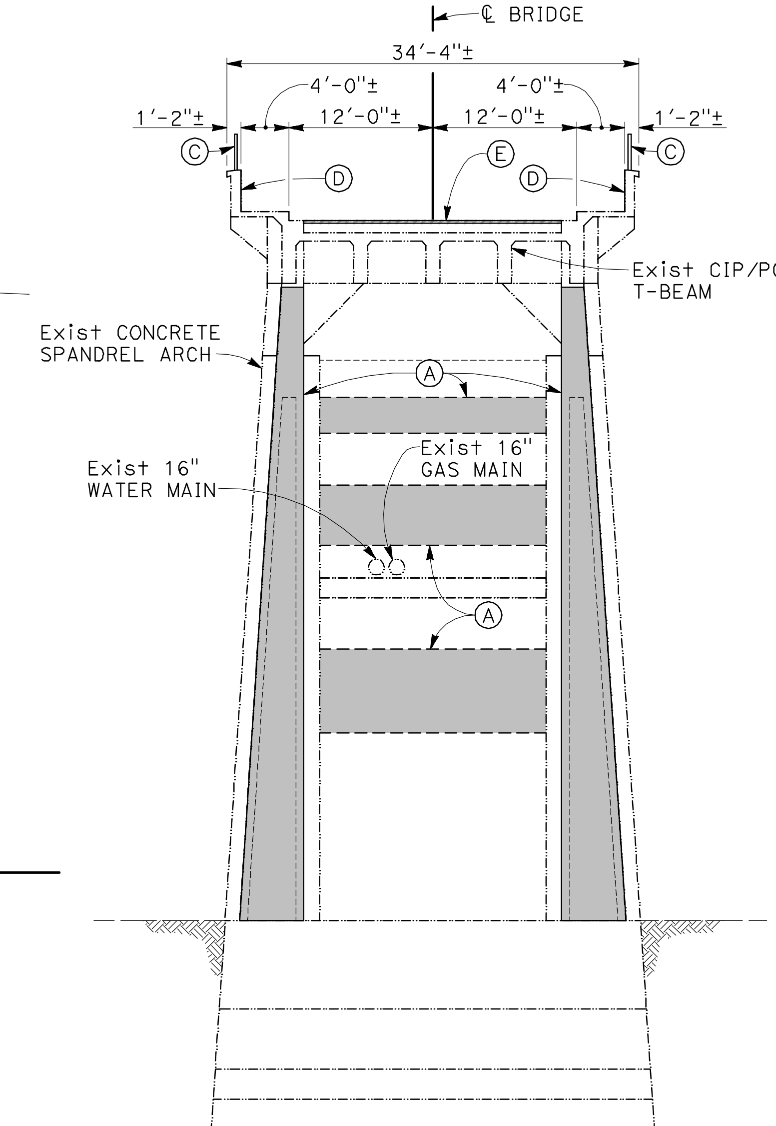
- Mobilization (5 days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Clean Expansion Joint (5 days);
- Shotcrete Footing Slope Paving (5 days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (10 days).

Measures for preventing material, equipment, and debris from falling into Sausal Creek would be implemented during construction.



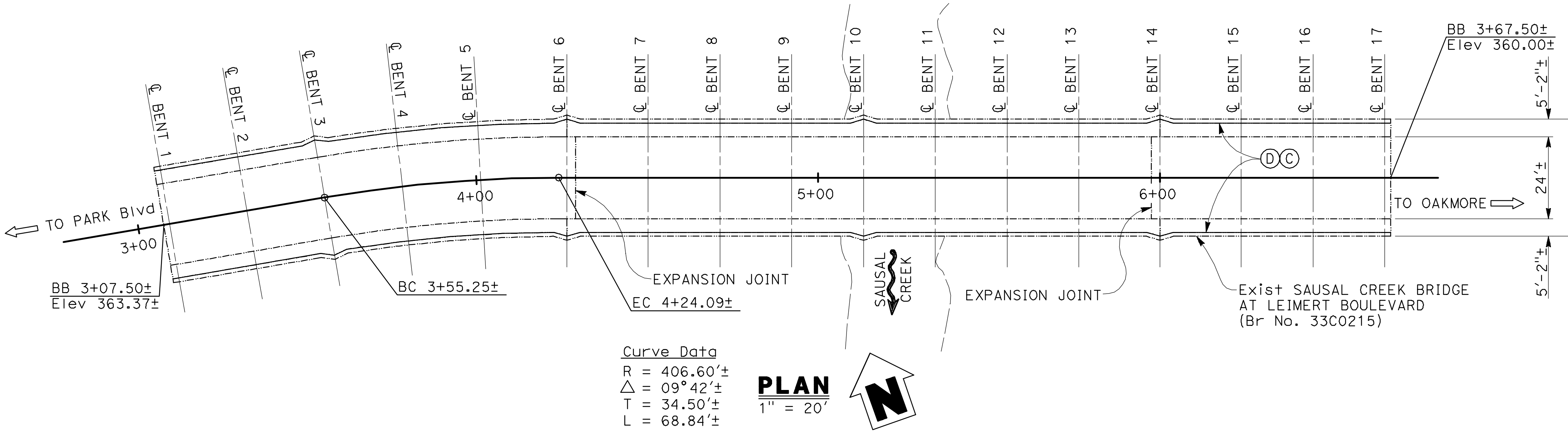
DEVELOPED ELEVATION

1" = 20'



TYPICAL SECTION

1/8" = 1'-0"



PLAN

1" = 20'

NOTES:

- (A) Indicates limits of carbon fiber reinforced polymer composite casing system
- (B) Repair spalled surface area
- (C) Repair exist chain link railing
- (D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating
- (E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:

- Indicates Existing Structure
- Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/3/17)

DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

REV.	DATE	DESCRIPTION	BY
0			

GENERAL PLAN

SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD

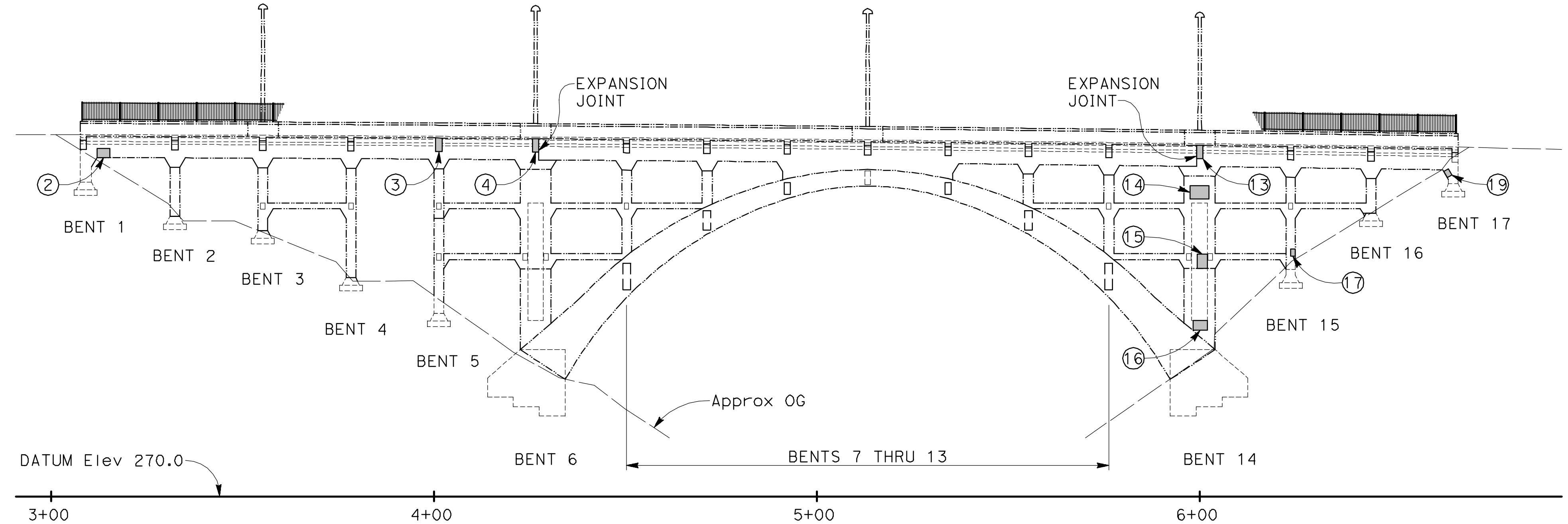
OAKLAND CALIFORNIA

(2016051S1)

SHEET NUMBER S-1 OF SHEETS

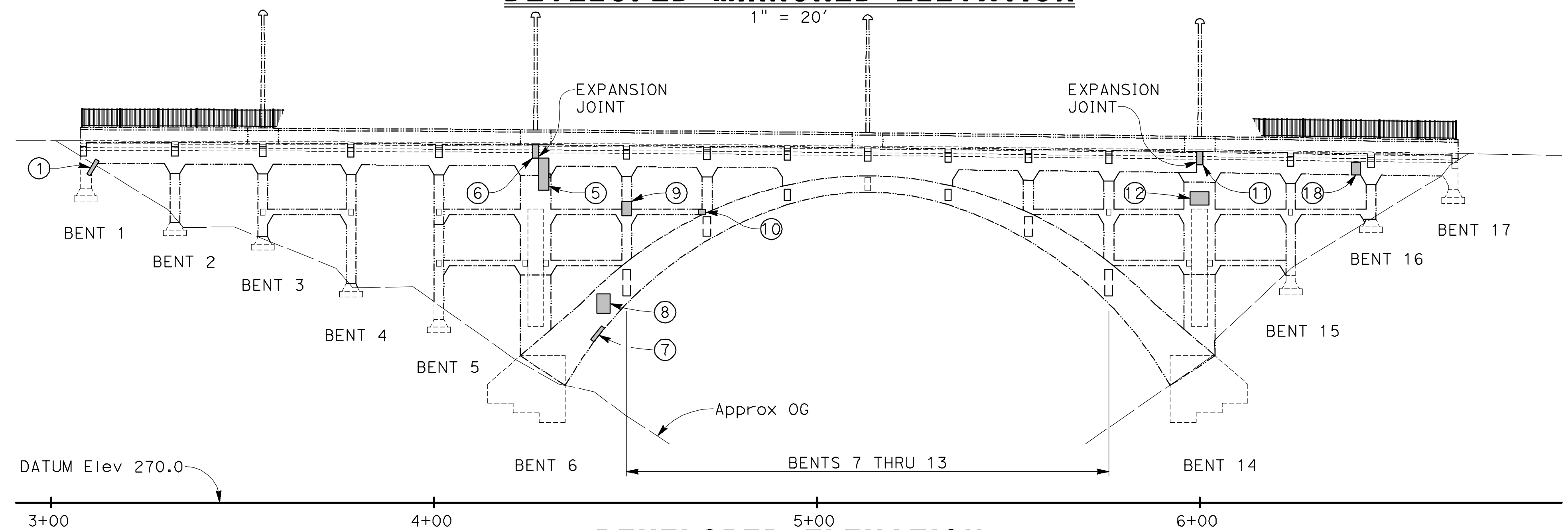
DRAWING NO. 2016051-1

2016051



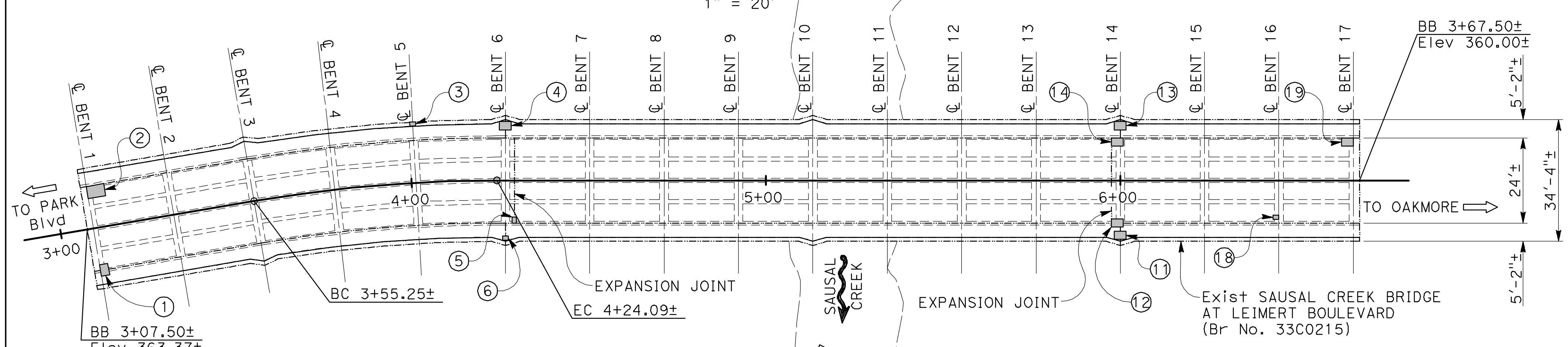
DEVELOPED MIRRORED ELEVATION

1" = 20'



DEVELOPED ELEVATION

1" = 20'



NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN

1" = 20'

SUMMARY OF SPALLED SURFACE AREAS

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/22/17)

DESIGNED BY: RKY | DRAWN BY: SMH | CHECKED BY: | SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS

SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD

OAKLAND CALIFORNIA

(2016051S2)

SHEET NUMBER S-2

OF SHEETS

DRAWING NO. 2016051-2

2016051

Attachment C:
DPR Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code: 2S2
Other Listings
Review Code Reviewer Date

***Resource Name or #:** Bridge Number 33C0215 **Caltrans Map Reference No.:** 1

P1. Other Identifier: Leimert Boulevard Bridge

***P2. Location:** ___ **Not for Publication** X **Unrestricted**

***a. County** Alameda County **County/Route/Postmile:** Alameda County/Leimert Boulevard

***b. USGS 7.5' Quad:** Oakland East **Date** 1997 **T** ___ **;R** ___ **of** ___ **of Sec** ___ ; ___ **B.M.**

c. Address Leimert Boulevard and Park Boulevard **City** Oakland **Zip** 94602

d. UTM:: **Zone** 10 , S **mE/** 569235.85 **mN** 4185271.08

***e. Other Locational Data** (APN #, etc.) n/a

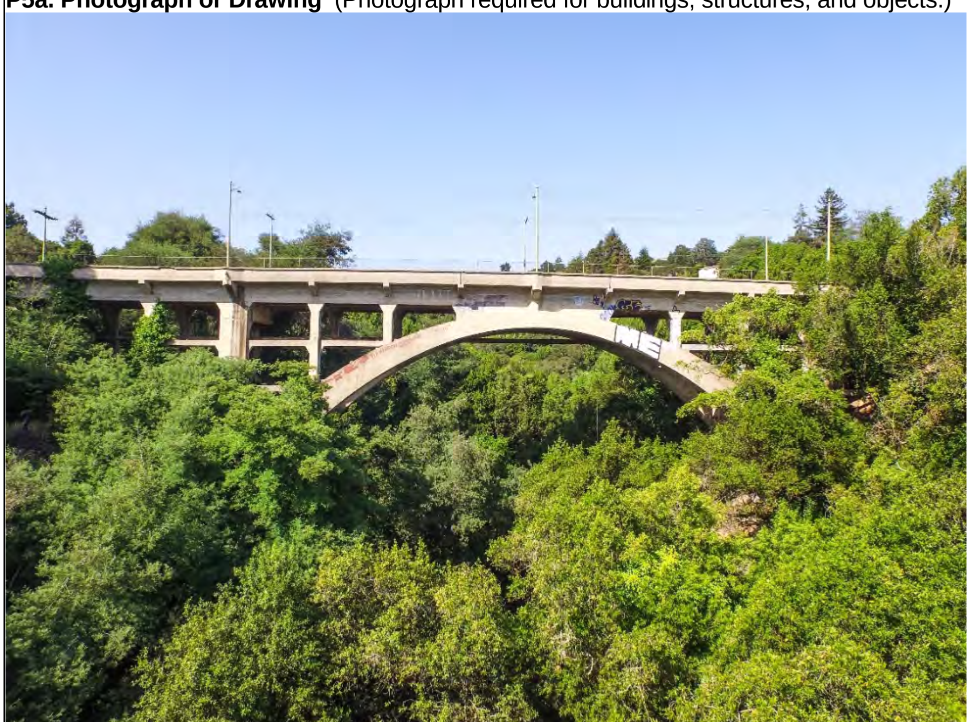
***P3a. Description:** (Briefly describe resource below)

Bridge Number 33C0215 carries Leimert Boulevard over Dimond Canyon and Sausal Creek and is a reinforced concrete, open spandrel, fixed, parabolic bridge with a 173-foot-long, single, arch span. The total bridge length is 357 feet and includes two reinforced concrete, T-beam approach spans supported by reinforced concrete columns. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The bridge was constructed of poured-in-place, reinforced concrete, and retains the board form imprints. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock. The bridge carries two lanes of traffic and a cantilevered walkway and is 34.3 feet wide. Alterations include the addition of a chain-link fence on top of the concrete barrier railings and a new road bed (dates of alterations are unknown).

***P3b. Resource Attributes:** HP19 bridge

****P4. Resources Present:** ___ Building X Structure ___ Object ___ Site ___ District ___ Elements of District ___ Other

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: Photo 1. View N-NE. Source: BCA, Inc., July 2016

***P6. Date Constructed/Age:** 1926

X Historic ___ Prehistoric ___ Both

***P7. Owner and Address:**
City of Oakland
1 Frank H. Ogawa Plaza
Oakland, CA 94612

***P8. Recorded by:**
JRP Historical Consulting
2825 Spafford St, Davis, CA and
Christine Cruiess
GPA Consulting
2600 Capital Avenue, Suite 100
Sacramento, CA

***P9. Date Recorded:** November 2017

***P10. Type of Survey:** X Intensive ___ Reconnaissance ___ Other
Describe: Section 106

***P11. Report Citation:** URS – Oakland, *Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPL-5012(025) HPSR*, March 2008; GPA Consulting, *Leimert Road Bridge Rehabilitation Supplemental HPSR, City of Oakland, STPLZ-5012(124)*, February 2018

***Attachments:** ___ NONE X Map Sheet X Continuation Sheet X Building, Structure and Object Record ___ Linear Resource Record ___ Archaeological Record ___ District Record ___ Milling Station Record ___ Rock Art Record ___ Artifact Record ___ Photograph Record ___ Other (List):

*Required Information.

State of California — The Resources Agency:
DEPARTMENT OF PARKS AND RECREATION
Primary #
HRI#:

BUILDING, STRUCTURE, AND OBJECT RECORD

Map Reference No.: 1

***Resource Identifier:** Bridge Number 33C0215 ***NRHP Status Code:** 2S2

B1. Historic Name: Leimert Boulevard Bridge

B2. Common Name: Leimert Boulevard Bridge **County/Route/Postmile:** Alameda County/Leimert Boulevard

B3. Original Use: Bridge **B4. Present Use:** Bridge

***B5. Architectural Style:** No Style

***B6. Construction History:** Redecking of bridge roadway, chain link fence

***B7. Moved?** X No ___ Yes ___ Unknown **Date:** ______ **Original Location:** ______

***B8. Related Features** (describe below)**:**
Light posts, original sidewalk and curbing.

B9a. Architect: George A. Posey (designer) **B9b. Builder:** Park Boulevard Company

***B10. Significance: Theme:** Residential Development of the Oakland Hills **Area:** Oakmore, City of Oakland

Period of Significance: 1926 **Property Type:** Bridge **Applicable Criteria:** A and C

Summary Statement of Significance: Bridge Number 33C0215/Leimert Boulevard Bridge over Dimond Canyon and Sausal Creek is significant under National Register Criteria A, at the local level, for its association with the residential development of the Oakland Hills, and C for the bridge's aesthetic design and successful integration with the Oakmore subdivision development. Bridge Number 33C0215/Leimert Boulevard Bridge is largely unaltered from 1926, with the exception of new road paving materials, paint, and a chain link fence on the top of the walls (dates of alterations are unknown). Bridge Number 33C0215/Leimert Boulevard Bridge conveys its significance because it retains integrity of location, design, setting, materials, workmanship, feeling, and association. Bridge Number 33C0215/Leimert Boulevard Bridge is eligible for listing in the National Register under Criteria A and C.

See Continuation Sheet for full Statement of Significance.

B11. Additional Resource Attributes: HP19 Bridge

B12. References:

See Continuation Sheet.

B13. Remarks:
This form is quoted from the inventory form completed by JRP Historical Consulting and included in: *Caltrans Historic Bridge Inventory Update: Concrete Arch Bridges, Volume I.*

B14. Evaluator: JRP Historical Consulting
2825 Spafford Street, Davis, CA
Reformatted by Christine Cruiess, GPA Consulting
2600 Capitol Avenue, Suite 100
Sacramento, CA

Date of Evaluation: March 2003 and November 2017

(This space reserved for official comments.)

Sketch Map.

B.10. Significance, Continued from Page 2.

Property-Specific History

In the 1920s, there was increasing demand for residential development in the outlying area of Oakland. Developers at the time designed subdivisions and built various structural or street features, such as neighborhood entry gates and landscaped traffic islands as a way to encourage parcel sales and successful development. Demand for new housing was so high that the Park Boulevard Company, an association of land developers headed by realtor Henry Leimert, set out to develop the area that became Oakmore Highlands. Prior to development, the area of Oakmore was an undeveloped area where redwoods were cleared for lumber and floated down the creeks to Lake Merrit.

The plans for the subdivision, which the developers called Oakmore Highlands, required a bridge to be built over Dimond Canyon, in order for future residents to reach the area. Without a bridge, the 325-foot deep canyon served as a natural barrier to residential development. The Park Boulevard Company hired Alameda County Surveyor, George A. Posey to design the fixed arch span that was to carry Park Boulevard (currently Leimert Boulevard) over the canyon into the planned development. The bridge was constructed to carry both an extension of the Park Boulevard streetcar line as well as automobile traffic. Immediately following the completion of the bridge in 1926, the company advertised for the sale of lots in Oakmore Highlands, specifically advertising the accessibility of the new subdivision due to the construction of the Leimert Bridge. The subdivision was made up of four tracts totaling 440 lots. Most of the lots were zoned for single family residences along with some multi-family and commercial uses. Beginning with the grand opening of the subdivision in 1926, it was developed sequentially with lots in each of the four tracts being offered for sale only after adjoining tracts were sold. By the mid-1930s, Oakmore Highlands was called "one of the bright spots in metropolitan Oakland's real estate activity," as lots continued to sell. Most dwellings in the development were constructed in the late 1920s through the late 1930s, in a range of architectural styles.

National Register of Historic Places Evaluation

Criterion A

Bridge Number 33C0215/Leimert Boulevard Bridge is significant under Criterion A, at a local level, for its association with the residential development of the Oakland Hills. The bridge is particularly important within this context because it was purpose built to allow access to and for the subsequent development of the Oakmore Highlands. It is one of only a few bridges in California that was built intentionally to allow access to previously inaccessible land for real estate development. The bridge was built in response to specific demand for residential development and its construction met its intended goal, leading directly to the development of the Oakmore area, which was otherwise inaccessible.

Criterion B

Bridge Number 33C0215/Leimert Boulevard Bridge is not significant under Criterion B. The bridge was designed by engineer and Alameda County Surveyor, George A. Posey and developed by realtor, Henry Leimert. With regards to George A. Posey, engineers are often represented by their works, which are eligible under Criterion C, as is the case for this bridge. However, typically only their homes and studios can be eligible for consideration under Criterion B, because these usually are the properties with which they are most personally associated. The bridge is not significant under Criterion B for its association with George A. Posey. For its association with Henry Leimert, the bridge is not significant under Criterion B because his achievements in real estate development are not demonstrably important within a local, State, or national historic context.

Criterion C

Bridge Number 33C0215/Leimert Boulevard Bridge is significant under Criterion C because it embodies distinctive characteristics of type, period, and method of construction. Its significance is not for its structural engineering achievement. Rather, its significance lies in the aesthetic design of the structure as a gateway to the new Oakmore Highlands development and for that design's integration with the aesthetics of the new subdivision. Since the bridge was built to be the gateway to the new Oakmore Highlands, the design intentionally created to convey permanence, grace, strength to would be homebuyers.

CONTINUATION SHEET

X Continuation ___ Update

Caltrans Map Reference No.: 1

Resource Identifier: Bridge Number 33C0215 **County/Route/Postmile:** Alameda County/Leimert Boulevard

Criterion D
Significance under Criterion D is not assessed in this document.

Integrity
Bridge Number 33C0215/Leimert Boulevard Bridge is largely unaltered from 1926, with the exception of minor changes including new road paving materials, paint as a graffiti remediation measure, and a chain link fence on the top of low walls along the sidewalk. The dates of the alterations are unknown. Bridge Number 33C0215 conveys its significance because it retains integrity of location, design, setting, materials, workmanship, feeling, and association.

Photos

Photo 2. View facing west. View of Leimert Boulevard and Bridge Number 33C0215 from Clemens Road. Source: BCA, Inc., July 2016.

Photo 3. View facing south. View of the Bridge Number 33C0215 bents on the western embankment of Dimond Canyon. Source: BCA, Inc., July 2016.

Photo 4. Detail view of the bridge arch from below, showing the cross bracing and the board finish. Source: BCA, Inc., July 2016.

CONTINUATION SHEET

X Continuation ____ Update

Caltrans Map Reference No.: 1

Resource Identifier: Bridge Number 33C0215 **County/Route/Postmile:** Alameda County/Leimert Boulevard

Photo 5. View facing south. View from ca. 1925 showing the construction of Bridge Number 33C0215.

B.12. References, Continued from Page 2.

BCA, Inc. Unpublished photographs. Oakland, CA: BCA, Inc. July 2016.

Herbert, Rand. *Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPL-5012(025).* Davis, California: JRP Historical Consulting, LLC, n.d.

JRP Historical Consulting. *Caltrans Historic Bridge Inventory Update: Concrete Arch Bridges, Volume I.* Prepared for the State of California Department of Transportation Environmental Program, April 2004.

Oakmore Homes Association. "History of the Leimert Bridge." http://oakmorehomes.com/history-of-the-leimert-bridge-2/, accessed November 13, 2017.

United States Geological Survey. *Oakland East, CA Quadrangle*. Reston, Virginia: United States Geological Survey, 1997. Interactive viewer accessed December 20, 2017. http://historicalmaps.arcgis.com/usgs/.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

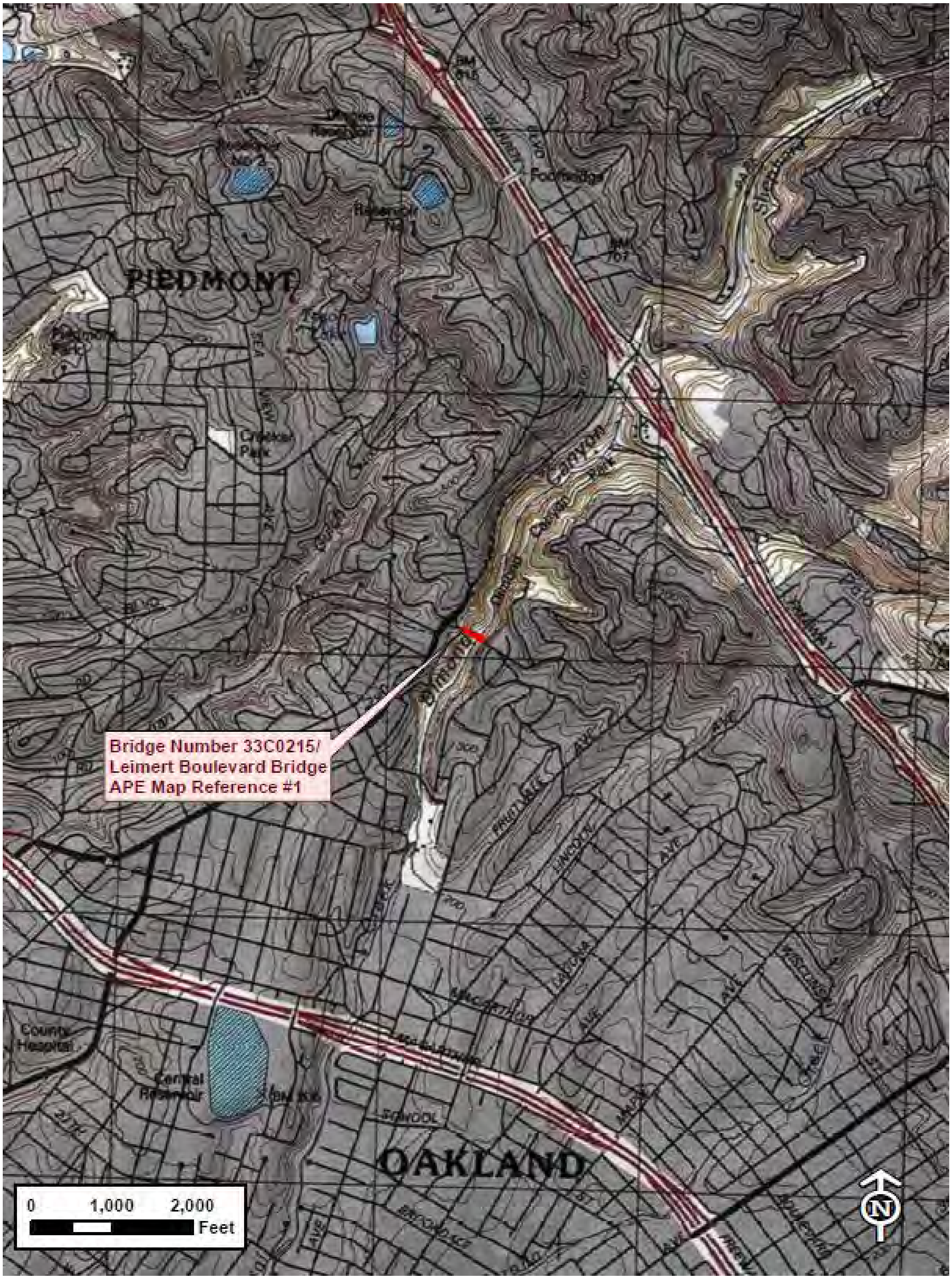
Primary #
HRI#
Trinomial

Resource Identifier: Bridge Number 33C0215/Leimert Boulevard Bridge

Caltrans Map Reference No.: 1

County/Route/Postmile:

Map Name: Oakland East, CA Quadrangle *Scale: See below *Date of Map: 1997



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code: 6Z
Other Listings
Review Code ____ Reviewer ____ Date ____

***Resource Name or #:** Segment of the Channelized Sausal Creek under the Leimert Bridge **Caltrans Map Reference No.:** 2

P1. Other Identifier:

***P2. Location:** ____ **Not for Publication** X **Unrestricted**

***a. County** Alameda County **County/Route/Postmile:** Alameda County/Leimert Boulevard

***b. USGS 7.5' Quad:** Oakland East **Date** 1997 **T** ____ **;R** ____ **of** ____ **of Sec** ____ ; ____ **B.M.**

c. Address **City** Oakland **Zip** 94602

d. UTM:: **Zone** 10 , S **mE/** 569235.85 **mN** 4185271.08

***e. Other Locational Data** (APN #, etc.) APNs 029A-1328-001-03 & 029A-1330-012-05; located below Leimert Bridge between Park Blvd & Oakmore Rd

***P3a. Description:** (Briefly describe resource below)

The segment of the Channelized Sausal Creek under Leimert Bridge is part of a larger WPA-era engineering project that channelized sections of Sausal Creek in order to protect a contemporary sewer line that ran parallel to the creek along the floor of Dimond Canyon. This segment of the Channelized Sausal Creek under the Leimert Bridge includes stone masonry retaining walls, concrete retaining walls, four concrete weirs, and a concrete storm conduit. The retaining walls are constructed of either concrete, or rubble masonry with poured-in-place, large-aggregate, concrete cap stones that have WPA date stamps from 1939 and 1940. The retaining walls have been buttressed with modern concrete (photo 1) in areas as a failed attempt to reduce scour. Additional sections of the retaining walls have been replaced with modern concrete, and some retaining walls have collapsed. The weirs, dams, and storm conduit lines are all also constructed of poured-in-place concrete with large aggregate, some of which have been covered with a bituminous material. See pages 7 through 10 for photos 2 through 8, and page 13 for a sketch plan with photo angles. *See Continuation Sheet.*

***P3b. Resource Attributes:** HP35 – New Deal Public Works Project; HP11 – Engineering Structure

****P4. Resources Present:** ____ Building X Structure ____ Object ____ Site ____ District ____ Elements of District ____ Other

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo: Photo 1. View facing N-NE.

***P6. Date Constructed/Age:** 1939-1940
X Historic ____ Prehistoric ____ Both

***P7. Owner and Address:**
City of Oakland
1 Frank H. Ogawa Plaza
Oakland, CA 94612

***P8. Recorded by:**
Christine Cruiess
GPA Consulting
2600 Capitol Avenue, Suite 100
Sacramento, CA

***P9. Date Recorded:** November 2017

***P10. Type of Survey:** X Intensive ____ Reconnaissance ____ Other
Describe: Section 106

***P11. Report Citation:** GPA Consulting, *Leimert Road Bridge Rehabilitation Supplemental HPSR, City of Oakland, STPLZ-5012(124),* February 2018

***Attachments:** ____ NONE X Map Sheet X Continuation Sheet X Building, Structure and Object Record X Linear Resource Record ____ Archaeological Record ____ District Record ____ Milling Station Record ____ Rock Art Record ____ Artifact Record ____ Photograph Record ____ Other (List):

*Required Information.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary #
HRI#
Trinomial

Resource Identifier: Segment of the Channelized Sausal Creek under the Leimert Bridge

Caltrans Map Reference No.: 2

County/Route/Postmile:

L1. Historic and/or Common Name: Segment of the Channelized Sausal Creek under the Leimert Bridge

L2a. Portion Described: ___ Entire Resource X Segment ___ Point Observation **Designation:**

b. Location of point or segment: (Provide below UTM coordinates, legal description, other useful locational data. Show the field-inspected area on Location Map)

UTM coordinates at the approximate southwestern end of the segment: 10 S 569188.90 m E, 4185246.12 m N.
UTM coordinates at the approximate northeastern end of the segment: 10 S 569250.18 m E, 4185315.13 m N.

L3. Description:

The segment of the Channelized Sausal Creek under Leimert Bridge is part of a larger WPA-era engineering project that channelized sections of Sausal Creek. This segment of the channelized creek is described in P3a of this form. This segment begins at a point approximately 100 feet to the southwest of the bridge and extends northeast of the bridge by approximately 100 feet, turning east-northeast at a storm conduit and extending approximately another 50 feet. The width in this segment ranges from approximately 20-40 feet. The overall Channelized Sausal Creek appears to have its southern terminus at the southern end of this segment. The overall extent of the channelization to the northeast was not investigated.

L4. Dimensions:
(In feet for historic, meters for prehistoric resources)

a. Top Width:	Apprx. 20-40 feet
b. Bottom Width:	Apprx. 20-40 feet
c. Height or Depth:	Apprx. 1-5 feet
d. Length of Segment:	Apprx. 250 feet

L4e. Sketch of Cross-Section (include scale) **Facing:**

See Photos on Continution Sheets and Sketch Plan on Map Sheet.

L5. Associated Resources: (list below)

Unknown

L6. Setting: (briefly describe below)

Natural park with dense vegetation and hiking trails.

L7. Integrity Considerations: (briefly describe below)

The segment of the Channelized Sausal Creek under the Leimert Bridge was analyzed against the seven aspects of integrity: location, setting, design, materials, workmanship, feeling, and association. It retains integrity of location, setting, and feeling. The integrity of design, materials, and workmanship have been compromised with modern repairs, including layers of bituminous aggregate, concrete buttresses, concrete parging, and unsympathetic repointing. The aspect of association does not apply as there is no documentable link between a historic event or person. Overall, the segment of the Channelized Sausal Creek under the Leimert Bridge does not retain integrity.

Please see the Continuation Sheet for more detail.

L8a. Photograph, Map or Drawing

See Photos on Continution Sheets and Sketch Plan on Map Sheet.

L8b. Description of Photo/Map/Drawing (View, scale, etc.)

See Continuation Sheets

L9. Remarks:

See Photos on Continution Sheets and Sketch Plan on Map Sheet.

L10. Form Prepared by:

Christine Cruiess, GPA Consulting
2600 Capitol Avenue, Suite 100
Sacramento, CA 95816

L11. Date: February 2018

BUILDING, STRUCTURE, AND OBJECT RECORD

Map Reference No.: 2

***Resource Identifier:** Segment of the Channelized Sausal Creek under the Leimert Bridge ***NRHP Status Code:** 6Z

B1. Historic Name: None

B2. Common Name: Channelized Sausal Creek **County/Route/Postmile:** Alameda County/Leimert Boulevard

B3. Original Use: Stream Channel **B4. Present Use:** Stream Channel

***B5. Architectural Style:** No Style

***B6. Construction History:** Built 1939-1940, modified with concrete parging and abutments in the late-twentieth century.

***B7. Moved?** X No ___ Yes ___ Unknown **Date:** **Original Location:**

***B8. Related Features** (describe below)**:**
None.

B9a. Architect: Unknown **B9b. Builder:** WPA

***B10. Significance: Theme:** WPA-Era Water Management **Area:** Oakmore, City of Oakland

Period of Significance: 1939-1940 **Property Type:** Channel **Applicable Criteria:** N/A

Summary Statement of Significance:

See Continuation Sheet for Statement of Significance.

B11. Additional Resource Attributes: HP35 – New Deal Public Works Project; HP11 – Engineering Structure

B12. References:

See Continuation Sheet.

B13. Remarks:

B14. Evaluator: Christine Cruiess
GPA Consulting
2600 Capitol Avenue, Suite 100
Sacramento, CA 95816

Date of Evaluation: December 2017

(This space reserved for official comments.)

Sketch Map with photo locations (see continuation sheet for photo angles). Boundaries are approximate.

B.10. Significance, Continued from Page 2.

Overview of the Works Progress Administration in Alameda County

The Works Progress Administration (WPA) in Alameda County began operations in July of 1935, three months before the official start of the program in October 1935. The projects completed by the WPA in Alameda County were intended solely to provide work for people in need of employment and the WPA provided most tools and materials to complete the work. Local public agencies provided projects (construction, landscaping, research, writing, art, and more) (Hinkel and McCann 1939:562-563).

To initiate a project with the WPA, a public agency or sponsor of a project submitted a proposal and that proposal was approved by the WPA with a presidential letter from Washington, DC. To be approved, a project: needed to be beneficial to the public; must not displace any already employed workers; may not include maintenance activities; must be completed by workers with appropriate skills for that project; and must take place on publicly owned land, land in a long-term lease, or land with a perpetual easement. The sponsor of the project was responsible for furnishing plans, specifications, work schedules, and project supervision. The WPA funded the labor, tools, and some materials and equipment (Hinkel and McCann 1939:562-563).

The federal government did not keep a comprehensive list of projects completed under the auspices of the WPA, so the full extent and scale of small projects, like the channelization of Sausal Creek, are not inventoried. The data does not exist at the federal level (University of California 2017), nor were records of the plans, specifications, or correspondence available at the City of Oakland.

History of Improvements to the Sausal Creek

Improvements to the Sausal Creek, including the segment of the Channelized Sausal Creek under the Leimert Bridge, was ongoing throughout the 1930s and into the 1940s and included a sewer line that extended from Mountain Boulevard to the north, various tree clearing projects, stormwater management projects, stream channel management, and beautification projects. Some of the work was part of federally funded WPA and Public Works Administration (PWA) projects, where other projects were city-funded.

The earliest modification to Sausal Creek in the vicinity of present-day Dimond Park appears to be the construction of a WPA culvert carrying Sausal Creek for 400 feet. The culvert was built in the vicinity of Mountain Boulevard in order to facilitate the development of transportation networks (Oakland Tribune November 18, 1935).

On April 13, 1937, the City Council of Oakland authorized the city manager to request funds from the federal government's PWA to finance nearly $290,000 worth of new projects in the city. Included in that request was $94,000 for the construction of a sanitary outlet sewer in Dimond Canyon, extending south from Mountain Boulevard (Oakland Tribune April 14, 1937).

The City of Oakland acquired the section of land, just north of the already existing Dimond Park, that extended roughly from Mountain Boulevard in the north to Hanley Road in the south, creating the footprint of present-day Dimond Park in April of 1938. Part of the rationale behind the park acquisition was to facilitate the PWA-funded plan to install sewer lines the length of the park, a task suddenly much easier now that the land was in public ownership. In addition to a new sewer line, Edgar Sanborn, Park Forester, said that the city planned to "clear the area of all undergrowth, build trails and make improvements along the stream, build a rock bridge at the foot of Wellington Street where the wooden bridge now crosses the stream and to provide a turn-around and ample parking space for automobiles." Other planned improvements included flower beds, curbing, shrubs to screen back yards, and recreation facilities in conjunction with the Recreation Department. The total cost of the improvements, including the federal-aid portion, was estimated at approximately $45,000, to take place over two-and-a-half years, after the sewer line project had been completed (Oakland History Room, Clippings File, April 21, 1938).

Shortly after the acquisition of Dimond Canyon, in October 1938, the Oakland City Council voted to hire a contractor, W.J. Tobin, to complete the Dimond Canyon sanitary outlet sewer, between Leimert and Mountain Boulevards (Oakland Tribune, October 5, 1938). The council granted a subsequent extension to the contractor to complete the work from April 4 to July 3, 1939 (Oakland Tribune, April 5, 1938).

When the park land was first acquired by the city, it was assumed that the land would be better cared for than under private ownership. When first created, Dimond Park had vibrant plant life, including "oak, California laurel, ferns and wild flowers," and it was asserted that the land and plantings would be better cared for under public ownership (Oakland History Room, Clippings File, April 21, 1938). However, the plan to remove undergrowth, preserve existing trees, and plant new trees, did not occur. Contemporary letters to the editor in the Oakland Tribune indicate that the original plan to maintain trees was not implemented, and, in fact, the area was cleared of nearly all vegetation. One concerned citizen wrote of Dimond Canyon:

> Then, it seems, the park department decided it needed 'improving.' And the WPA, being at hand to do the work at a discount, the WPA moved in. With a ruthlessness that would have shamed a horde of vandals they cut and slashed and hacked and slew. The mowed down every bush and scrub and vine. They murdered outright scores of oaks that it took fifty years to grow. They butchered others senselessly, wantonly, lopping off limbs in cases apparently from pure malice. They left not a blade of grass. Destroyed all the cover for birds, cottontail and other wild life… There has been much talk in recent years of prevention of soil erosion by plant coverage. But here is a case where all experience has been disregarded. Except for the remaining oaks and alders, the canyon slopes are absolutely denuded. It does not take much prescience to foretell what will happen to the topsoil with every rain (Oakland Tribune, April 8, 1939).

A second letter to the editor followed four days later, echoing the same sentiment, making note that the land had been used as a park prior to it becoming a park, and that the land in Dimond Canyon was "ruthlessly and unnecessarily ruined by the thoughtless and unnecessary destruction of trees, shrubbery, beautiful paths and the winding creek bed." The writer went on to note that the natural creek bed had been "ruined" and that trenches were dug in the canyon floor and sewer pipe laid (Oakland Tribune, April 12, 1939).

Following the construction of the sewer line, plans and specifications (which were not able to be located at the City of Oakland) were created for the construction of storm conduits, concrete dams, and rock channels in Dimond Canyon, as a part of an approximately $70,000 WPA project to channelize Sausal Creek. This work was inclusive of the segment of the Channelized Sausal Creek under the Leimert Bridge. The project was intended to protect the just completed sewer line "from creek channel scour, to beautify the canyon floor and to protect the canyon walls from erosion" (Oakland Tribune, July 12, 1939).

On August 23, 1940, City Council adopted those plans and specifications, along with two other WPA projects, all of which were focused on stormwater management. The plan included new concrete retaining walls, concrete dams, and work to realign the creek. The Dimond Canyon portion of the work was estimated to cost $44,000, of which the city would pay approximately $38,000 (Oakland Tribune, August 23, 1940).

National Register of Historic Places Evaluation

Criterion A

The segment of the Channelized Sausal Creek under the Leimert Bridge was built as part of a larger WPA undertaking, the Channelized Sausal Creek, between 1939 and 1940, as corroborated by documentation and date stamps on the retaining walls. This approximately 250-feet long portion of the Channelized Sausal Creek is part of a significant, nation-wide program that has had far-reaching impacts, but it does not appear to have an important association with the WPA. The Channelized Sausal Creek project was small even within the context of city-wide WPA history. In Oakland, several large-scale projects were constructed during the same period, including the Alameda County Courthouse, schools, transportation projects (including the Caldecott Tunnel and the Bay Bridge), and other infrastructure projects (sidewalks, new roads, and water pipes). The Channelized Sausal Creek, constructed for the express purpose of protecting a new sewer line, is small within the context of the WPA and does not effectively illustrate a historic trend or pattern of events. Similarly, the Channelized Sausal Creek does not illustrate a historic trend or pattern of events at the state or local levels. The segment of the Channelized Sausal Creek under the Leimert Bridge does not appear to be significant under Criterion A.

Criterion B

The Channelized Sausal Creek was not associated with any individuals who are significant in our past at the national, state, or local levels. While a number of people likely were involved in the design and construction of the project, their collective efforts would be best understood as part of a historical trend under Criterion A, as discussed above, and/or as the work of important builders under Criterion C, as discussed below. The segment of the Channelized Sausal Creek under the Leimert Bridge is not significant under Criterion B.

Criterion C

To be eligible for listing under Criterion C, a property must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.

The Channelized Sausal Creek does not have the distinctive characteristics of a type, period, or method of construction. There is nothing notable or unique about its design. Research did not reveal information on the architect, although it was constructed by the WPA. There is no reason to believe that the Channelized Sausal Creek was the work of a master as the WPA was compromised of many individuals with varying levels of skill and experience. It cannot be attributed to any particular individual with notable skill, nor is the WPA labor force in Alameda County generally considered a collective master. The Channelized Sausal Creek does not possess high artistic values. Finally, the segment of the Channelized Sausal Creek under the Leimert Bridge is not a significant and distinguishable entity whose components may lack individual distinction. This type of project was prevalent throughout the United States, and this project is not noteworthy in terms of design or innovation. The segment of the Channelized Sausal Creek under the Leimert Bridge does not appear to be significant under Criterion C.

Criterion D

The Channelized Sausal Creek is not a source, or likely source, of important information regarding history, channel construction or design. The Channelized Sausal Creek does not appear to be significant under Criterion D.

Integrity

The segment of the Channelized Sausal Creek under the Leimert Bridge was analyzed against the seven aspects of integrity: location, setting, design, materials, workmanship, feeling, and association. It retains integrity of location, setting, and feeling. The integrity of design, materials, and workmanship have been compromised with modern repairs, including layers of bituminous aggregate, concrete buttresses, concrete parging, and unsympathetic repointing. The aspect of association does not apply as there is no documentable link between a historic event or person. Overall, the segment of the Channelized Sausal Creek under the Leimert Bridge does not retain integrity.

Summary

The segment of the Channelized Sausal Creek under the Leimert Bridge is recommended not eligible for listing in the National Register of Historic Places because it does not possess significance under Criteria A, B, or C, nor does it retain sufficient integrity to convey its historical significance.

Photos

Photo 2. View facing north-northeast showing collapsed and repaired stone walls and two concrete weirs (one in foreground, one in background). The weir in the foreground has a curved dam crest and the retaining wall to the southeast of the weir has collapsed.

Photo 3. View facing northwest showing the weir just north of the Leimert Boulevard Bridge. The spillway of this weir has partially collapsed and has been coated with a bituminous material. The date stamp on the retaining wall just east of this weir is 1940.

Caltrans Map Reference No.: 2

Resource Identifier: Segment of the Channelized Sausal Creek under the Leimert Bridge **County/Route/Postmile:** Alameda County

Photo 4. View facing northwest showing the northernmost weir. Note that the crest and spillway are constructed of board-formed, poured-in-place concrete. The date stamp (shown in the inset) is 1940.

Photo 5. View facing north showing the storm water conduit. Note the scour below the retaining wall at the foreground. The weir from Photo 4 is visible in the background at the left of the frame.

Photo 6. View facing south showing the storm water conduit and manhole. The materials on the storm water conduit have been largely replaced with, or covered by, modern concrete.

Photo 7. Detailed, representative view of a 1939 date stamp.

Photo 8. Detailed, representative view of a 1940 date stamp.

B.12. References, Continued from Page 2.

Hinkel, Edgar J. and William E. McCann. *Oakland 1852-1938: Some Phases of the Social, Political and Economic History of Oakland, California*. Oakland, California: the Oakland Public Library as a report of the Works Progress Administration, 1939.

University of California, Department of Geography. "The Living New Deal." Online, interactive database, accessed on November 16, 2017. www.livingnewdeal.org.

Newspaper Articles (Chronologically)

"Culvert at Sausal Creek is Started." *Oakland Tribune*. November 18, 1935.

"Oil Tax Funds to Fix Streets." *Oakland Tribune*. April 5, 1938.

"City to ask for $289,100 PWA Projects." *Oakland Tribune*. April 14, 1937.

Oakland History Room, Clippings File: *Proposed parks, rose garden, street trees, Sequoia & the Hights; municipal zoo*. "Dimond Canyon Park Improvements Planned." Newspaper name not recorded. April 21, 1938.

"Council Votes Sewer Project." *Oakland Tribune*. October 5, 1938.

"Letters to the Forum: Calls it Devastation." *Oakland Tribune*. April 8, 1939.

"Letters to the Forum: Dimond Canyon." *Oakland Tribune*. April 12, 1939.

"Council Acts to End Traffic Jams at Broadway, Moss: Urges More Care." *Oakland Tribune*. July 12, 1939.

"Oakland Police Will Study Traffic at University." *Oakland Tribune*. August 23, 1940.

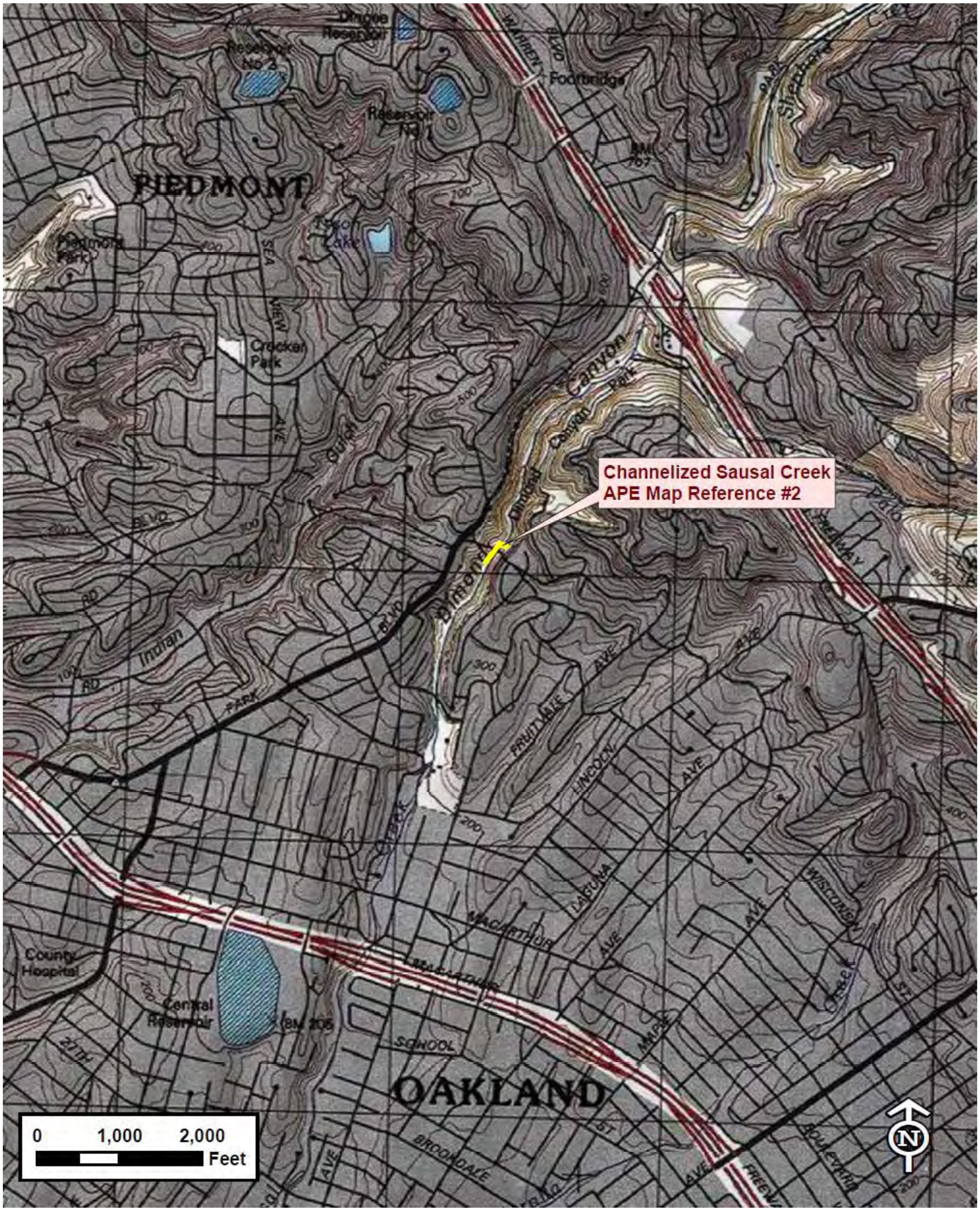
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Resource Identifier: Segment of the Channelized Sausal Creek under the Leimert Bridge **Caltrans Map Reference No.:** 2

County/Route/Postmile:

Map Name: Sketch Plan with Photo Angles *Scale: See below *Date of Map: 2017



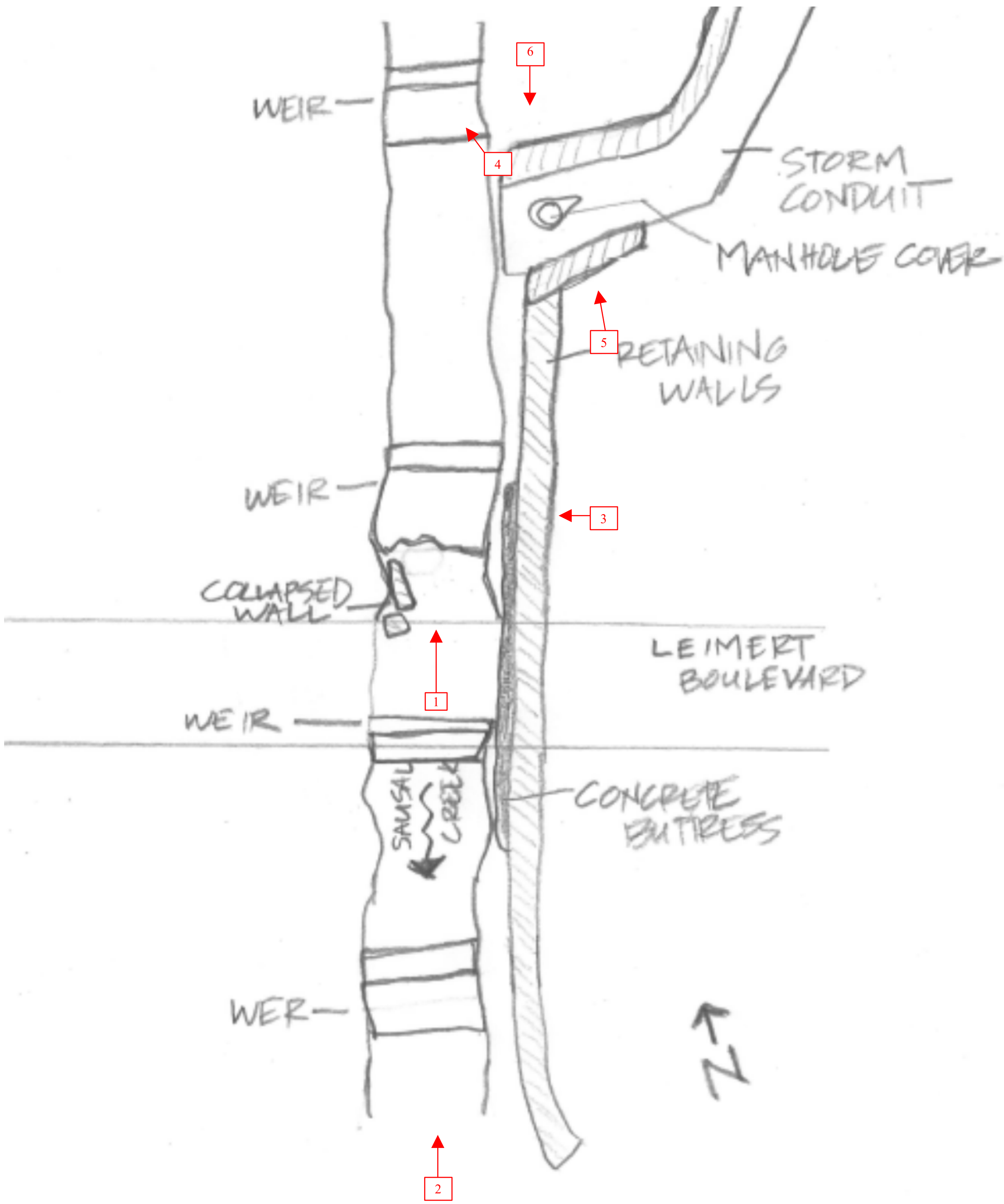
State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION	Primary #	
LOCATION MAP	HRI#	
	Trinomial	

Resource Identifier: Segment of the Channelized Sausal Creek under the Leimert Bridge **Caltrans Map Reference No.:** 2

County/Route/Postmile:

Map Name: Sketch Plan with Photo Angles *Scale: See below *Date of Map: 2017

Note: This is a sketch plan to illustrate the relationships between the elements of the segment of the Channelized Sausal Creek under the Leimert Bridge and is not to scale.



Attachment D:
Previously Completed HPSR, prepared by
URS – Oakland, March 2008

HISTORIC PROPERTY SURVEY REPORT

LEIMERT BOULEVARD BRIDGE (33C-0215) SEISMIC RETROFIT PROJECT

STPLZ-5012 (025)

LEIMERT BOULEVARD, OAKLAND, CALIFORNIA

Prepared for
Mr. Nader Rabahat
City of Oakland
250 Frank H. Ogawa Plaza, Ste. 4314
Oakland, CA 94612

Ms. Jennifer Darcangelo
Caltrans District 4, Office of Cultural Resources Studies
111 Grand Avenue
Oakland, CA 94612

March 2008

URS

URS - Oakland
1333 Broadway, Ste. 800
Oakland, CA 94612

26815977.00400

State of California — Department of Transportation

HISTORIC PROPERTY SURVEY REPORT

1. UNDERTAKING DESCRIPTION AND LOCATION

District	County	Route *(Local Agency)*	*Local Assistance Project Prefix*	Post Miles *(Project No.)*	Charge Unit *(Agreement)*	Expenditure Authorization *(Location)*
4	Alameda	Community & Economic Development Agency, City of Oakland	*STPLZ*	5012 (025)		Leimert Boulevard, City of Oakland

Project Description:

The Leimert Boulevard Bridge (also called the Sausal Creek Bridge) is located in the City of Oakland approximately 3.1 miles east of downtown and 0.6 mile southwest of State Highway 13 (Figures 1 and 2). The bridge is an important access point to the Oakmore Highlands neighborhood from Park Boulevard. The proposed project is the seismic retrofit of this bridge. The California Department of Transportation (Caltrans), acting as the lead agency under the delegated authority of the Federal Highway Administration (FHWA), is providing the project oversight as federal funds are involved.

The Leimert Boulevard Bridge is surrounded by residential neighborhoods with a small retail/commercial service area at the southeast foot of the bridge. The bridge structure traverses Sausal Creek as it flows through Dimond Canyon Park.

The Leimert Boulevard bridge is supported by a concrete arch and 17 bents (Bents 1 through 17 on the General Plan sheet in Attachment A). A bent is a structural engineering term for a beam supported by columns. Each bent on the bridge consists of two columns holding up one beam. The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them and adding a concrete brace between Bents 6 and 14 and the bridge arch, and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns would also be removed as part of this project. It is expected that this work would disturb the entire area under the bridge. Construction equipment and materials would be lowered over the side of the bridge to the ground. It is estimated that construction laydown, staging, and temporary wooden platforms for construction equipment could disturb an area approximately 30 feet on either side of the bridge.

The columns for Bents 2 through 5, 15, and 16 would have full height column casings which would require excavation around the columns. Construction of these casings, which would be welded together in segments placed around the columns, would require excavation for 4 feet in all directions from the existing columns. The columns are nominally 2.5 by 5 feet. Therefore, the excavations would be 10.5 by 13 feet down to the top of the existing column footings (137 square feet). The excavations would be approximately 2 feet wider than the footings. The depth of excavation would vary from about 2 feet at the south column of Bent 5 to about 10 to 11 feet at the south column of Bent 2, north column of Bent 5, and south column of Bent 16.

2. AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) for the project was established in consultation with Ms. Alica Otani, PQS Principal Architectural Historian, Mr. Roland Nimis, Project Manager/Local Assistance Engineer, and Mr. Nader Rabahat, Project Manager, City of Oakland, on December 18, 2007. A copy of the signed APE map is attached to this Historic Property Survey Report (HPSR). An unsigned version of the APE map is included as Figure 3 of the HPSR because it provides a clearer image of the APE than the copy of the signed map.

The horizontal archaeological APE for the project consists of the area that could be directly disturbed by project construction or could be disturbed by staging and storage of construction equipment and materials. The area of direct impact for project construction was assumed to be the area that represents the supports of the bridge and the bridge itself (area shown with red hatching in Figure 3). The area that could be disturbed by construction staging and storage consists of an area 30 feet wide on either side of the bridge (area shown with green hatching in Figure 3).

For the federal undertaking described in Part 1: To minimize redundancy and paperwork for the California Department of Transportation and the State Historic Preservation Officer, and in the spirit intended under the federal Paperwork Reduction Act (U.S.C. 44 Chapter 35), this document also satisfies consideration under California Environmental Quality Act Guidelines Section §15064.5(a) and, as appropriate, Public Resources Code §5024 (a)(b) and (d).

A boring program was conducted to obtain geologic data for the Leimert Boulevard bridge. Typical procedures for logging geologic borings call for identification of unusual inclusions in the geologic strata, such as the presence of layers of shell or charcoal that may indicate a cultural site. The location of these borings and the boring logs are provided in the attached Log of Test Borings sheet. Borings were advanced immediately adjacent to or within the footprint of the areas to be excavated / disturbed by the seismic retrofit project. As shown in the borings, the top 5 to 7 feet of the site consists of sand, clay, and gravel with sandstone bedrock below that level. This site is located in an active fluvial environment in an area of moderate to steep terrain. It is in a geomorphic setting that would be an unlikely location for prehistoric use. In any event, the high-energy fluvial environment would preclude the potential for the presence of in situ, intact cultural deposits. Borings did not encounter any evidence of cultural activity such as lenses of shell or charcoal, and no artifacts were identified in the borings except in the surface fill material. For these reasons, it is unlikely that excavations associated with the project would encounter buried cultural sites and there is no further need for investigation of the vertical APE.

The built environment APE for the Leimert Boulevard Bridge project was determined through review of oblique and overhead photographs and a site reconnaissance. Because of potential indirect visual, noise and vibration impacts from the proposed project, APNs 029A133000500, 029A133004100, 029A132701800 and 029A132700100, located adjacent to the project, have been included in the built environment APE and have been surveyed and evaluated for historical significance. Also, APN 029A133000404 was included in the APE for built environment resources because construction-related impacts to the parcel (indirect visual, noise and vibration impacts) resulting from construction activities could not be ruled out. Finally, the Leimert Boulevard Bridge itself (Bridge 33C-0215), has been previously evaluated by Caltrans and has been found to meet the criteria for listing in the National Register of Historic Places.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION

x Native American Tribes, Groups and Individuals

- The Native American Heritage Commission (NAHC) provided a list of people who may have specific information pertaining to cultural resources in the project area, and letters were sent to each person on May 9, 2007. Follow-up emails or phone calls were placed to each contact on December 28, 2007 and January 3, 2008. Mr. Andrew Galvan of the Ohlone Indian Tribe responded on January 3, 2008 and on January 17, 2008 by email and did not have any specific comments on resources in the project area. No further response has been received to date. See attached Archaeological Survey Report (ASR) for copies of correspondence and conversation records.

x Native American Heritage Commission

- The NAHC was contacted on May 1, 2007 to request a database search for sacred lands or other cultural properties of significance to Native Americans. No sacred lands files are within the APE.

x Local Historical Society/ Historic Preservation Groups

- The following organizations were contacted by letter on January 23, 2008: Naomi Schiff of the Oakland Heritage Alliance, Helen Moore of the Alameda County Historical Society and Joann Pavlinec of the City of Oakland Landmarks Preservation Advisory Board. No responses have been received to date. See attached Historical Resources Evaluation Report (HRER) for copies of correspondence.

4. SUMMARY OF IDENTIFICATION EFFORTS

x	National Register of Historic Places	Month & Year: 1979-2002 & supplements
x	California Register of Historical Resources	Year: 1992 & supplemental information to date
x	California Inventory of Historic Resources	Year: 1976
x	California Historical Landmarks	Year: 1995 & supplemental information to date
x	California Points of Historical Interest	Year: 1992 & supplemental information to date
x	State Historic Resources Commission	Year: 1980-present, minutes from quarterly meetings

For the federal undertaking described in Part 1: To minimize redundancy and paperwork for the California Department of Transportation and the State Historic Preservation Officer, and in the spirit intended under the federal Paperwork Reduction Act (U.S.C. 44 Chapter 35), this document also satisfies consideration under California Environmental Quality Act Guidelines Section §15064.5(a) and, as appropriate, Public Resources Code §5024 (a)(b) and (d).

x Caltrans Historic Highway Bridge Inventory Year: 2006 & supplemental information to date

x Archaeological Site Records

None recorded

x Other sources consulted

- First American Real Estate Solutions commercial database
- Archival research at California State Archives and Library, Bancroft Library (University of California, Berkeley), Shields Library (University of California, David), the Oakland Room at the Oakland Public Library, and the Alameda County Assessor's Office.

x Results:

- A cultural resources records search of pertinent survey and site data at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, was done on February 6, 2002 (File No. 01-1247). The date of the records search is older than would be typically used for establishing a baseline of known cultural resources; however, given the limited levels of new disturbance required for the current project, it was determined that the results of the records search would adequately reflect the level of sensitivity at the project site for the purposes of this document. No listings for resources within the archaeological APE and the quarter-mile search radius were identified in the NWIC records search.
- Constructed in 1926, the Leimert Boulevard Bridge (33C-0215) is listed as Category 2 in the Caltrans Historic Bridge Inventory (the appropriate page from the inventory is attached). The bridge was also designated a local landmark by the City of Oakland in 1980.
- The APE includes three buildings (1707 Clemens Rd, 1321 Leimert Blvd., 1301 Leimert Blvd., 4902 Park Blvd.), all of which date from the early to the mid-20th century. Typical of this period in Alameda County, the properties generally consist of woodframe buildings and structures with concrete foundations. None of these properties were found to be eligible for the National Register of Historic Places.

5. PROPERTIES IDENTIFIED

x Rand Herbert, consulting architectural historian, who meets the Professionally Qualified Staff Standards in Section 106 Programmatic Agreement Attachment 1 as a Principal Architectural Historian, has determined that the only other properties present within the APE meet the criteria for Section 106 PA Attachment 4 (**Properties Exempt from Evaluation**).

x **Bridges listed as Category 2** in the Caltrans Historic Highway Bridge Inventory are present within the APE. The appropriate page from the Caltrans Historic Bridge Inventory is attached.

x As assigned by FHWA, **Caltrans** has **determined** the following properties within the Project APE are **not eligible** for inclusion in the National Register of Historic Places:

- 1707 Clemens Road – Year Built: 1939 – OHP Status Code: 6Z – Map Reference #1
- 1321 Leimert Blvd – Year Built: 1940 – OHP Status Code: 6Z – Map Reference #2
- 1301 Leimert Blvd – Year Built: 1950 – OHP Status Code: 6Z – Map Reference #3
- 4902 Park Blvd – Year Built: 1945 – OHP Status Code: 6Z – Map Reference #4

x Properties **previously listed or determined eligible** for inclusion in the National Register of Historic Places are present within the Project APE. *(Include date of listing or determination)*:

- Leimert Boulevard Bridge (33C-0215), determined eligible in 2003 for the Caltrans Historic Bridge Inventory (see Appendix E of the HRER).

6. LIST OF ATTACHED DOCUMENTATION

x Project Vicinity, Location, and APE Maps

x California Historic Bridge Inventory sheet

x Historical Resources Evaluation Report – Attachment B

- JRP Historical Consulting, Oakland Bridges Seismic Retrofit Project: Leimert Boulevard Bridge, Oakland, 2008.

x Archaeological Survey Report (ASR) – Attachment C

- Archaeological Survey Report, Leimert Boulevard Bridge, Seismic Retrofit Project

7. HPSR to File

x Not applicable.

8. HPSR to SHPO

x As assigned by FHWA, Caltrans has determined that there are properties evaluated as a result of the project that are **not eligible** for inclusion in the National Register of Historic Places within the Project APE. Under Section 106 PA Stipulation VIII.C, Caltrans requests SHPO's concurrence in this determination.

9. Findings for State-Owned Properties

x Not applicable; project does not involve Caltrans right-of-way or Caltrans-owned property.

10. CEQA Impact Findings

x Not applicable; Caltrans is not the lead agency under CEQA.

11. HPSR PREPARATION AND DEPARTMENT APPROVAL

Prepared by: 3/13/08

Dean Martorana/*Archaeologist* Date
URS Corporation, Oakland, CA

Reviewed for approval by:
~~Alicia Otani~~ Andrew Hope Andrew Hope 9/16/2008
District 4 Caltrans PQS: *Principal Architectural Historian* Date

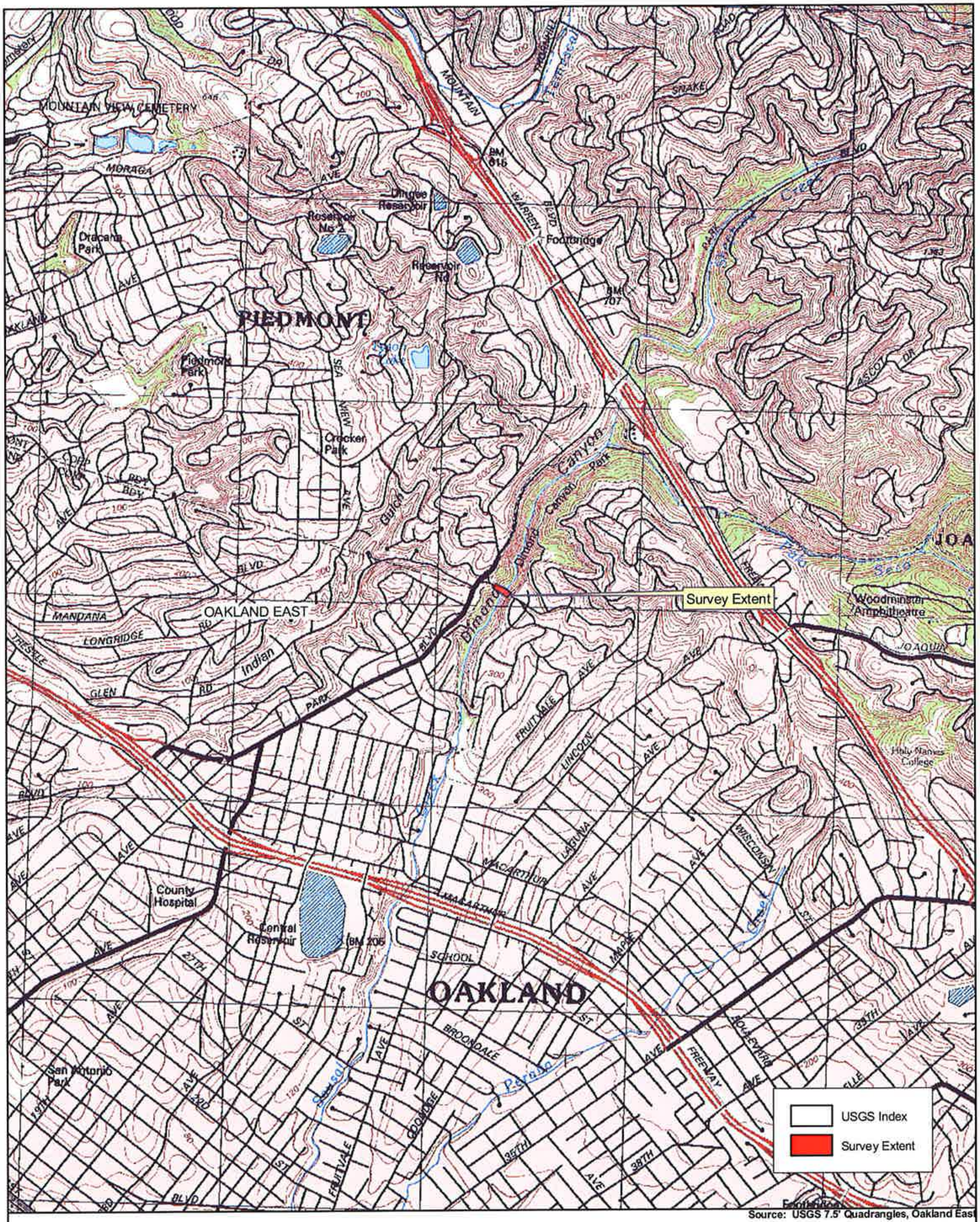
Approved by: *(sign on line)*

Approved by:
Jennifer Darcangelo Jennifer Darcangelo 9/16/08
District 4 EBC: *Chief, Office of Cultural Resources Studies* Date

Source: ESRI Online 2007 Street Map

0 10 Miles

Seismeic Retrofit of Leimert Boulevard Bridge Number 33C-0215 District 4, Alameda County	Project Vicinity	Figure 1
26815977.00600		January 2008



0 — 1 Miles

1:24,000

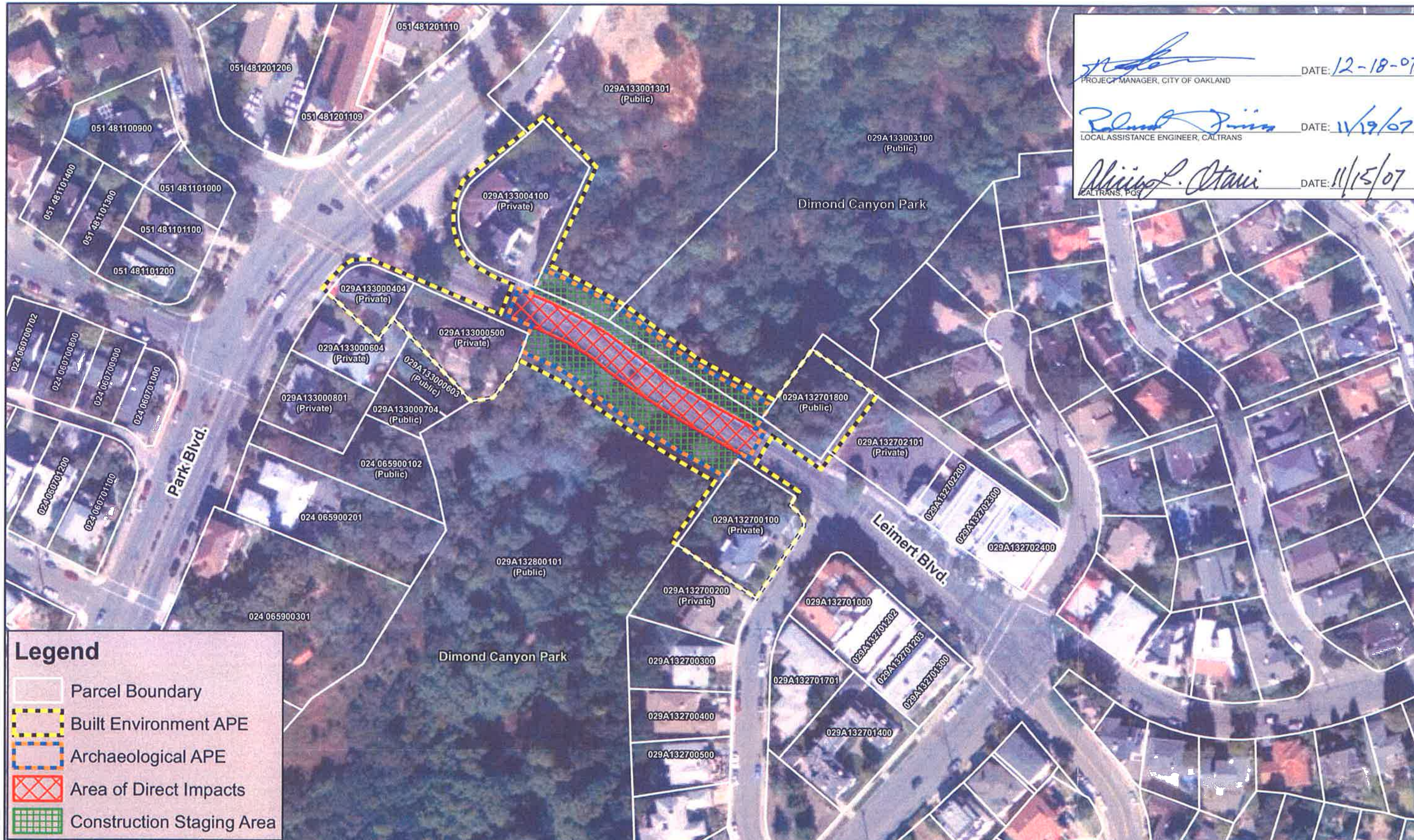
Seismeic Retrofit of
Leimert Boulevard Bridge,
Number 33C-0215
District 4, Alameda County

26815977.00600

Study Location

Figure 2

January 2008



0 50 100 200 300 400 500 Feet

CITY OF OAKLAND

Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (025)

Area of Potential Effects

URS Corporation L:\Projects\Eight_Bridges_Seismic_Retrofit\MXD\Current Working Documents\Sausal_Creek_Bridge.mxd Date/Time: 5/2/2007 9:26:11 AM Name: cxbente0

Bridge No.	County	Name	Facility	City	Year Blt.	NR Status
33C0207	Alameda	ESTUDILLO CANAL DITCH	WICKES AVE	San Leandro	1972	5
33C0208	Alameda	ESTUDILLO CANAL	FARNSWORTH ST	San Leandro	1955	5
33C0209	Alameda	LAGUNA CK(FLD CNTRL L E)	GRIMMER BLVD	Fremont	1964	5
33C0210	Alameda	TENNYSON FLOOD CNTRL CHN	FOLSOM AVE	Hayward	1960	5
33C0211	Alameda	WHITMAN STREET SEP	WHITMAN ST	Hayward	1970	5
33C0212	Alameda	ORCHARD AVE UP	ORCHARD AVE	Hayward	1970	5
33C0213	Alameda	BARTD	ORCHARD AVE	Hayward	1970	5
33C0214	Alameda	NO NAME CREEK	HARDER RD	Hayward	1955	5
33C0215	Alameda	SAUSAL CREEK	LEIMERT BLVD	Oakland	1930	2
33C0216	Alameda	LION CREEK	SANLEANDRO,RR,BART	Oakland	1940	5
33C0217	Alameda	BARTD AERIAL	105TH AVE	Oakland	1968	5
33C0218	Alameda	SAN LEANDRO CREEK	98TH AVE	Oakland	1939	5
33C0219	Alameda	WHITMAN STREET SEP	WHITMAN ST	Hayward	1970	5
33C0220	Alameda	HARDER ROAD UP	HARDER ROAD	Hayward	1970	5
33C0221	Alameda	BARTD	HARDER RD	Hayward	1970	5
33C0222	Alameda	ALAMEDA CREEK	WHIPPLE RD	Union City	1977	5
33C0223	Alameda	WHIPPLE RD OH (BARTD)	WHIPPLE ROAD	Union City	1970	5
33C0224	Alameda	LAGUNA CREEK	BLACOW RD	Fremont	1955	5
33C0225	Alameda	PASEO PADRE PARKWAY UP	PASEO PADRE PKWY	Fremont	1975	5
33C0228	Alameda	SINBAD CREEK	KILKARE RD		1950	5
33C0229	Alameda	ALAMEDA LAKE	GRAND ST	Alameda	1958	5
33C0230	Alameda	BALLENA BAY	BALLENA BLVD	Alameda	1966	5
33C0231	Alameda	SAN LORENZO CREEK	HAZEL AVE	Hayward	1925	5
33C0232	Alameda	GREENVILLE ROAD UP	GREENVILLE ROAD		1930	4
33C0235	Alameda	ASHLAND AVE UP	ASHLAND AVE		1960	5
33C0236	Alameda	BARTD	ASHLAND AVE		1960	5
33C0237	Alameda	ELGIN STREET OC	ELGIN ST		1960	5
33C0238	Alameda	LION CREEK TRIBUTARY	CAMPUS DR	Oakland	1970	5
33C0239	Alameda	ARROYO DEL VALLE	BERNAL AVE	Pleasanton	1983	5
33C0240	Alameda	ARROYO SECO	GREENVILLE RD		1962	5
33C0241	Alameda	SOUTH BAY AQUEDUCT	GREENVILLE RD		1962	5
33C0242	Alameda	LAGUNA CREEK	DELEWARE ST	Fremont	1954	5
33C0243	Alameda	SOUTH BAY AQUEDUCT	LUPIN RD		1962	5
33C0244	Alameda	ALAMEDA CREEK BRANCH	HUNTWOOD AVE	Hayward	1980	5
33C0245	Alameda	PALOMARES CREEK	PALOMARES RD		1962	5
33C0246	Alameda	PALOMARES CREEK	PALOMARES RD		1970	5
33C0247	Alameda	PALOMARES CREEK	PALOMARES RD		1973	5
33C0248	Alameda	CROW CREEK	COLDWATER DR		1970	5
33C0249	Alameda	BARTD AERIAL	75TH AVE	Oakland	1968	5

ATTACHMENT A
DRAWINGS

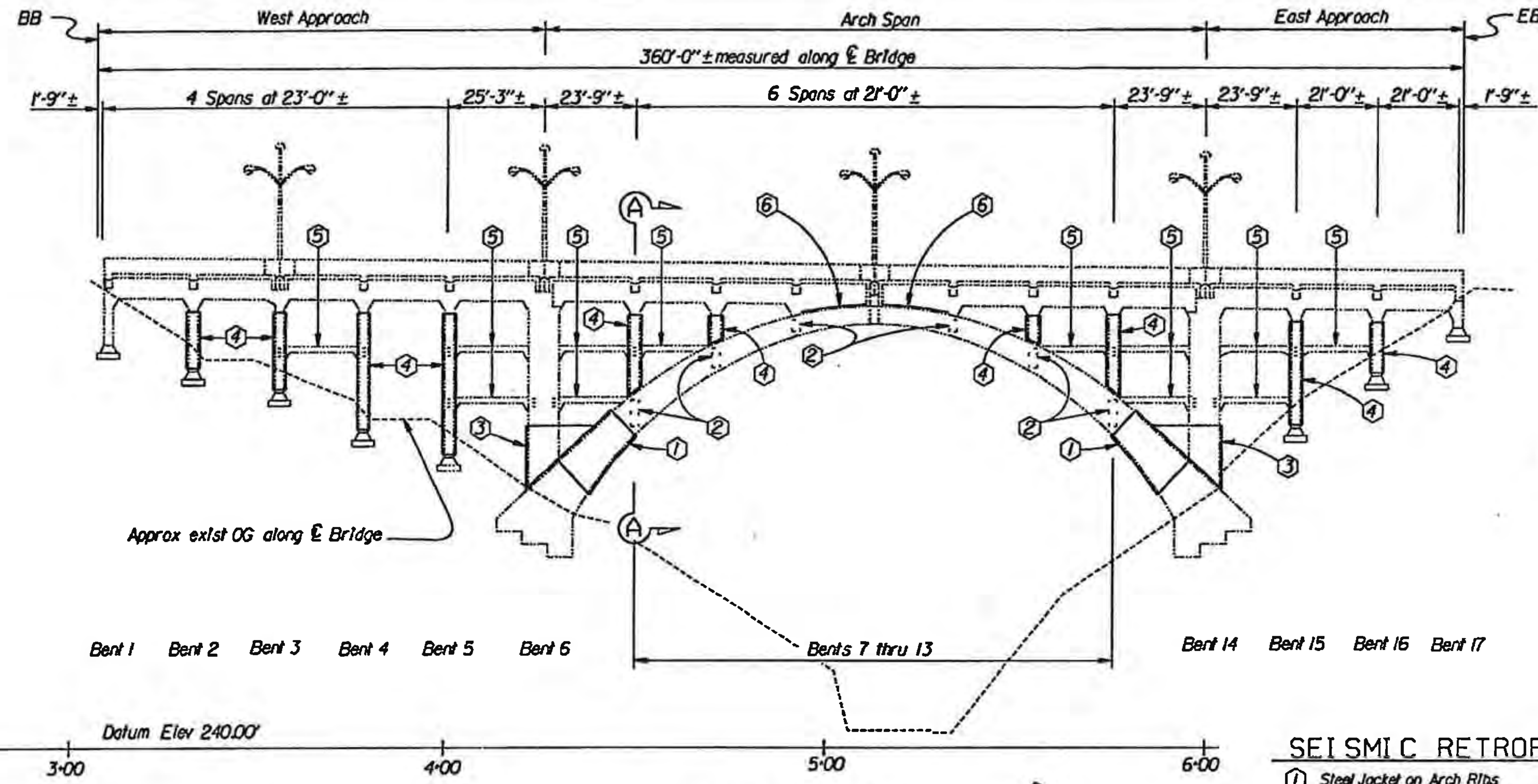
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER CIVIL

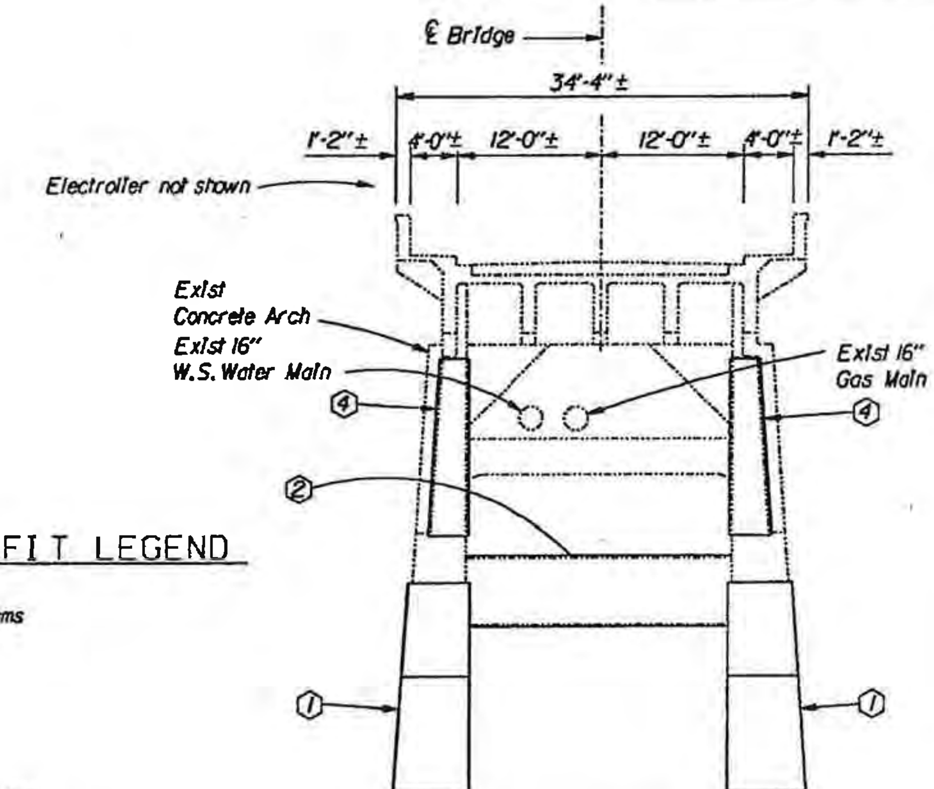
REGISTERED PROFESSIONAL ENGINEER JINRONG WANG No. 49844 Exp. 9-30-00 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941



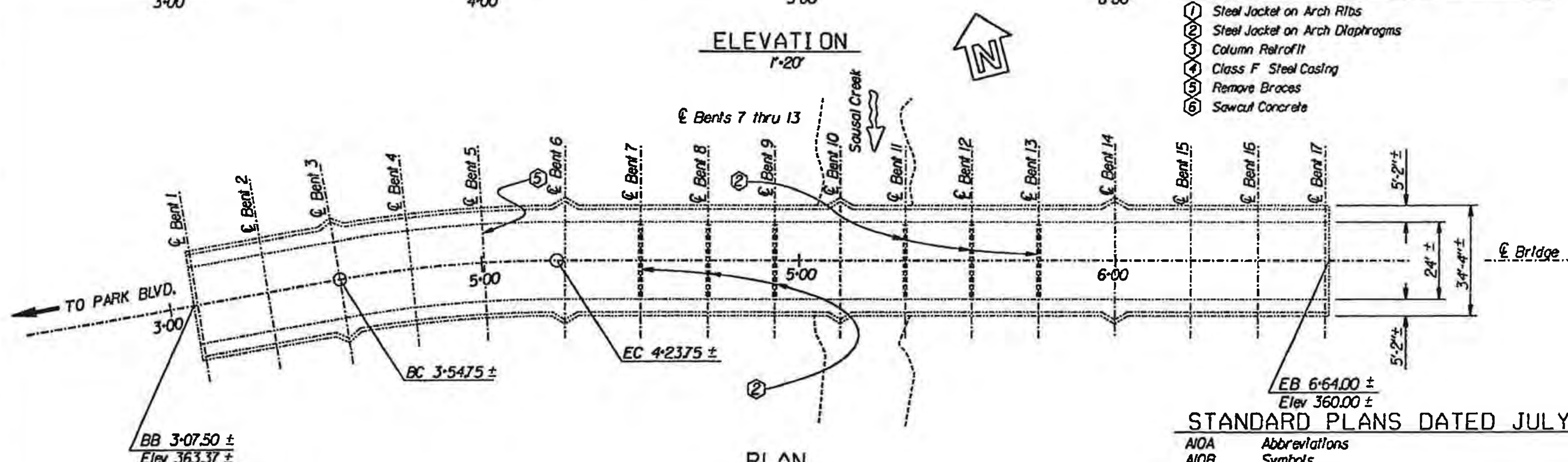
ELEVATION
1"=20'



SECTION A-A
1/8"=1'-0"

SEISMIC RETROFIT LEGEND

1. Steel Jacket on Arch Ribs
2. Steel Jacket on Arch Diaphragms
3. Column Retrofit
4. Class F Steel Casing
5. Remove Braces
6. Sawcut Concrete



PLAN
1"=20'

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	FOUNDATION PLAN
3	COLUMN CASING DETAILS NO.1
4	COLUMN CASING DETAILS NO.2
5	COLUMN CASING DETAILS NO.3
6	COLUMN RETROFIT DETAILS
7	BRIDGE RETROFIT DETAILS NO.1
8	BRIDGE RETROFIT DETAILS NO.2
9	EXCAVATION AND BACKFILL PAY LIMITS
10	ADJACENT GEOTECHNICAL INFORMATION 1 OF 2
11	ADJACENT GEOTECHNICAL INFORMATION 2 OF 2

STANDARD PLANS DATED JULY 1992

A10A	Abbreviations
A10B	Symbols
B0-1	Bridge Details

Standard Plan Sheet No.
Detail No.

LEGEND
- ········ Denotes existing structure
- ——— Indicates new construction
- ◄—— Indicates direction of traffic

For General Notes see "Foundation Plan" sheet

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PLEASE NOTE: THIS IS A HALF SIZE REDUCTION FOR 11"X17" PAPER

Salinder Dutta CALTRANS DESIGN OVERSIGHT	DESIGN	BY Jinrong Wang 1-97	CHECKED Jinzing Zha 9-97	
SIGNATURE DATE	DETAILS	BY Gene Brown 1-97	CHECKED Jinrong Wang 9-97	
	QUANTITIES	BY Gary Ayotte 10-97	CHECKED Jinrong Wang 10-97	SPECIFICATIONS BY D. Harnagel; PLANS AND SPECS COMPARED Jinrong Wang

DS OSD 2139 (CADD 10/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE
CITY OF OAKLAND

Jinrong Wang
PROJECT ENGINEER

CU 04-152
EA 04-L02306
CONTRACT NO. 88Y022

BRIDGE NO. 33C-0215
POST MILE

DISREGARD PRINTS BEARING EARLIER REVISION DATES

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
GENERAL PLAN

REVISION DATES (PRELIMINARY STAGE ONLY) 4-29-97 9-19-97 10-31-97 12-18-97 1-23-98

SHEET 1 OF 11

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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JINRONG WANG
No. 49844
Exp. 9-30-00
CIVIL
STATE OF CALIFORNIA

URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941

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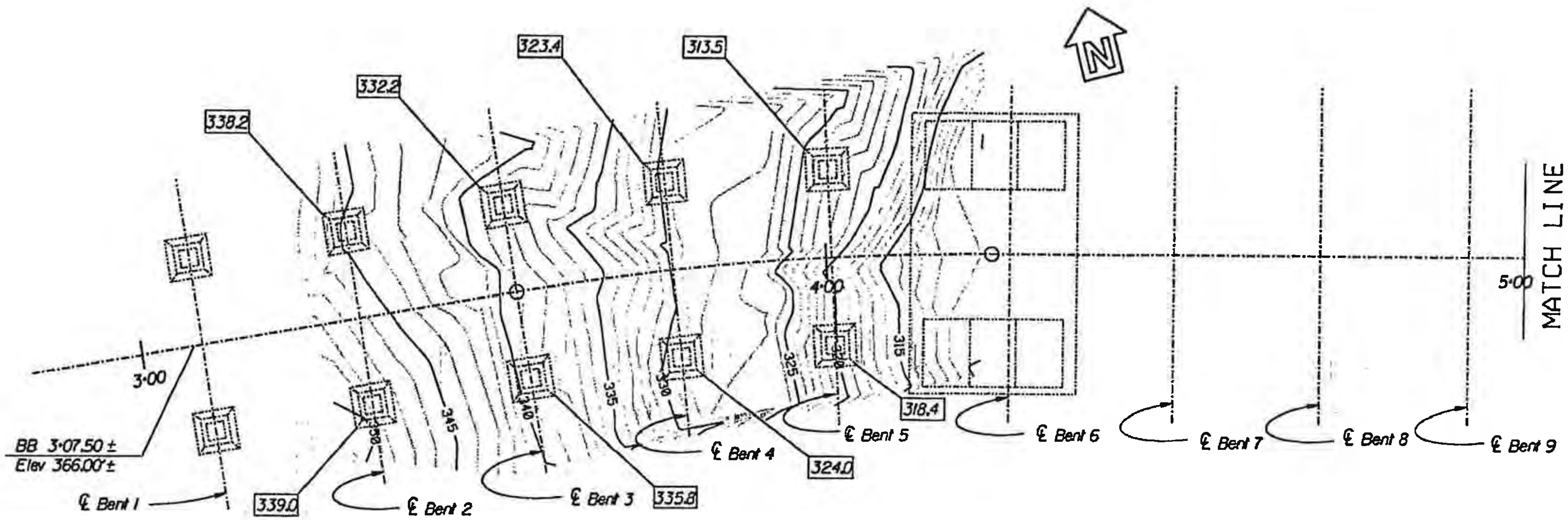

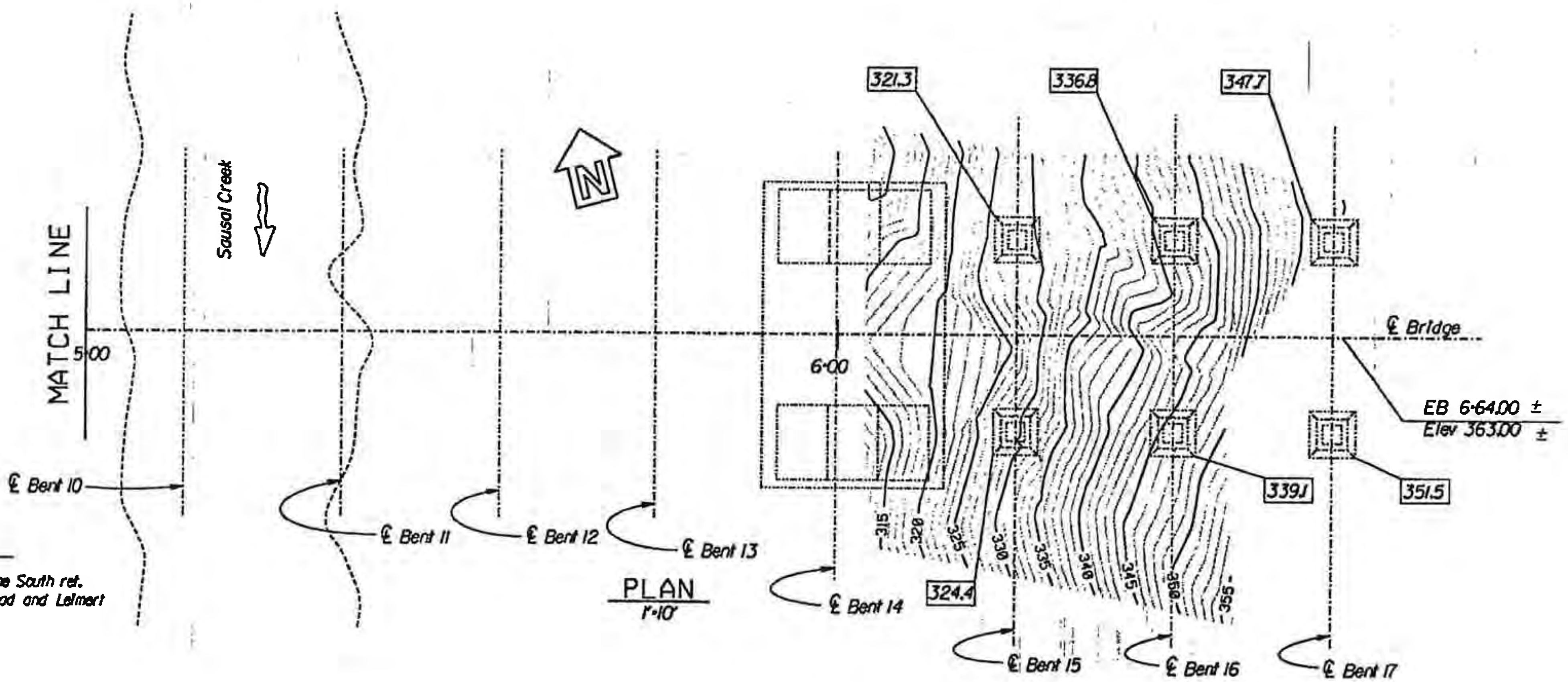

PLAN
1" = 10'

BENCH MARK #3691

Cut "□" in T/C in ret. 12' Northerly of the South ret. at the Southwestern corner of Clemens Road and Leimert Boulevard Elevation = 360.625'

NOTE:
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GENERAL NOTES:

LOAD FACTOR DESIGN

DESIGN

Bridge Design Specifications (1983 AASHTO with Interims and revisions by Caltrans)

SEISMIC LOADING

ATC-32 ARS Curve
Peak bedrock acceleration = 0.7g
Soil Profile = Type D
Fault Moment Magnitude = 7.5
Spectral acceleration increased by 20%

REINFORCED CONCRETE

Existing (Assumed for Retrofit Evaluation)
f'c = 4,000 psi
fy 36,000 psi

New
f'c = 3,250 psi
fy = 60,000 psi

STRUCTURAL STEEL

New Fy = 36,000 psi ASTM A36

New HS Threaded Rods Fy = 92,000 psi ASTM A449

Note:
Denotes bottom of footing elevation

G. Parikh
GEOTECHNICAL PROFESSIONAL
01/23/98
APPROVAL DATE

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Salinder Dutta	PHOTOGRAMMETRY AS OF:	DRAWN BY	DESIGN BY Jinrong Wang 9-97	CHECKED Jinzing Zha 9-97	PREPARED FOR THE CITY OF OAKLAND
DESIGN OVERSIGHT	SURVEYED BY City of Oakland	TRACED BY	DETAILS BY Gene Brown 9-97	CHECKED Jinrong Wang 9-97	
SIGN OFF DATE	FIELD CHECKED BY	CHECKED BY	QUANTITIES BY Gary Ayotte 10-97	CHECKED Jinrong Wang 10-97	
Rev. Date: 6-2-97				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	

Jinrong Wang
PROJECT ENGINEER

CU 04-152
EA 04-L02306

BRIDGE NO. 33C-0215
POST MILE

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) 9-19-97 10-31-97 12-18-97 1-23-98

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
FOUNDATION PLAN

SHEET 2 OF 11

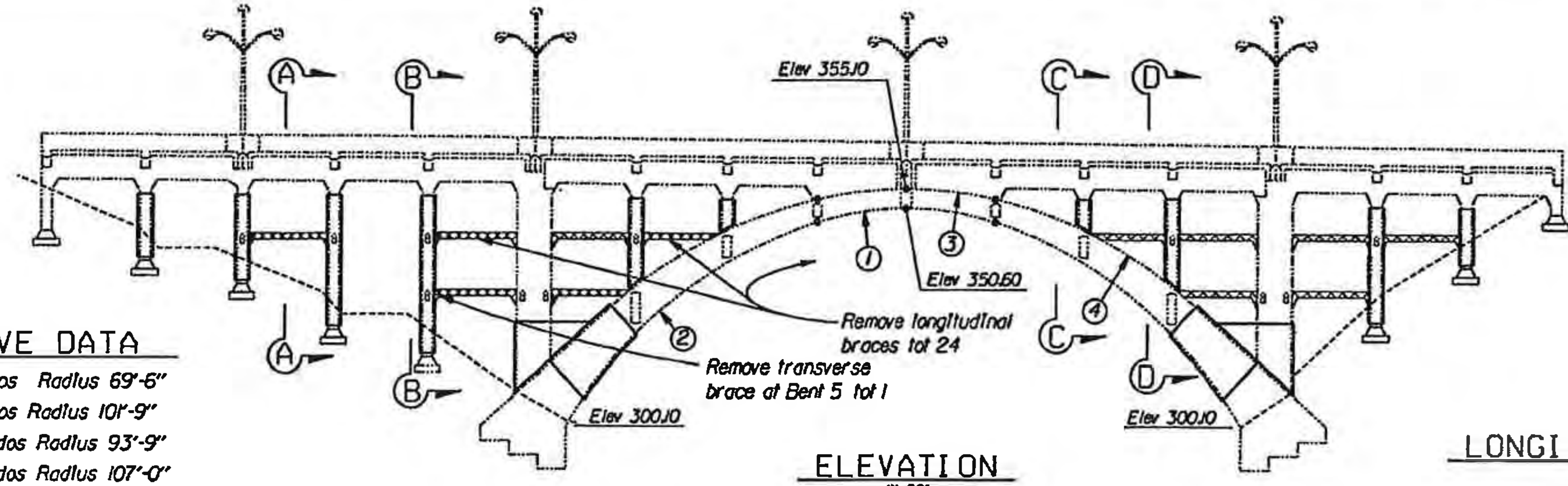
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER
JINRONG WANG
No. 49844
Exp. 9-30-00
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941

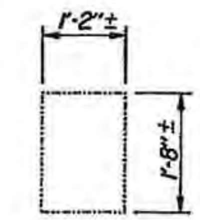


ELEVATION
1"=20'

Denotes Bridge Removal (Portion)

CURVE DATA

1. Intrados Radius 69'-6"
2. Intrados Radius 101'-9"
3. Extrados Radius 93'-9"
4. Extrados Radius 107'-0"

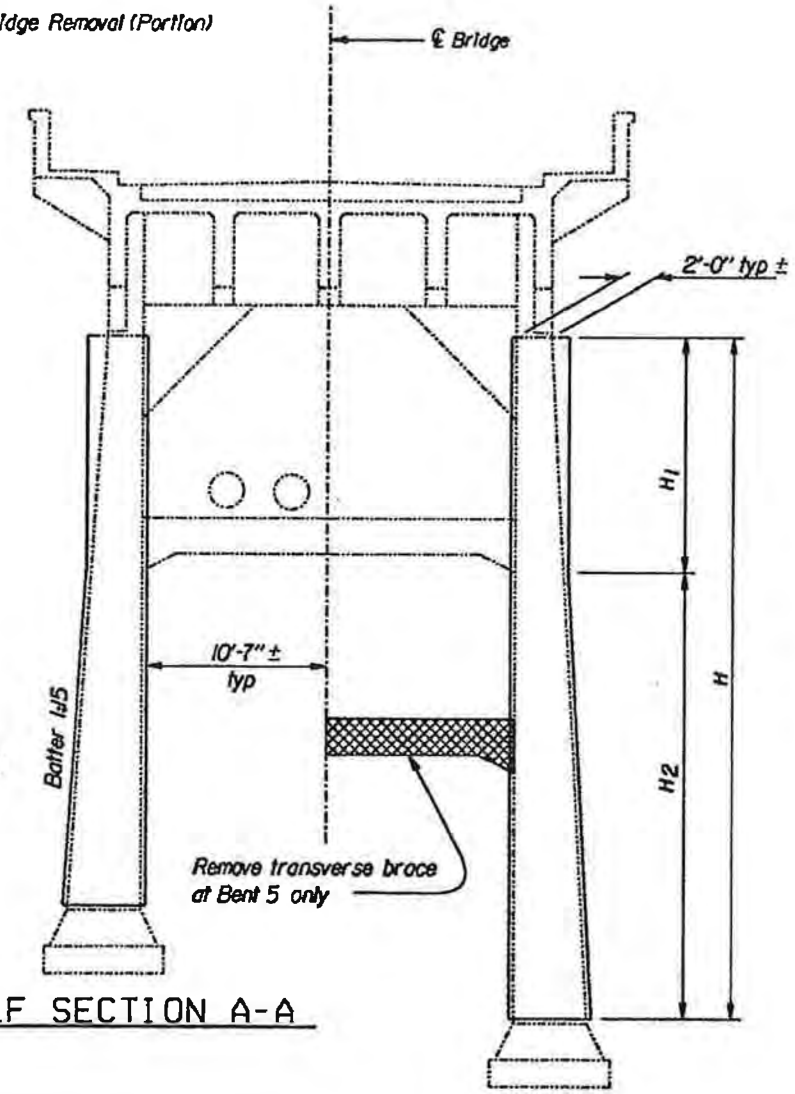


TYPICAL SECTION
LONGITUDINAL AND TRANSVERSE BRACES

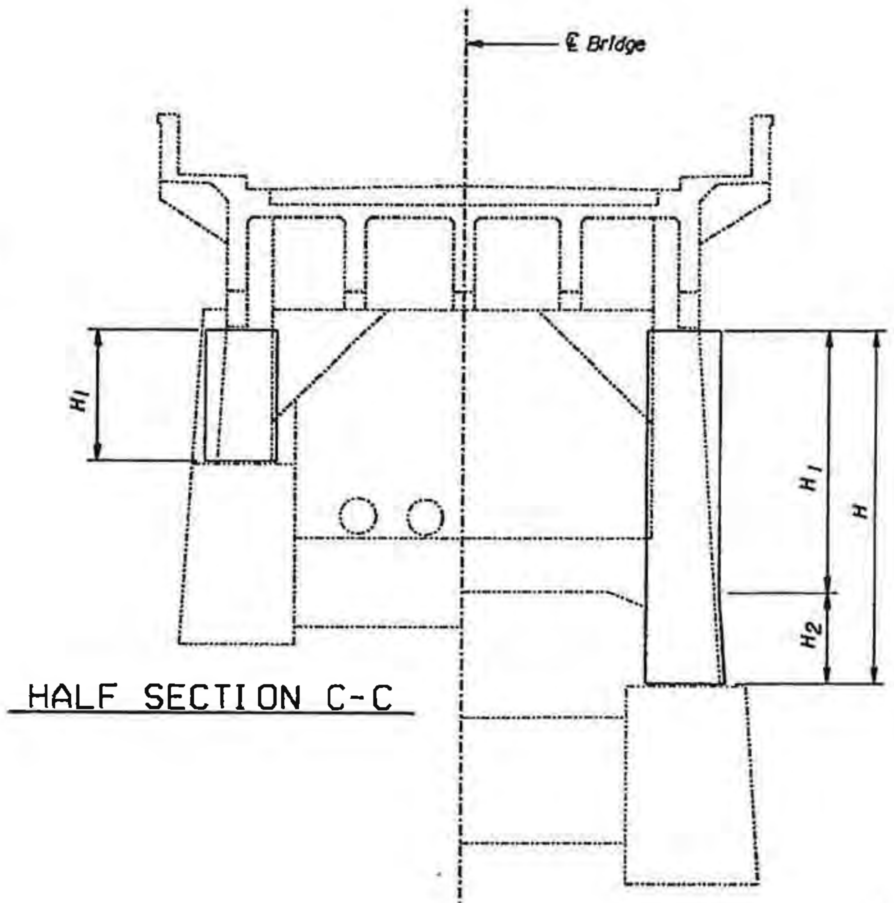
Bent	Overall Height H (ft) ±		Circular Casing Height H_1 (ft) ±	Elliptical Casing Height H_2 (ft) ±		Column Width A (ft) ±		
						@ Top	@ Bottom	
	Left Col	Right Col	Both Cols	Left Col	Right Col	Both Cols	Left Col	Right Col
2	13.83	12.67	11.37	2.46	1.30	2.76	2.92	2.84
3	19.17	16.33	11.27	7.90	5.06	2.75	3.28	3.05
4	27.69	28.43	11.15	16.54	17.28	2.74	3.82	3.86
5	33.40	37.63	11.01	22.39	26.62	2.73	4.18	4.51
7	22.07	22.07	10.47	11.60	11.60	2.71	3.48	3.48
8	9.02	9.02	9.02	0.00	0.00	2.70	2.70	2.70
12	8.16	8.16	8.16	0.00	0.00	2.64	2.64	2.64
13	20.82	20.82	9.22	11.60	11.60	2.63	3.40	3.40
15	27.97	24.88	8.78	19.19	16.10	2.59	3.86	3.66
16	12.45	9.02	9.02	3.43	0.00	2.57	2.83	2.60

Notes:

1. Dimensions are based on As-Built drawings and are for estimating purposes only. The Contractor shall verify these dimensions before ordering or fabricating the casings.
2. For "A" dimension see "COLUMN CASING DETAILS NO. 2" sheet.
3. For additional details at Bents 6 and 14 see "BRIDGE RETROFIT DETAILS NO. 2" sheet.



HALF SECTION A-A
HALF SECTION B-B
SECTION THRU APPROACHES
3/16"=1'-0"



HALF SECTION C-C
HALF SECTION D-D
SECTION THRU ARCH
3/16"=1'-0"

PLEASE NOTE: THIS IS A HALF SIZE REDUCTION FOR 11"X17" PAPER

NOTE:
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Satinder Dutta
CALTRANS DESIGN OVERSIGHT
SIGNATURE DATE

	BY		CHECKED	
DESIGN	Jinrong Wang	6-97	Jinxing Zha	9-97
DETAILS	Gene Brown	6-97	Jinrong Wang	9-97
QUANTITIES	Gary Ayotte	10-97	Jinrong Wang	10-97

PREPARED FOR THE
CITY OF OAKLAND

Jinrong Wang
PROJECT ENGINEER

BRIDGE NO. 33C-0215
POST MILE

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
COLUMN CASING DETAILS NO.1

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04-152
EA 04-L02306

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 3 OF 11

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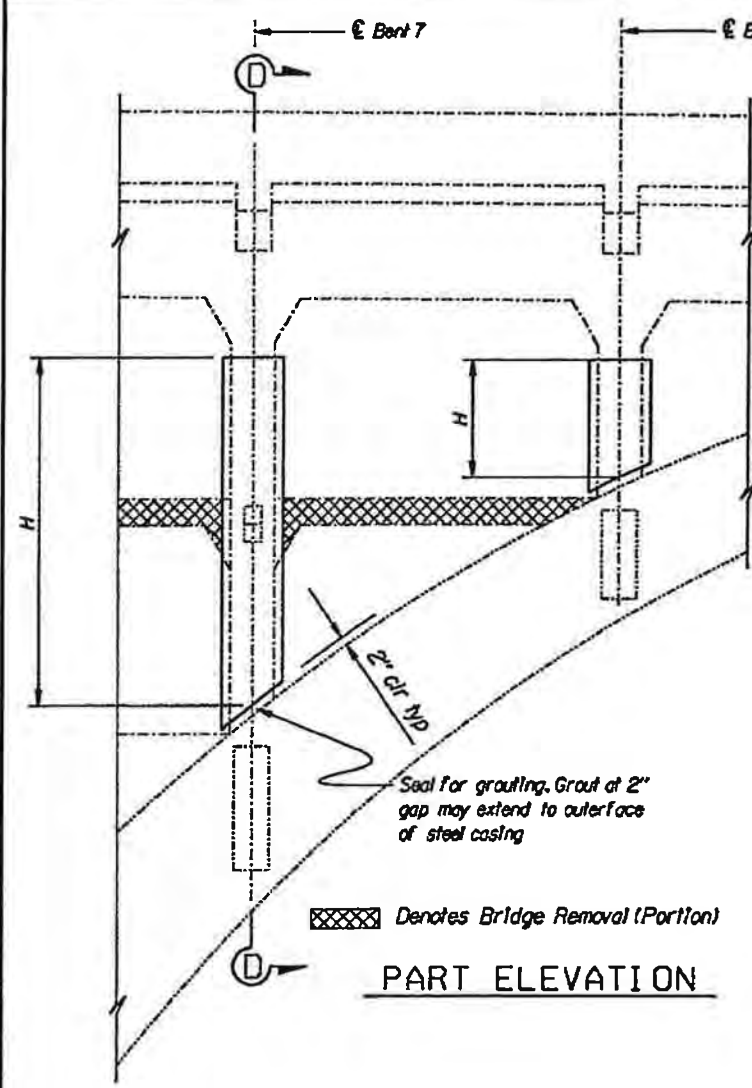
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

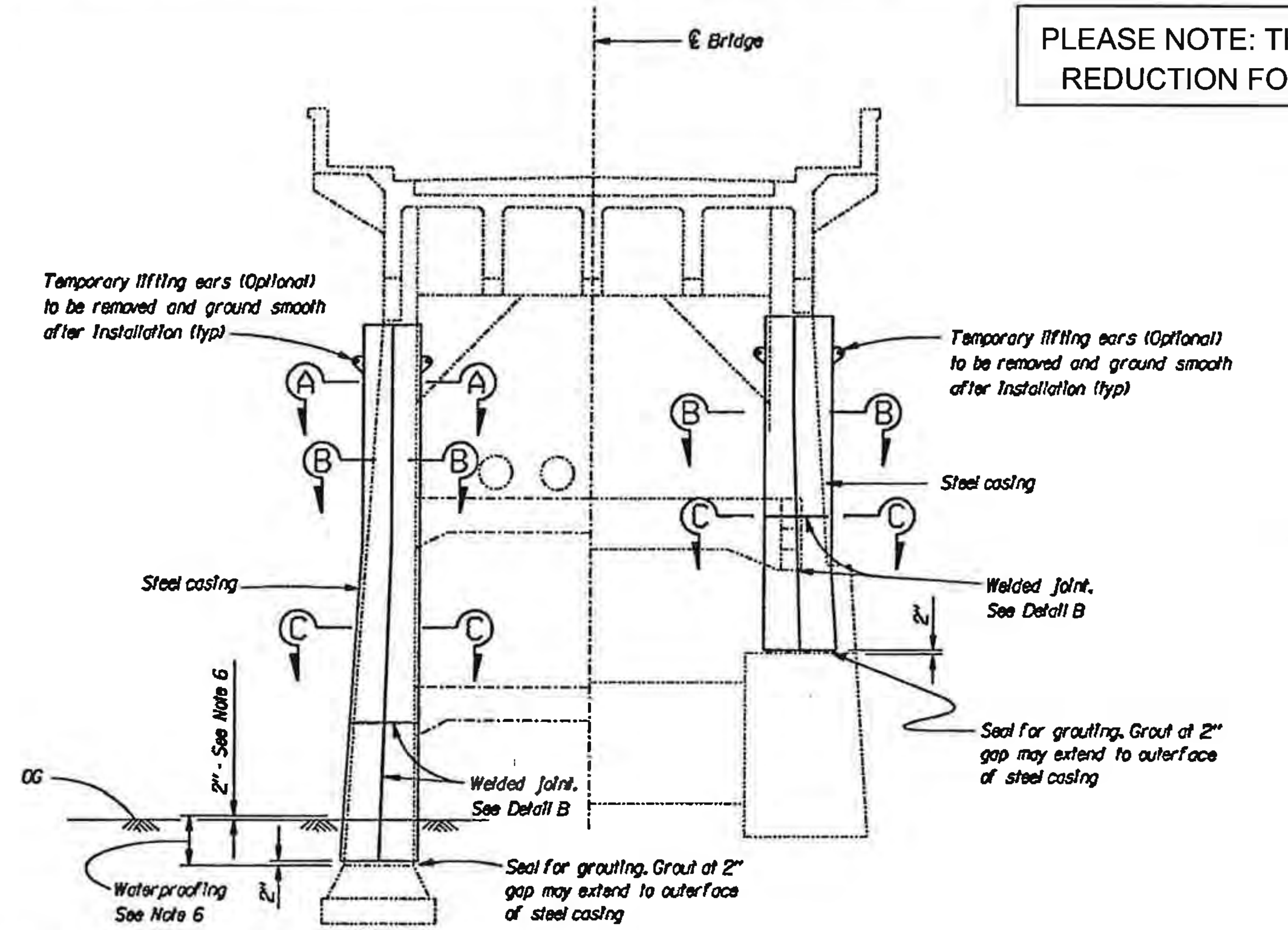
REGISTERED PROFESSIONAL ENGINEER JINRONG WANG No. 49844 Exp. 9-30-00 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941

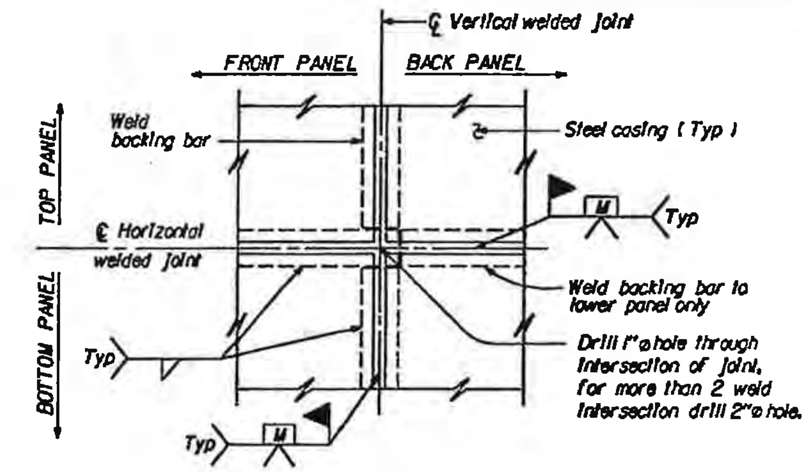


PART ELEVATION



TYPICAL SECTION AT APPROACH   TYPICAL SECTION AT ARCH

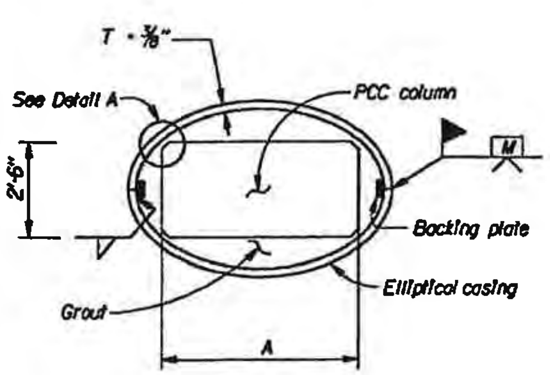
CLASS F COLUMN



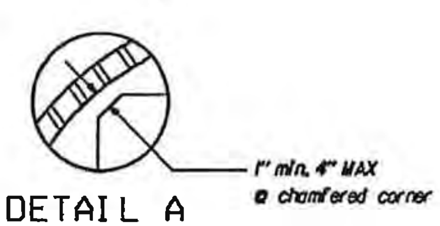
(TWO WELDED INTERSECTION JOINT)

DETAIL B

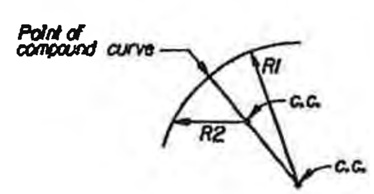
No Scale



SECTION C-C
RECTANGULAR COLUMN

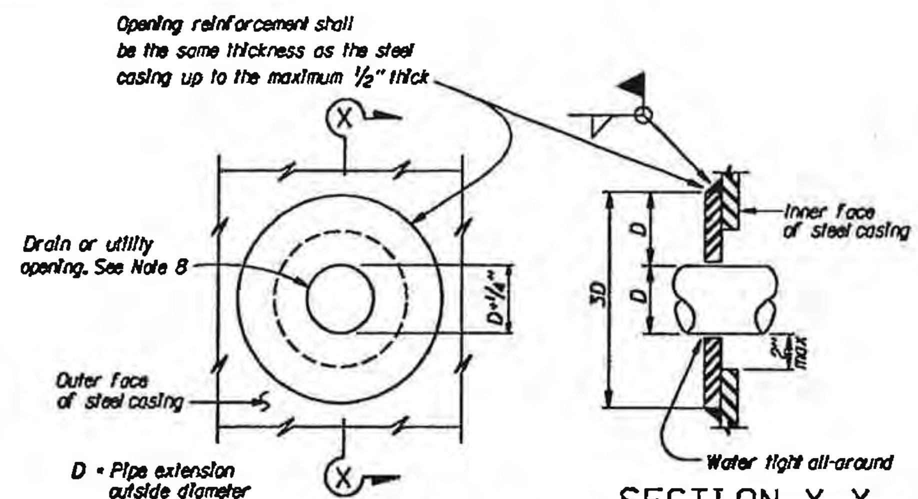


DETAIL A



ELLIPTICAL CASING DETAIL CLASS F

Radii R1 and R2 to be determined by the contractor subject to the approval of the Engineer



SECTION X-X

CASING OPENING

NO SCALE

Note: Opening reinforcement required for drain or utility openings larger than 4".

Notes:

1. For varying thickness steel casing inside surface to remain flush. Min clr from PCC column and casing shall be maintained.
2. Appropriate injection nozzles to be provided on casing, but removed and ground flush following completion of grouting operation.
3. All voids between steel casing and polyethylene (Class P and Class P/F), and steel casing and PCC column (Class F) to be filled with grout.
4. Location and number of vertical and horizontal welds to be determined by the Contractor, and subject to the approval of the Engineer. The location of casings welds are for illustration. No skip welds allowed.
5. Circular steel casing to be 1/4" thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be 3/8" thick unless noted differently on contract plans. Backing bars to be the same thickness as casing up to maximum 1/2" thick.
6. Waterproofing limits for steel casings. Typical for Types "P", "F" and "P/F".
7. Minimum length of Types "P" and "F" casing shall be 1.50 times the largest dimension of prismatic section of column, or 2" above finished grade whichever is greater. Lengths other than the specified minimum shall be shown on Detail sheets.
8. For pipe extensions, opening shall be no more than 1/4" greater than the pipe extensions diameter. For other openings, the opening diameter to be determined by the Engineer.
9. For dimension "A" see "COLUMN CASING DETAILS NO.1" sheet
10. Waterproofing limits for steel casings. Typical for Types "P", "F" and "P/F".
11. For Sections A-A, B-B, and D-D see "COLUMN CASING DETAILS NO.3" sheet

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Salinder Dutta
CALTRANS DESIGN OVERSIGHT

SIGNATURE   DATE

	BY		CHECKED	
DESIGN	Jinrong Wang	6-97	Jinxing Zha	9-97
DETAILS	Gene Brown	6-97	Jinrong Wang	9-97
QUANTITIES	Gary Ayotte	10-97	Jinrong Wang	10-97

PREPARED FOR THE CITY OF OAKLAND

Jinrong Wang
PROJECT ENGINEER

BRIDGE NO. 33C-0215
POST MILE

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
COLUMN CASING DETAILS NO.2

DS OSD 2139 (CADD 10/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04-152
EA 04-L02306

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 4 OF 11

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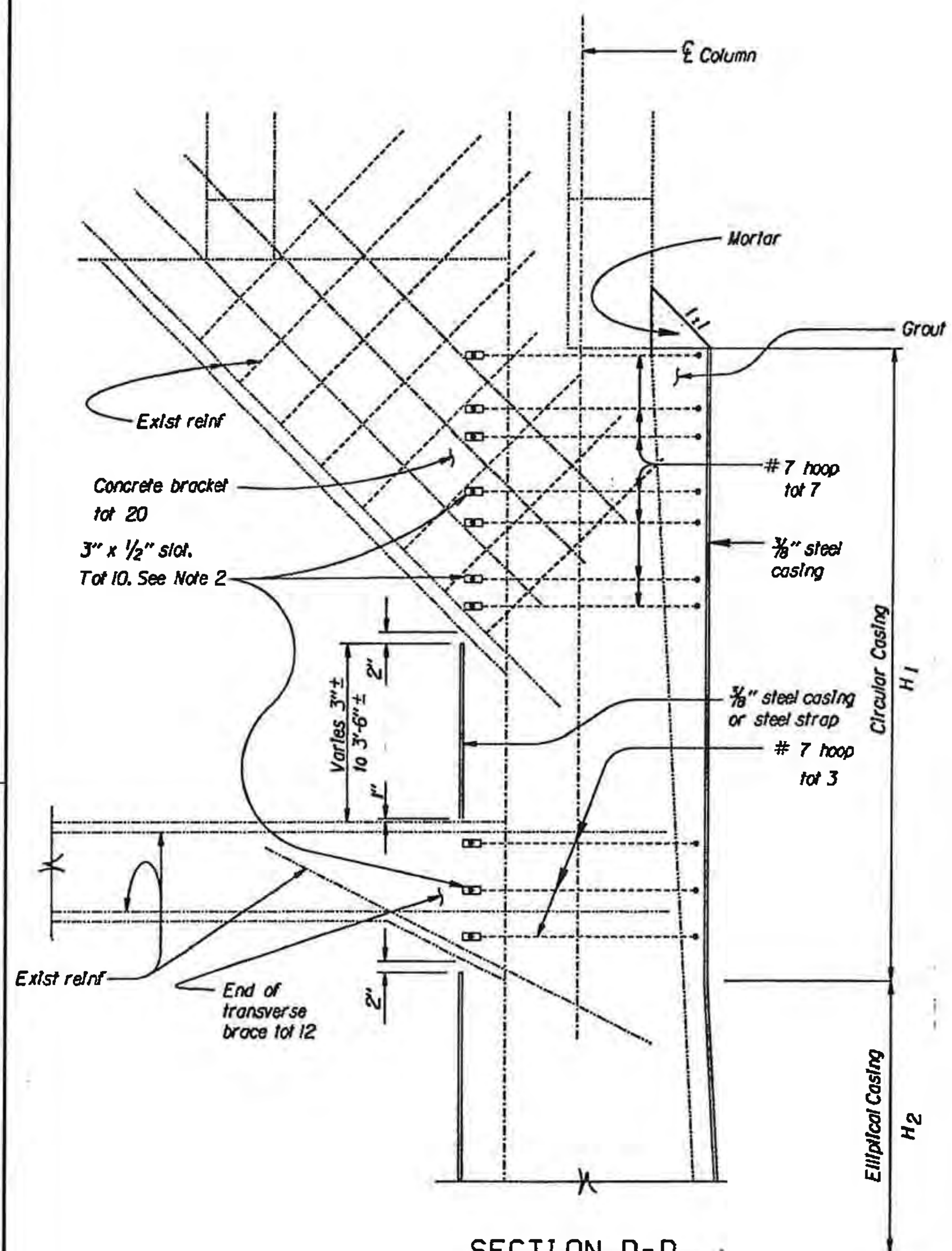
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

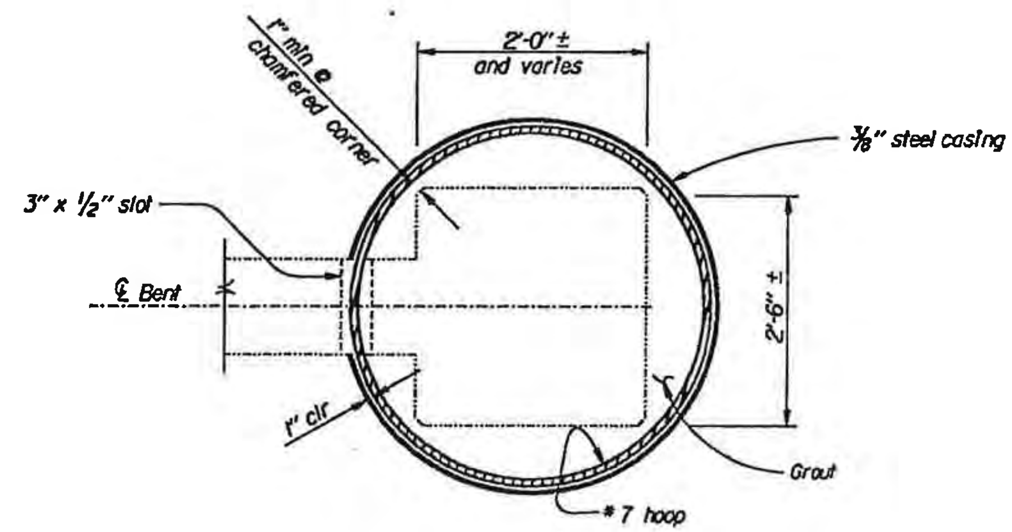
REGISTERED PROFESSIONAL ENGINEER JINRONG WANG No. 49844 Exp. 9-30-00 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

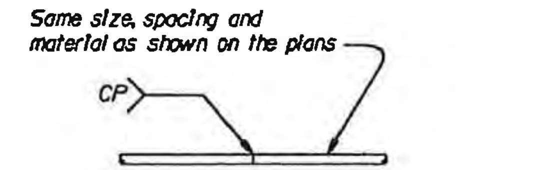
URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941



SECTION D-D
1/2" = 1'-0"

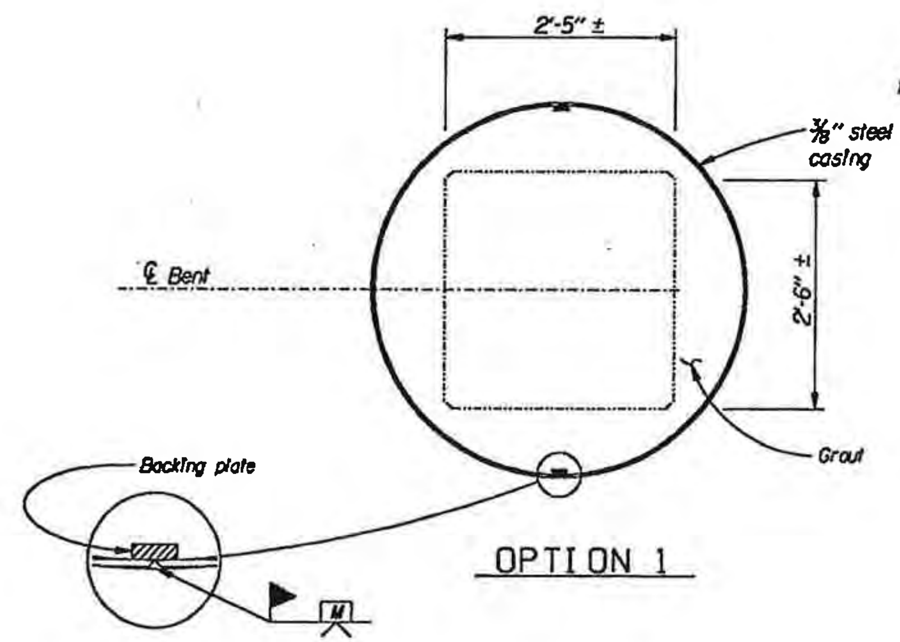


SECTION A-A
1" = 1'-0"

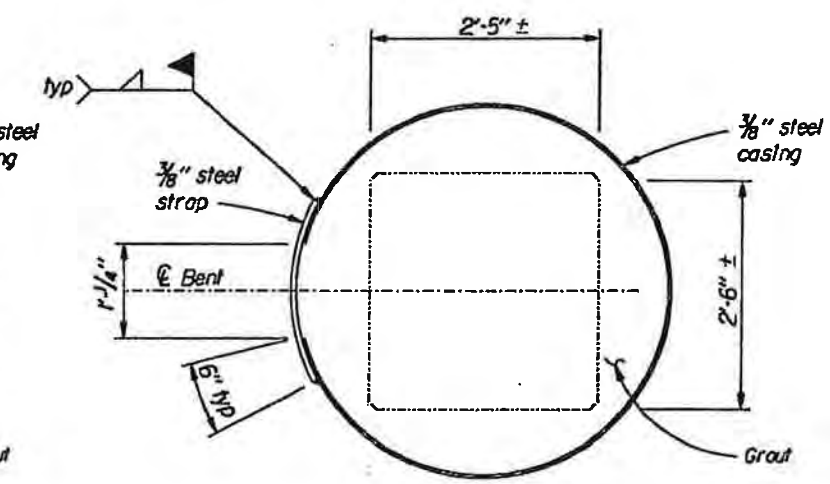


Individual hoops made continuous with 100% penetration welds, may be substituted for spirals

BUTT WELDED CONTINUOUS HOOP
#7 HOOP DETAILS
No Scale



OPTION 1



OPTION 2

SECTION B-B
1" = 1'-0"

Notes:
1. For location of Sections A-A, B-B, and D-D see "COLUMN CASING DETAILS NO.2" sheet.
2. Slotted holes shall miss exist reinforcement. Minimum spacing between holes shall be 6".
3. Section D-D is for bents with transverse brace only.

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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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CU 04-152
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BRIDGE NO. 33C-0215
POST MILE

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
COLUMN CASING DETAILS NO.3

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY)
SHEET 5 OF 11

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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER JINRONG WANG No. 49844 Exp. 9-30-00 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941

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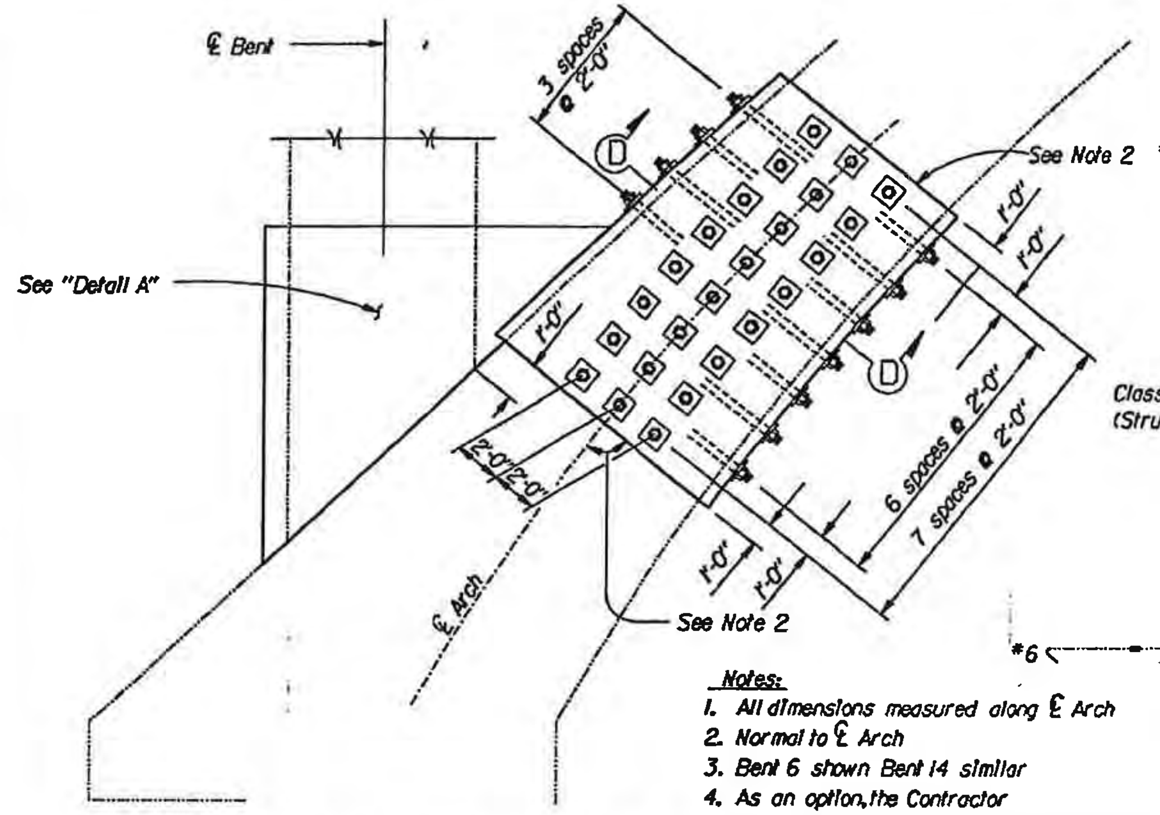
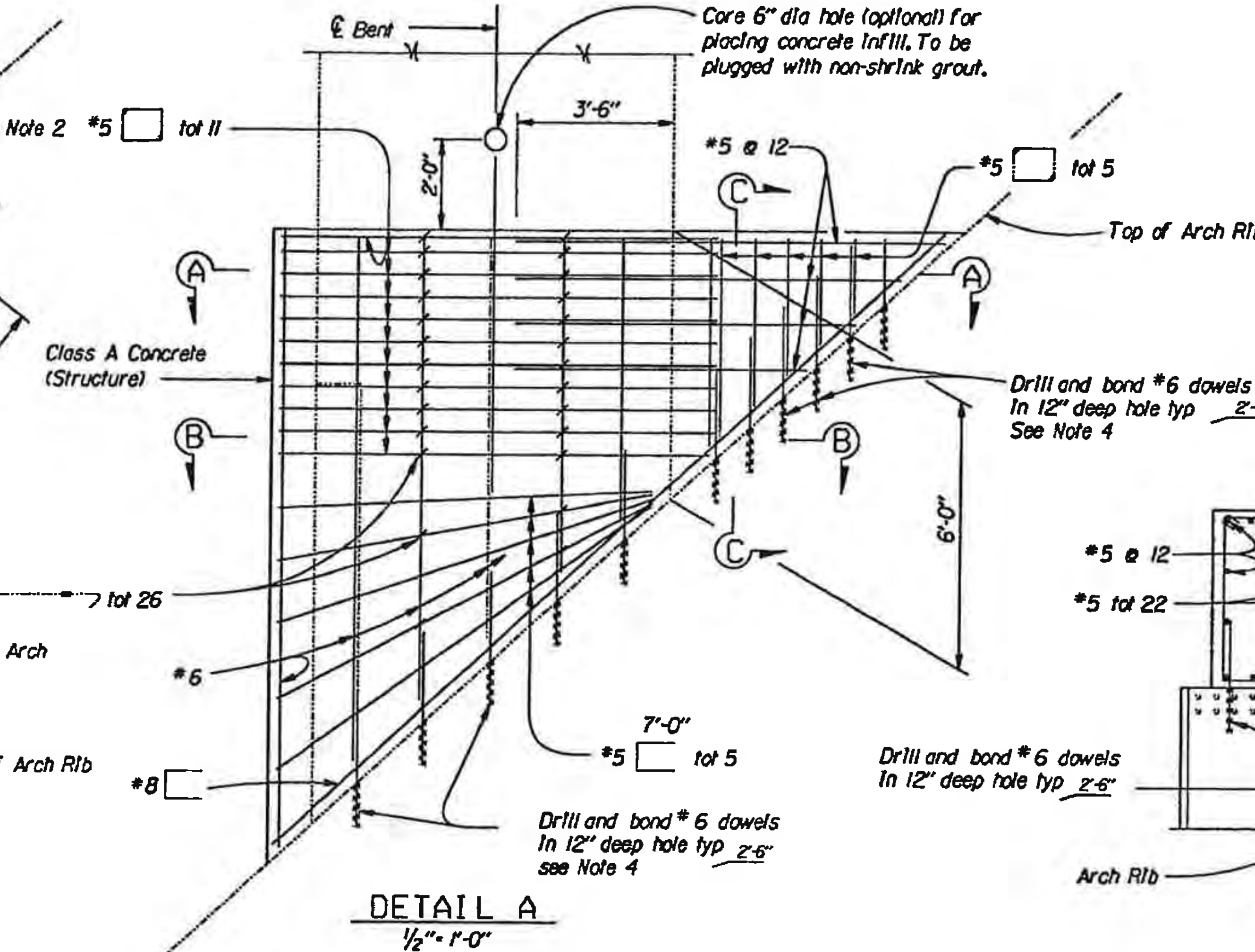
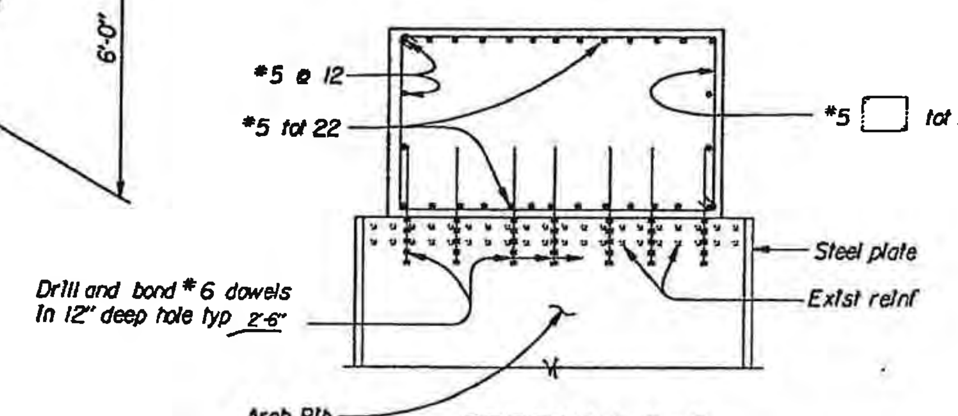


ELEVATION AT BENT 6
3/8" = 1'-0"

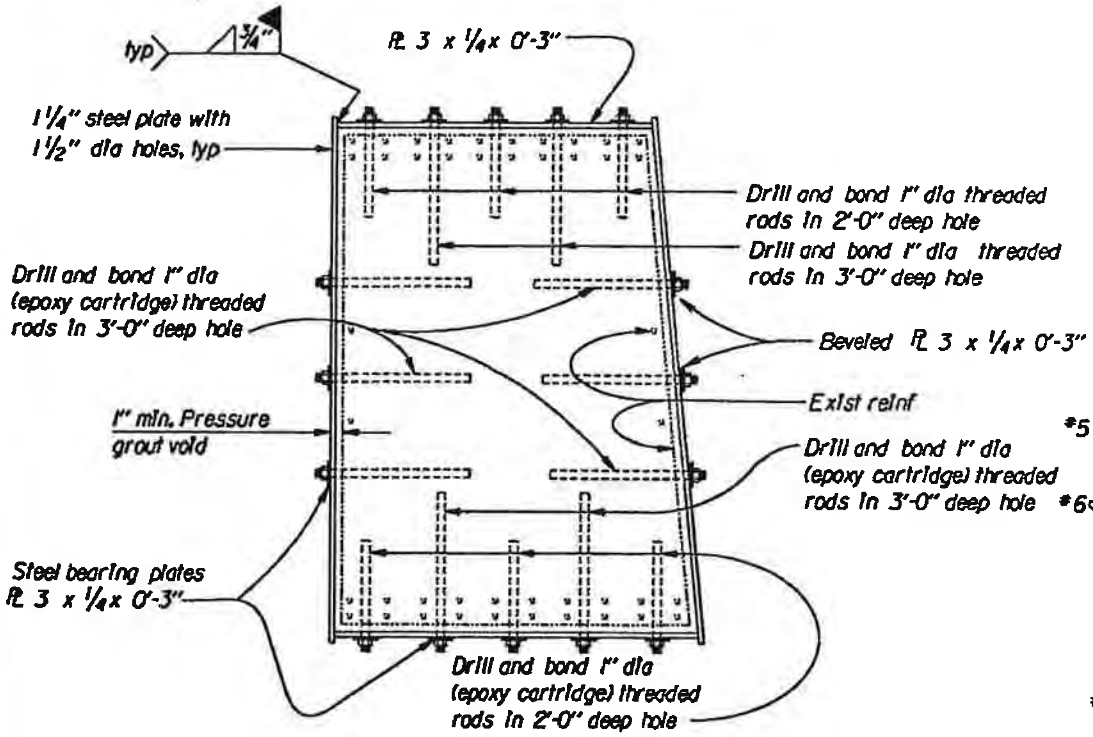
Notes:
1. All dimensions measured along ℄ Arch
2. Normal to ℄ Arch
3. Bent 6 shown Bent 14 similar
4. As an option, the Contractor may drill normal to the surface of Arch Rib



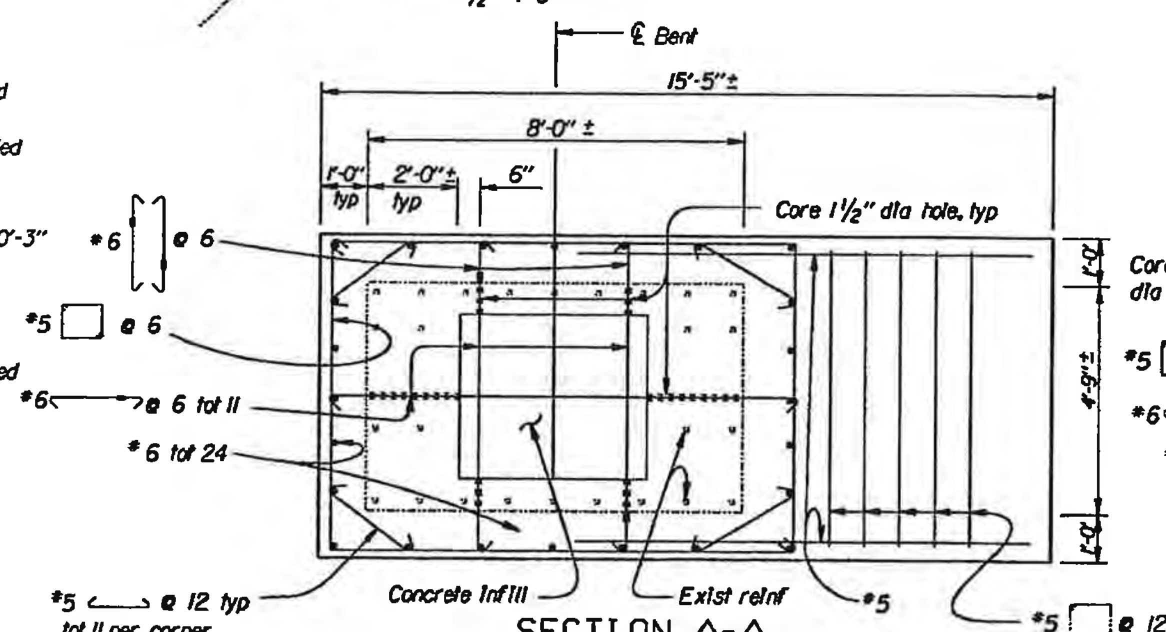
DETAIL A
1/2" = 1'-0"



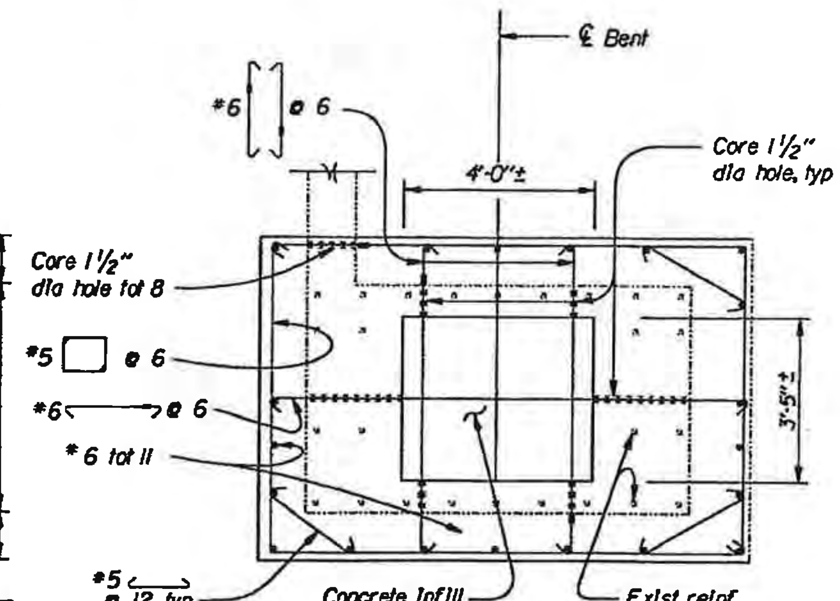
SECTION C-C
1/2" = 1'-0"



SECTION D-D
1/2" = 1'-0"



SECTION A-A
1/2" = 1'-0"



SECTION B-B
1/2" = 1'-0"

Denotes butt weld or mechanical butt splice

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Salinder Dutta
CALTRANS DESIGN OVERSIGHT

SIGNATURE | DATE

DS OSD 239 (CADD 10/95)

	BY		CHECKED	
DESIGN	Jinrong Wang	6-97	Jinxing Zha	9-97
DETAILS	Gene Brown	6-97	Jinrong Wang	9-97
QUANTITIES	Gary Ayolte	10-97	Jinrong Wang	10-97

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE
CITY OF OAKLAND

Jinrong Wang
PROJECT ENGINEER

CU 04-152
EA 04-L02306

BRIDGE NO. 33C-0215
POST MILE

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 6 OF 11

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
COLUMN RETROFIT DETAILS

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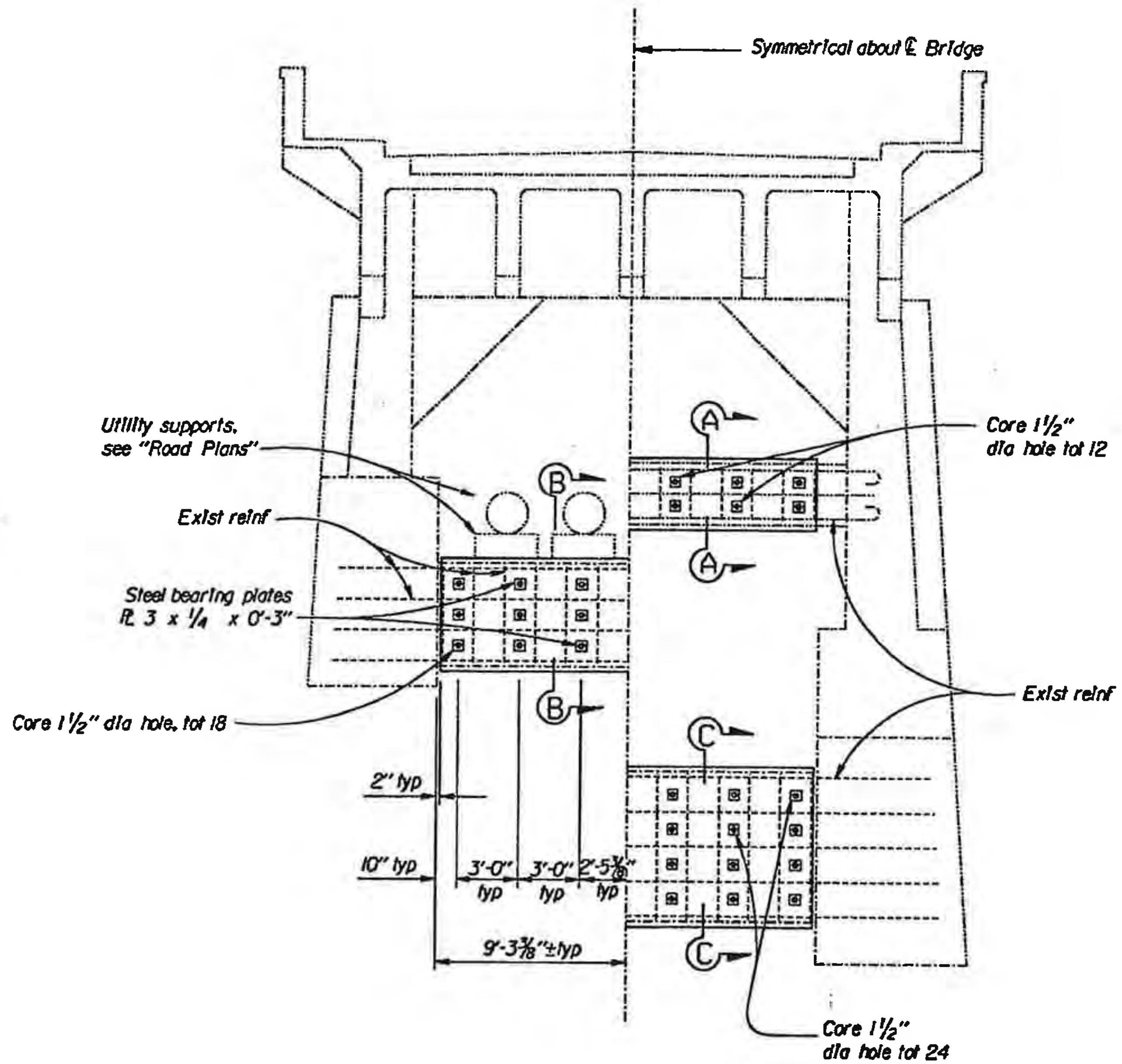
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

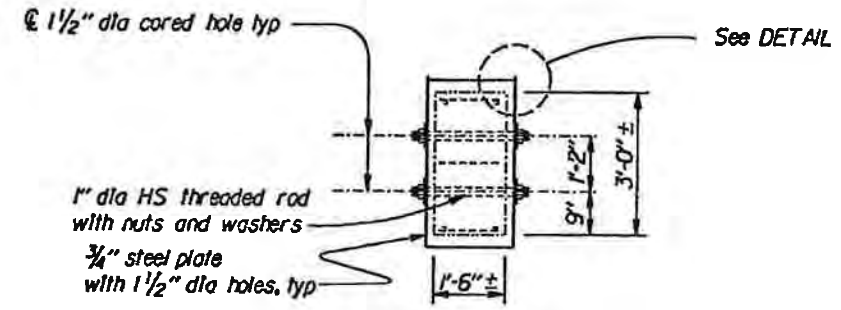
REGISTERED PROFESSIONAL ENGINEER
JINRONG WANG
No. 49844
Exp. 9-30-00
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

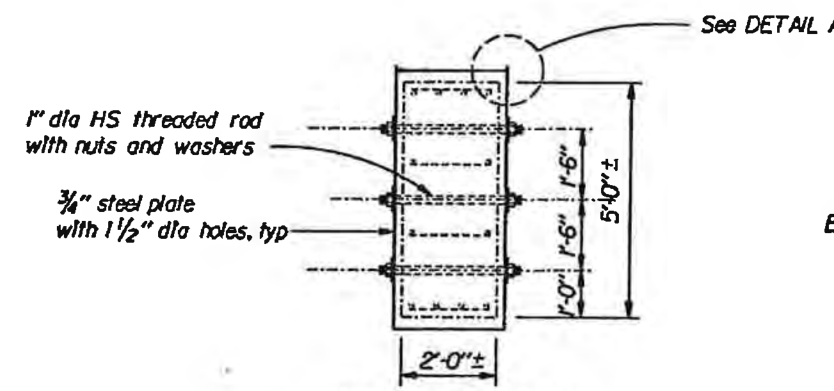
URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941



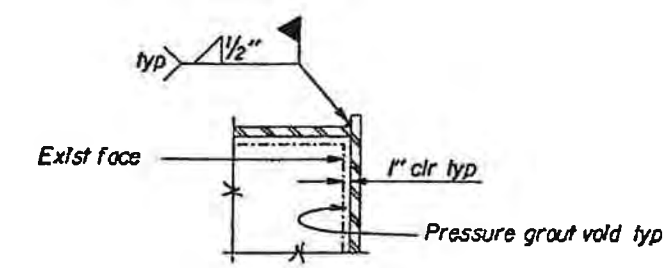
HALF SECTION THRU ARCH
1/4" = 1'-0"



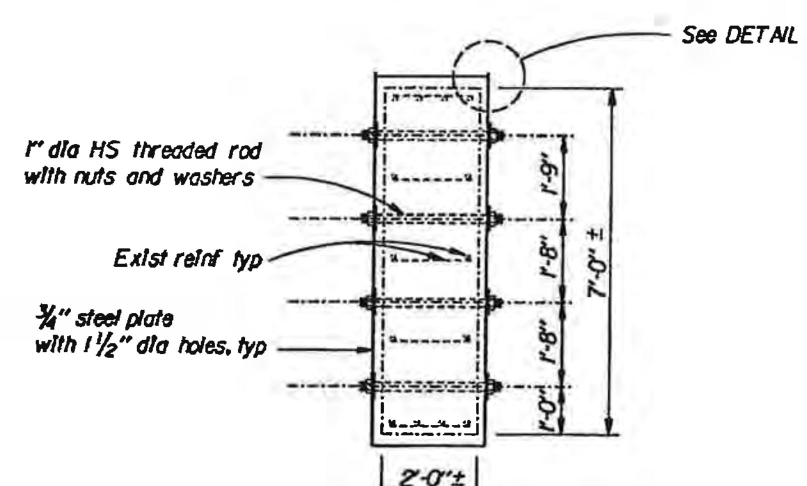
SECTION A-A
1/2" = 1'-0"



SECTION B-B
1/2" = 1'-0"



DETAIL A
1" = 1'-0"



SECTION C-C
1/2" = 1'-0"

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NOTE:
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Salinder Dutta
CALTRANS DESIGN OVERSIGHT
SIGNATURE DATE
DS OSD 2139 (CADD 10/95)

	BY		CHECKED	
DESIGN	Jinrong Wang	6-97	Jinxing Zha	9-97
DETAILS	Gene Brown	6-97	Jinrong Wang	9-97
QUANTITIES	Gary Ayotte	10-97	Jinrong Wang	10-97

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE
CITY OF OAKLAND

Jinrong Wang
PROJECT ENGINEER

CU 04-152
EA 04-L02306

BRIDGE NO. 33C-0215
POST MILE

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
BRIDGE RETROFIT DETAILS NO.1

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 7 OF 11

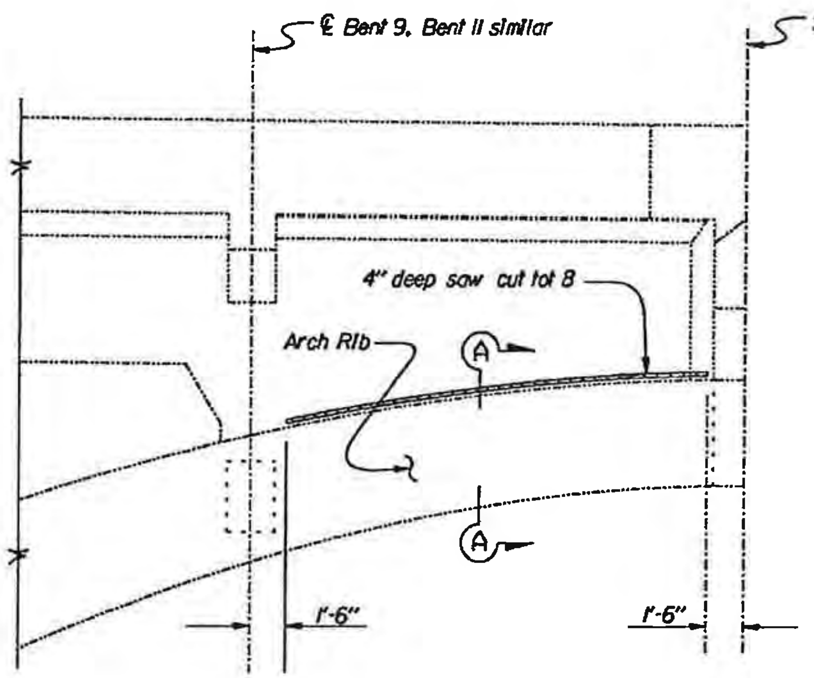
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER
JINRONG WANG
No. 49844
Exp. 9-30-00
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

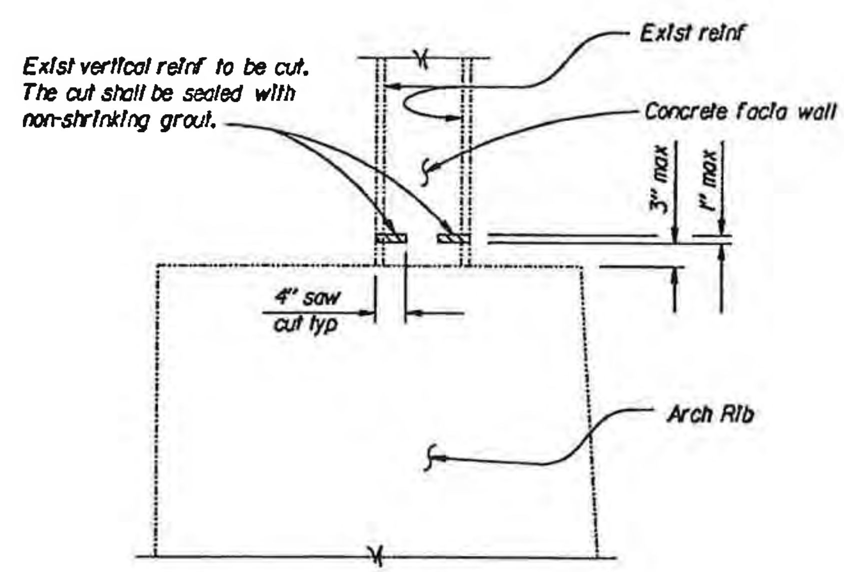
URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941



SAW CUT DETAIL

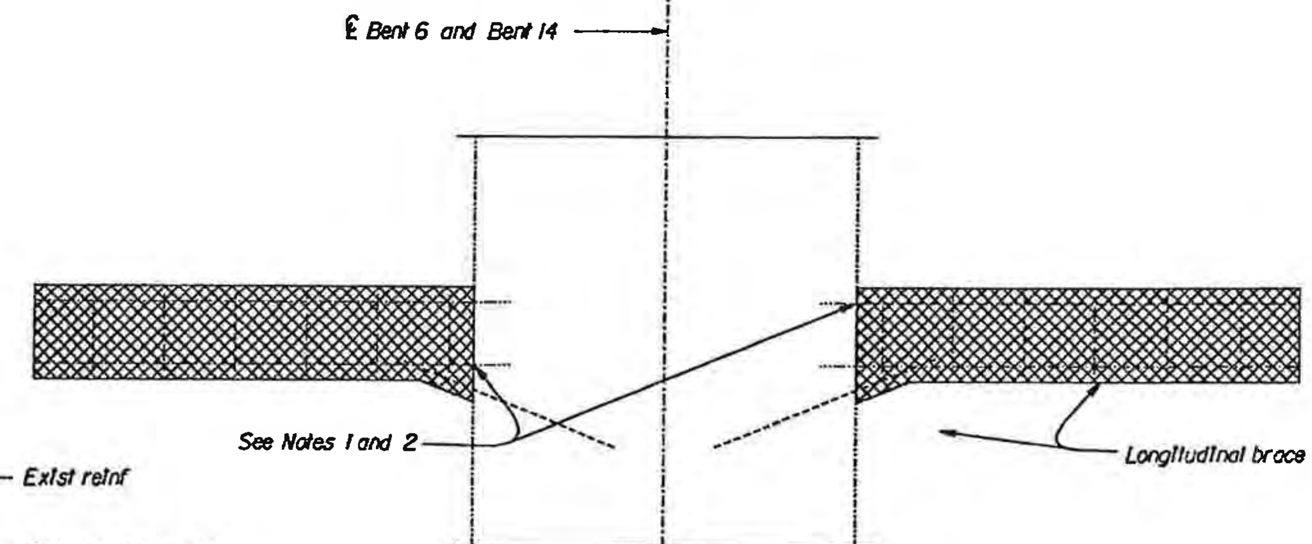
1/4" = 1'-0"

Denotes 4" saw cut



SECTION A-A

1" = 1'-0"



ELEVATION AT BENT 6 & 14

1/2" = 1'-0"

Notes:

1. Exposed surface shall be ground smooth or dry packed with grout to privide a smooth finish with existing surface.
2. Exposed surface of the reinf bars shall be coated with epoxy.
3. Denotes Bridge Removal (Portion)

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

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Sallnder Dutta
CALTRANS DESIGN OVERSIGHT
SIGNATURE DATE

	BY		CHECKED	
DESIGN	Jinrong Wang	6-97	Jinxing Zha	9-97
DETAILS	Gene Brown	6-97	Jinrong Wang	9-97
QUANTITIES	Gary Ayotte	10-97	Jinrong Wang	10-97

PREPARED FOR THE
CITY OF OAKLAND

Jinrong Wang
PROJECT ENGINEER

BRIDGE NO. 33C-0215
POST MILE

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
BRIDGE RETROFIT DETAILS NO.2

DS OSD 239 (CADD 10/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04-152
EA 04-L02306

DISREGARD PRINTS BEARING EARLIER REVISION DATES
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SHEET 8 OF 11

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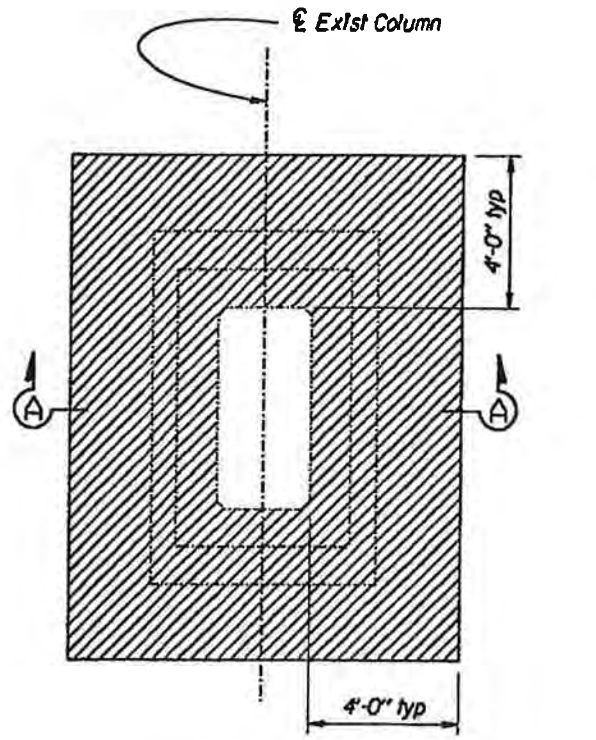
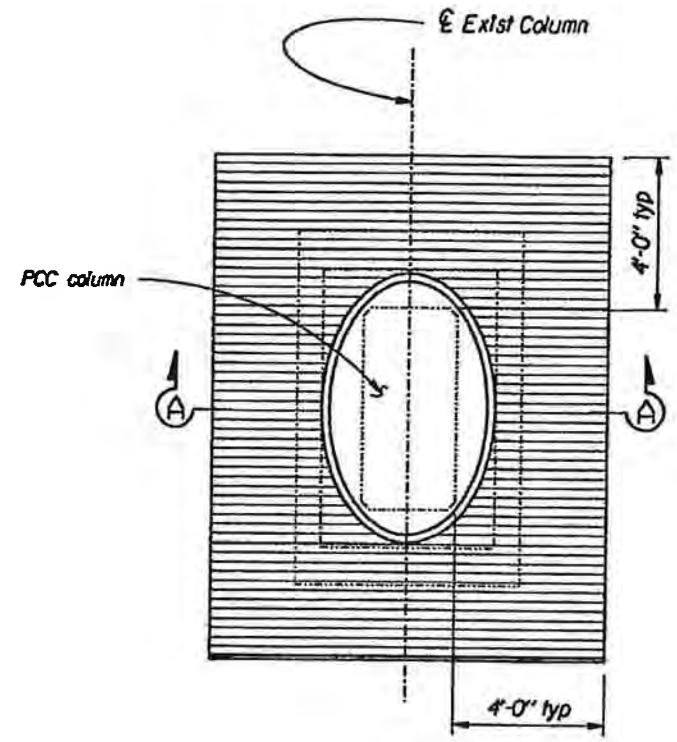


EXCAVATION



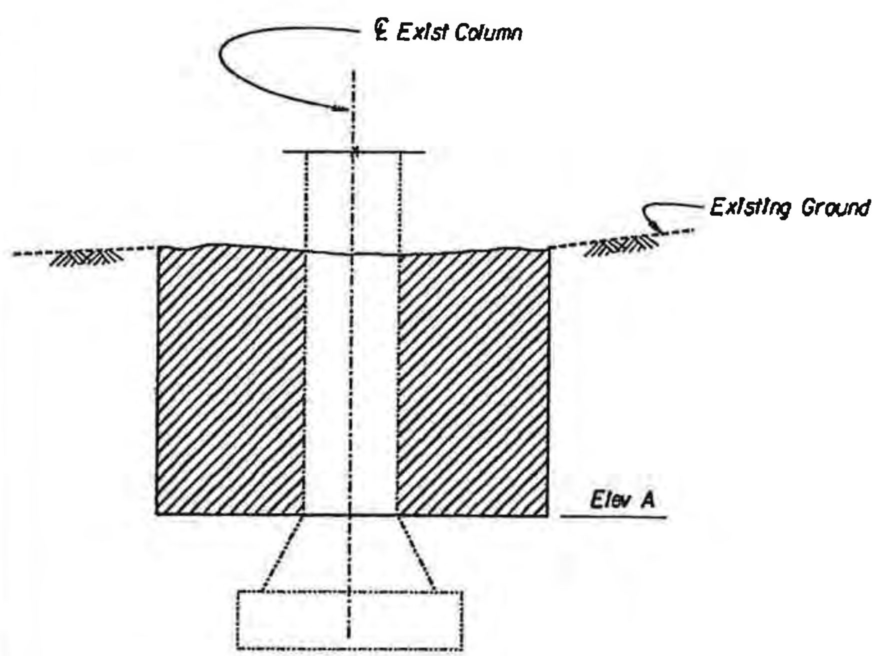
BACKFILL

PLAN
No Scale

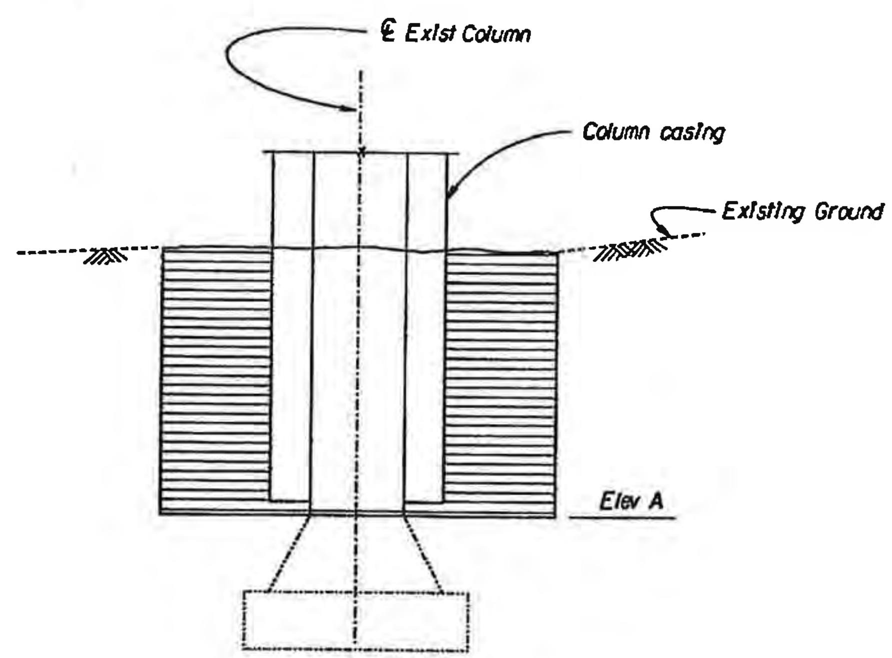
EXISTING ELEVATIONS FOR COLUMN RETROFIT		
	ELEVATION A	
LOCATION	LEFT COL	RIGHT COL
Bent 2	341.56	342.72
Bent 3	336.12	338.96
Bent 4	327.48	326.74
Bent 5	321.63	317.40
Bent 15	324.83	327.92
Bent 16	340.06	343.50
Elevations are approx and are for estimating purposes only		

Denotes Limits of Structure Excavation (Bridge)

Denotes Limits of Structure Backfill (Bridge)



SECTION A-A EXCAVATION



SECTION A-A BACKFILL

ELEVATION
No Scale

NOTE:
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jinrong Wang
REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER JINRONG WANG No. 49844 Exp. 9-30-00 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941

Satinder Dutta
CALTRANS DESIGN OVERSIGHT
SIGNATURE DATE

	BY		CHECKED	
DESIGN	Jinrong Wang	6-97	Jinxing Zha	9-97
DETAILS	Gene Brown	6-97	Jinrong Wang	9-97
QUANTITIES	Gary Ayotte	10-97	Jinrong Wang	10-97

PREPARED FOR THE
CITY OF OAKLAND

Jinrong Wang
PROJECT ENGINEER

BRIDGE NO. 33C-0215
POST MILE

CU 04-152
EA 04-L02306

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
EXCAVATION AND BACKFILL PAY LIMITS

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 9 OF 11

DS OSD 209 (CADD 10/95)

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Note
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

TO ACCOMPANY PLANS DATE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
4	ALA				

GEOTECHNICAL PROFESSIONAL

PLANS APPROVAL DATE

PARIKH CONSULTANTS, INC.
481 VALLEY WAY
MILPITAS, CALIFORNIA 95035

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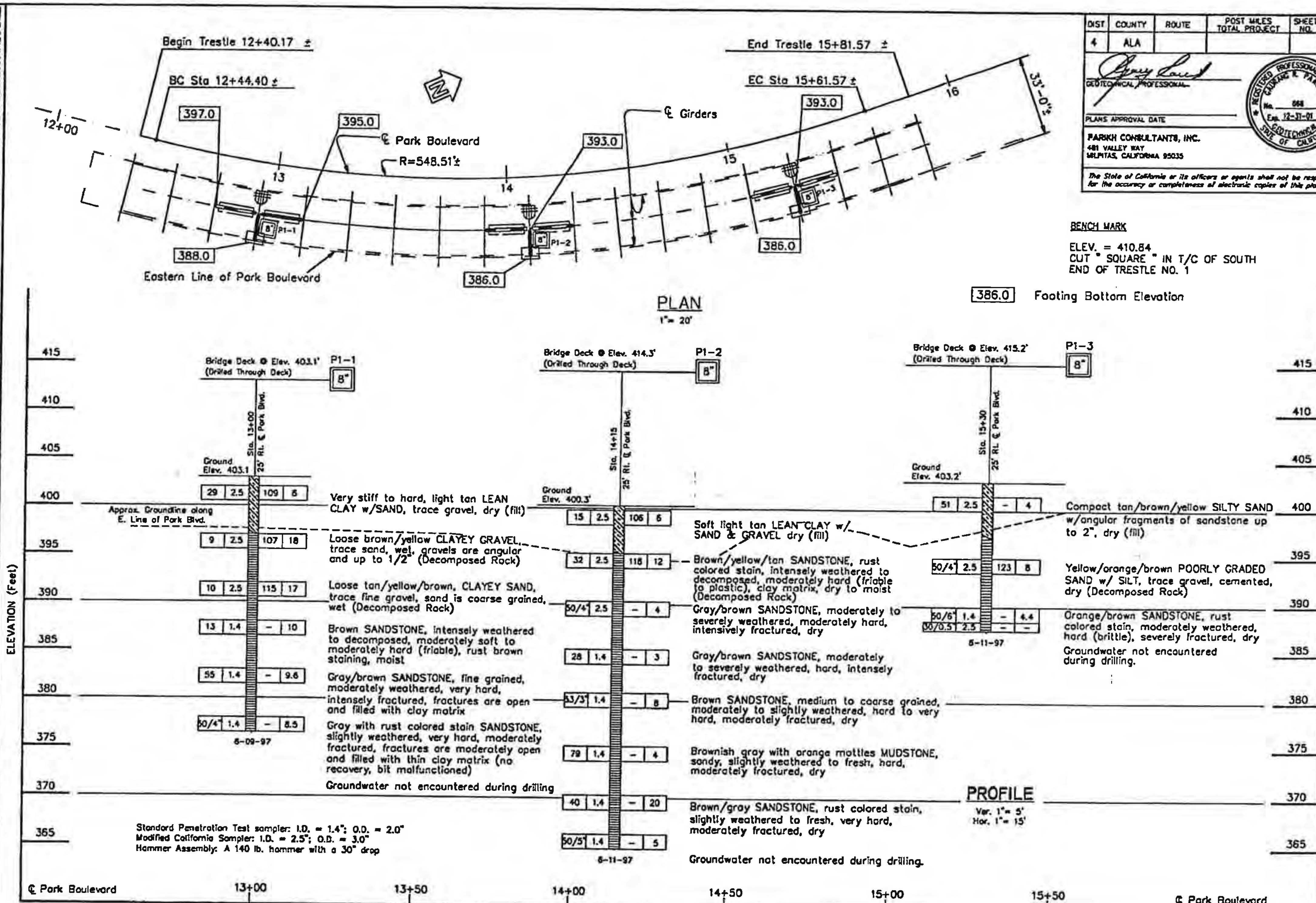
REGISTERED PROFESSIONAL ENGINEER GARY R. PARIKH No. 666 Exp. 12-31-01 GEOTECHNICAL STATE OF CALIFORNIA

Note:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

REGISTERED PROFESSIONAL GARY PARIKH No. G.E. 666 Exp. 12/31/01 GEOTECHNICAL STATE OF CALIFORNIA



LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DRAWN BY JAY SHAH | CHECKED BY Y. DAVID WANG | TOM RUBY | DATE SEPTEMBER 1997

PREPARED FOR THE CITY OF OAKLAND DEPARTMENT OF PUBLIC WORKS

Y. DAVID WANG PROJECT ENGINEER

BRIDGE NO. 33C-0178 | POST MILE

PARK BLVD. SIDEHILL VIADUCT NO. I
LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU | EA

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NOTE:
ADDITIONAL AS-BUILT FOUNDATION DATA MAY BE AVAILABLE AT THE DIVISION OF NEW TECHNOLOGY, MATERIALS AND RESEARCH 5900 FOLSOM BOULEVARD, SACRAMENTO, CALIFORNIA 95819

PREPARED FOR THE CITY OF OAKLAND

Y. DAVID WANG PROJECT ENGINEER

BRIDGE NO. 33C-0125 | POST MILE

EARTHQUAKE RETROFIT PROJECT
SAUSAL CREEK BRIDGE
ADJACENT GEOTECHNICAL INFORMATION 1 OF 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04-152 | EA 04-L02306

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C:\96112\ADJC1-13 Thu Jan 22 15:25:02 1998

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Note
The Adjacent Geotechnical information sheets were used to prepare the geotechnical report.

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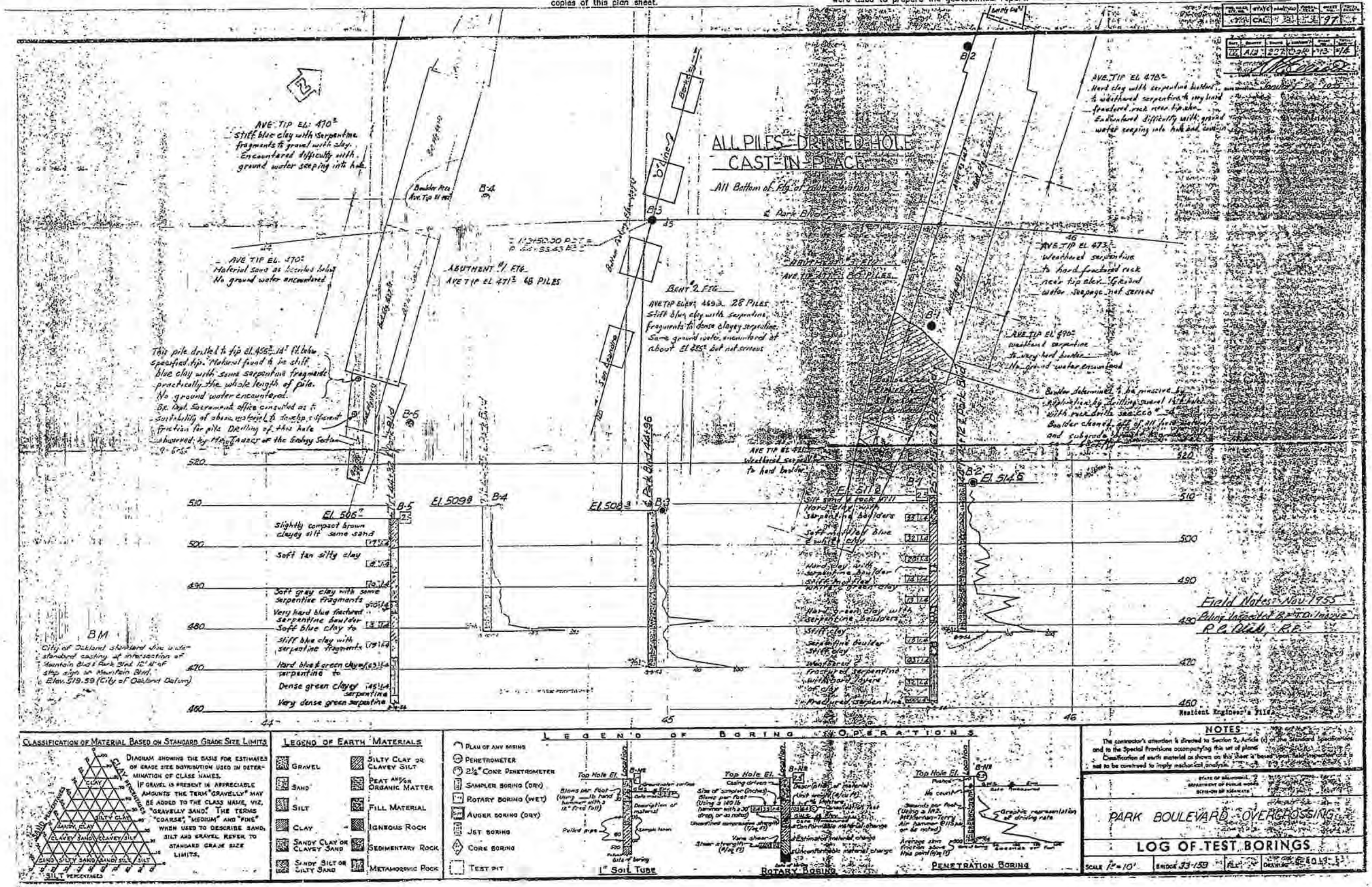
Note:
The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

CARY PARIKH
No. G.E. 668
Exp. 12/31/01
GEOTECHNICAL
STATE OF CALIFORNIA



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PREPARED FOR THE
CITY OF OAKLAND

Y. DAVID WANG
PROJECT ENGINEER

CU 04-152
EA 04-L02306

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

BRIDGE NO. 33C-0125
POST MILE

EARTHQUAKE RETROFIT PROJECT
SAUSAL CREEK BRIDGE
ADJACENT GEOTECHNICAL INFORMATION 2 OF 2

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY)
SHEET OF

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ATTACHMENT B
HISTORICAL RESOURCES EVALUATION REPORT

HISTORICAL RESOURCES EVALUATION REPORT

LEIMERT BOULEVARD (SAUSAL CREEK) BRIDGE, NUMBER 33C-0215 SEISMIC RETROFIT PROJECT STPL-5012(025)

Prepared by:

Rand Herbert, Principal
JRP Historical Consulting, LLC
1490 Drew Avenue, Suite 110
Davis, CA 95618

Reviewed by:

Andrew Hope
Architectural Historian
Caltrans, District 4
111 Grand Ave.
Oakland, CA 94612

Approved by:

Jennifer Darcangelo, Chief, Office of Cultural Resource Studies
Caltrans, District 4
111 Grand Ave.
Oakland, CA 94612

SUMMARY OF FINDINGS

JRP Historical Consulting, LLC (JRP) prepared this Historical Resources Evaluation Report (HRER) to evaluate historic buildings, structures, and objects within the Study Area for the proposed Leimert Boulevard Bridge Seismic Retrofit Project, Alameda County, California. The California Department of Transportation (Caltrans), acting as the lead agency under the delegated authority of the Federal Highway Administration (FWHA), is providing the project oversight as federal funds are involved. The purpose of this document is to comply with applicable sections of the National Historic Preservation Act (NHPA) and the implementing regulations of the Advisory Council on Historic Preservation (ACHP) as these pertain to federally funded undertakings and their impacts on historic properties. This HRER has been prepared in accordance with the January 1, 2004, *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (hereafter *Section 106 PA*). Resources have also been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code.

This project proposes various seismic improvements to the Leimert Boulevard Bridge between Park Boulevard and Clemens Road in order to improve safety and minimize damage to the bridge in the event of seismic activity in the Bay Area. The project location and vicinity are shown in Map 1 and the Built Environment Area of Potential Effects (APE) is shown in Map 2. These figures appear in Appendix A. Along with the bridge, the Built Environment APE contains five historic-period resources, all of which date from the 20th century.[1]

This report concludes that one of the five historic-era resources located within the architectural study area, the Leimert Bridge, meets the criteria for listing on either the NRHP or the California Register of Historical Resources (CRHR). Additionally, the bridge constitutes a historic resource for the purposes of the California Environmental Quality Act (CEQA).

The remaining parcel within the study area was vacant and was exempt from further study in accordance with the Section 106 PA.

---

[1] The Secretary of the Interior guidelines for evaluation of National Register eligibility is for buildings, structures or features 50 years of age or older. For this project the age limit was lowered to include resources 45 years or older (constructed in 1961 or earlier) to account for lead-time between preparation of environmental documentation and actual project construction. Properties with buildings, structures and features built after 1961, and those subject to exemption under the Section 106 PA, were not included.

TABLE OF CONTENTS

TABLES

ATTACHMENTS

1. PROJECT DESCRIPTION

This project proposes various seismic improvements to the Leimert Boulevard Bridge in Alameda County between Park Boulevard and Clemens Road.[2] Its purpose is to improve safety and minimize damage to the bridge in the event of seismic activity in the Bay Area. The California Department of Transportation (Caltrans), acting as the lead agency under the delegated authority of the Federal highway Administration (FHWA), is providing the project oversight as federal funds are involved.

The Leimert Boulevard Bridge across Sausal Creek is supported by a concrete arch and 17 bents. A bent is a structural engineering term for a beam supported by columns. Each bent on the bridge consists of two columns holding up one beam. The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them and adding a concrete brace between Bents 6 and 14 and the bridge arch, and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns would also be removed as part of this project. It is expected that this work would disturb the entire area under the bridge. Construction equipment and materials would be lowered over the side of the bridge to the ground. It is estimated that construction laydown, staging, and temporary wooden platforms for construction equipment could disturb an area approximately 30 feet on either side of the bridge. The Area of Potential Effects (APE) map prepared for the HRER (Appendix A, Maps 2 and 3) shows the architectural study area for the project.

The Built Environment APE for the Leimert Boulevard Bridge project was determined through review of oblique and overhead photographs. Because of potential indirect visual, noise and vibration impacts from the proposed project, APNs 029A133000500, 029A133004100, 029A132701800 and 029A132700100, located adjacent to the project, have been included in the Built Environment APE and surveyed and evaluated for historical significance. Also, APN 029A133000404 was included in the APE for built environment resources because construction-related impacts to the parcel (indirect visual, noise and vibration impacts) resulting from construction activities could not be ruled out. Finally, the Leimert Boulevard Bridge itself (Bridge 33C-0215), has been previously evaluated by Caltrans and has been found to meet the criteria for listing in the National Register of Historic Places. A copy of this evaluation is included in Appendix E.

---

[2] The bridge is officially named Sausal Creek Bridge, but because it is commonly known as Leimert Boulevard Bridge, it will be hereafter called Leimert Boulevard Bridge.

1.1 Research and Field Methods

The Built Environment APE for the proposed project was developed in August 2007 by JRP, URS and the City of Oakland and in consultation with Caltrans' Office of Cultural Resource Studies (OCRS) and Office of Local Assistance. The California Department of Transportation (Caltrans) approved the APE on December 18, 2007. Consistent with Caltrans policies and general cultural resource practices, the Built Environment study area and APE encompassed areas that might be either directly or indirectly affected by construction; i.e., those areas within which the project could cause a change in character or use of historic properties. As defined, the Built Environment APE generally follows the existing Oakland right-of-way. Additionally, where the APE crosses parcels that contain historic-era buildings within approximately 100 feet of proposed ground disturbances, the Built Environment APE is generally set to include the buildings or complexes, and any associated building in the near vicinity on that parcel. Only those resources located within the Built Environment APE were included in the survey.

While the Secretary of Interior sets the standard guidelines for review of potential National Register of Historic Places-eligible buildings, structures, or features that are 50 years of age or older, this age limit has been shortened to include resources constructed in 1962 or before to account for lead-time between preparation of environmental documentation and potential construction in the selected corridor. JRP therefore treated any property constructed in or before 1962 as meeting the 50-year age requirement for eligibility in the NRHP and CRHR. Buildings, structures, and features built after 1962 fall under one of the six property types exempt from evaluation as outlined in Attachment 4 of the *Section 106 PA* and were not included in the survey.

Once the APE was defined, JRP staff conducted a reconnaissance survey of the area to account in the field for all buildings, structures, and objects found therein. This field reconnaissance helped to determine which resources appeared to be more than 45 years of age and would, therefore, be studied for this project. Additional background research was done through First American Real Estate Solutions commercial database, a review of historic and current USGS topographic maps, and other records to confirm dates of construction. JRP conducted fieldwork in December of 2007.

The investigation of historic-era properties included research regarding their historical context as well as resource-specific research conducted in both archival and published records. Research was conducted at the Oakland Room at the Oakland Public Library, City of Oakland Building Permit Records, the Alameda County Assessor's Office, the California State Archives and Library, Bancroft Library (University of California, Berkeley), and Shields Library (University of California, Davis). JRP also reviewed the California Historical Resources Information System (CHRIS), California Historical Landmarks and Points of Historical Interest publications and updates, and National Register of Historic Places (National Register), California Register of Historical Resources (California Register), and City of Oakland listings.

Rand Herbert of JRP, who meets the Professionally Qualified Staff standards specified in Attachment 1 of the *Section 106 PA* for architectural historian, reviewed the project's architectural APE and confirmed that the other properties present within the study area meet the criteria for Attachment 4 of the *Section 106 PA* (Properties Exempt from Evaluation).

Letters informing interested parties of this project were sent to Naomi Schiff of the Oakland Heritage Alliance, Helen Moore of the Alameda County Historical Society and Joann Pavlinec of the City of Oakland Landmarks Preservation Advisory Board on January 23, 2008. No responses have been received to date. A copy of the transmittal letter is included in Appendix C. Maps depicting the project's location and vicinity, as well as project's architectural APE are found in Appendix A. Formal evaluations of the four inventoried resources, completed on California Department of Recreation Form 523 (DRP 523), are found in Appendix B. Caltrans Historic Bridge Inventory for Alameda County is found within Appendix D, and a copy of the evaluation of Bridge 33C-0215 is found in Appendix E.

2. HISTORICAL OVERVIEW

The study area includes five historic architectural resources, a bridge and four residential parcels, all of which date from the late 1930s to the early 1950s. The Sausal Creek Bridge (33C-0215) was previously found eligible for listing in the NRHP by Caltrans. The residential parcels are located within the City of Oakland, one in the first tract of the Oakmore Highlands subdivision. The four residences echo some of the architectural styles (Monterey, Minimal Traditional, and Tudor) of the surrounding neighborhood. The vicinity surrounding the project architectural APE is largely residential with some commercial properties. The following overview provides general historic context of this area, including the development of the area around the APE.

Early History of the East Bay and Oakland

The APE of the Leimert Boulevard Bridge Project is located in what is known as the Oakmore Neighborhood near the central-eastern area of the City of Oakland adjacent to the City of Piedmont, on land that was part of the Peralta Rancho. The pre-Spanish inhabitants of this area may have been part of the Jalquin aboriginal people. The East Bay was first explored by the Spanish in the 1770s and in 1820 Don Luis Maria Peralta was granted *Rancho San Antonio* covering much if what is now Alameda County. In 1842 Peralta divided his rancho between his sons. Antonio Maria Peralta received the portion that now includes the City of Piedmont and the Oakmore neighborhood. In the 1840s, other European settlers began arriving in the East Bay, and in 1850 Colonel Henry S. Fitch attempted to make the first purchase of land in the area that became Oakland. While this attempt failed, H.W. Carpenter and A. Moon were soon thereafter successful in pressuring Peralta into the sale. Fitch later became one of the founders of the town of Alameda. Oakland was incorporated in 1852, and in 1853 the County of Alameda was formed out of portions of Contra Costa and Santa Clara counties.[3]

Development of Oakland and East Oakland

Rail transit first arrived in the area in 1865, when Alfred A. Cohen established the San Francisco and Alameda Railroad that ran from Alameda south to Hayward. This line passed along roughly the same corridor as the Union Pacific Railroad tracks currently use in the area. The line became part of the Central Pacific Railroad, a transcontinental railroad line terminating in Oakland, in 1869 and was later purchased by the Southern Pacific Railroad.[4] The line helped stimulate settlement and economic development along its route.

During the first three decades of the twentieth century, the City of Oakland experienced increasing residential, commercial, and industrial development. Electric mass transit and the rising popularity of the automobile allowed for the construction of residential areas at greater distances from commercial and industrial centers. The rapid expansion of almost every aspect of the East Bay's economy contributed to an interest in rational city and regional planning. Oakland became a model of progressive politics, its administration passing $8 million in civic improvements and hiring city planners such as Charles Mumford Robinson in 1906 and Werner Hegemann in 1915. Early civic improvements included returning the waterfront to municipal ownership, establishment of parks, including Lakeside Park at Lake Merritt, and annexation of many unincorporated areas.[5] City and regional planning attracted even wider attention during the 1920s. Oakland's civic-minded residents and political leaders formed the East Bay Regional Plan Association, seeking to promote projects that would benefit East Bay residents and businesses. One of their main goals was to promote street and highway improvements, such as Harland Bartholomew's plan for the Major Highway and Traffic Committee of One Hundred, published in 1927. Included in the plan was a superhighway from San Leandro to Richmond.[6]

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[3] Michael Smith, Suzanne Baker, and Mark Brack, "Archaeological and Historical Properties Reconnaissance of the Airport Roadway Project, Alameda County, California," submitted to Woodward-Clyde Consultants, 2-4; Oakland Public Library, "An Oakland Chronology," 2nd edition, 1952; Thompson & West, *New Historical Atlas of Alameda County, California, 1878*, (Fresno: Valley Publishers reprint, 1976), 17-18, 22-23, and 32; Lois Rather, *Oakland's Image: A History of Oakland, California*, (Oakland: Rather Press, 1972), 34; Mel Scott, *The San Francisco Bay Area: A Metropolis in Perspective*, (Berkeley: University of California Press, 1985, 2nd edition), 33 and 35; and David L. Durham, *California's Geographic Neighborhoods*, (Oakland, CA: Mailman Press, 2005), iv-v.

[4] Thompson & West, *New Historical Atlas of Alameda County, California, 1878*, 32; Scott, *San Francisco Bay Area*, 46.

[5] Bagwell, *Oakland: The Story of a City*, 179, 183-184, 200.

[6] Scott, *The San Francisco Bay Area*, 199; United States Geological Survey, *San Leandro* 7.5' Quadrangle maps, 1947 and 1959; Oakland Public Library, *An Oakland Chronology*, 16.

The expansion of streetcar lines and exodus of refugees from San Francisco to Oakland in the years following the 1906 earthquake resulted in a wave of commercial and residential construction in Oakland and its environs. By 1910, the population of Oakland reached 150,000, more than double the 67,000 counted in 1900. Infill with new residential and commercial buildings allowed denser population to develop within the city's established neighborhoods. Newer areas developed further east in Fruitvale, Elmhurst, and Fitchburg, made possible by the extension of both the Southern Pacific and Key System lines into the area. Developers promoted these areas as the suburban ideal. The area east of Lake Merritt in particular became fashionable for apartment buildings. During World War I many owners converted houses to apartments, following this trend.[7]

In 1909, Oakland annexed 44 square miles of territory, including Claremont, Fruitvale, Leona Heights, Melrose, Fitchburg, and Elmhurst districts and other outlying territory, pushing its boundaries as far north as Grizzly Peak, as far south as San Leandro, and east to the county line. These annexations brought the city's boundaries to 60 square miles, roughly their current size.[8] Many of these areas were small settlements or towns that had developed along Oakland's fringes in the late nineteenth century. By the 1890s, for example, the area roughly bound today by San Leandro Bay to the west, East 14th Street to the east, 66th Avenue to the north, and 77th Avenue to the south was referred to as Fitchburg, named for one Colonel Fitch. First established around a short-lived railroad stop called Fitch's Station, the area sat between the more established villages sited around the railroad stations at Fruitvale to the north and Elmhurst to the south. Fitchburg's grid pattern of streets was officially established in 1908, when surveyors filed a plat of the town. Following annexation, residential development in Fitchburg occurred mostly northeast of San Leandro Street, closer to the trolley lines, while manufacturing and commercial establishments took hold in the southwest end of Fitchburg adjacent to the railroad lines.[9]

This reflected a trend apparent throughout the Bay Area. As houses became more affordable, and thus financially within reach of laborers and their families, builders erected housing tracts close to specific workplaces such as industrial plants. Most working class families needed to live in neighborhoods easily accessible to their workplace by foot or trolley, while middle class families, who more often had access to automobile transportation, settled outside of the industrial centers. The housing boom experienced by Oakland after the 1906 earthquake continued into the 1920s, fed by post-World War I prosperity and the increasing popularity of the automobile. One source estimated that the number of dwellings in Oakland had increased by 900 percent between

[7] Oakland Cultural Heritage Survey, San Antonia Phase 2, 1996, 8-9.
[8] Hinkel and McCann, *Oakland 1852-1938*, 827.
[9] Thompson & West, *New Historical Atlas of Alameda County, California 1878*, 32; Scott, *San Francisco Bay Area*, 46; City of Oakland Community & Economic Development Agency, Fitchburg Sanitary District Records; City of Oakland building permit records; First American Real Estate Solutions database; Sanborn Fire Insurance maps 1951; Oakland city building records; and Oakland Public Library, "An Oakland Chronology," 2nd edition, 1952.

1918 and 1923. However, after the stock-market crash in 1929 and the start of the Great Depression, this housing boom abruptly ended.[10]

Industry and commerce increased at a similar pace to residential development in Oakland during the first three decades of the twentieth century. In the decade following the 1906 earthquake, downtown Oakland developed as a retail, banking and office sector, with hotels on the fringes.[11] Industry concentrated in the waterfront areas and in west Oakland. The area north of 14th Street was still relatively undeveloped through 1910, but after this time residential areas in North Oakland expanded, followed by commercial development, primarily along streetcar lines. By the end of the 1920s, the Uptown area, located north of downtown between 18th and 21st streets and Broadway and Telegraph, developed into a luxury shopping and entertainment district, marking the continued progression of the central business district and department stores north. This area included the Fox Oakland Theater (1927), Capwell Emporium (1928), and several other theaters and stores.[12] The influx of workers in Oakland's new industries also contributed to the boom in residential construction, especially during the 1920s. The town of Piedmont, along with Montclair, Trestle Glen and Lakeshore districts, experienced the greatest growth during this period.[13]

Following the economic boom of the 1920s, like the rest of the country, the Great Depression (1929-1941) led to a period of financial instability for Oakland. Completion of the San Francisco-Oakland Bay Bridge in November 1936 was perhaps the most important development for Oakland during the 1930s, as it further tied Oakland to the Greater Bay Area.[14] The bridge provided a route for commuter traffic across the bay, particularly during World War II and the post-war years, and was a factor in the decline in mass transit that lasted until the construction of the Bay Area Rapid Transit (BART) System in the 1970s.[15]

The coming of the transcontinental railroad, the 1906 earthquake, World War I, and the Great Depression were pivotal developments that shaped the contours of Oakland's history. World War II also had profound impacts on Oakland and the East Bay in terms of shifts in transportation development, economy, population, and infrastructure.

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[10] Bagwell, *Oakland: The Story of a City*, 200-201, 215; Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York, Oxford University Press, 1985), 187; James E. Vance, Jr., *Geography and Urban Evolution in the San Francisco Bay Area* (Berkeley, CA: University of California Press, 1964), 66.

[11] Oakland Cultural Heritage Survey, Downtown Oakland Historic District, National Register of Historic Places Nomination Form, July 1986, 43.

[12] Oakland Cultural Heritage Survey, Uptown Shopping/Entertainment District, Historic Inventory Record, 1985, 4, 11.

[13] Bagwell, *Oakland: The Story of a City*, 200.

[14] Bagwell, *Oakland: The Story of a City*, 230-231.

[15] Historic American Engineering Record, San Francisco-Oakland Bay Bridge, HAER No. CA-32, 41.

During World War II, the San Francisco-Oakland metropolitan area had to find room for over half a million wartime workers employed in its vast complex of military bases and support facilities. In 1941, the Port of Oakland voluntarily turned over the use of its facilities to the armed forces for the war effort, and the Oakland Naval Supply Center, Oakland Army Base, and Alameda Naval Air Station were established. The shipbuilding industry skyrocketed. Oakland's manufacturing jobs grew from 100,000 at the beginning of the war to 300,000 at war's end, and adjacent areas tripled in population. In general, wartime mobilization of the west's vast resources gave already established metropolitan areas such as San Francisco and Oakland a jump on the postwar upswing between the 1940s and 1960s. During the immediate post-war years, Oakland, like many other cities nationwide, struggled to create infrastructure and provide services to manage postwar growth followed by an emphasis on revitalizing central business districts to maintain regional growth.[16]

By 1945, the population of Oakland had climbed to over 400,000. That year, Oakland residents voted over $15 million in bonds for city improvements including indoor swimming pools, new playgrounds, a police court, new streets and sewers, a central library, and four new branch libraries. In 1948 the city completed a program of replacing trolleys with motor buses, following a nation-wide trend away from mass transit by rail in favor of the automobile and bus. Another example of the impact of the automobile on city planning occurred when the City of Oakland widened the dam across Lake Merritt at 12th Street in the late 1940s, eliminating a major traffic bottleneck between the northern and southern portions of the city.[17] Automobile transportation between East Bay communities further improved when the first section of the Eastshore Freeway (later called the Nimitz Freeway and now I-880) opened in July 1949, part of the State of California's massive highway construction program of the late 1940s and early 1950s.[18]

Piedmont

The area that became Piedmont was sparsely settled until the 1880s. The Blair Dairy and the Piedmont Springs Hotel, known for its medicinal sulphur hot springs, drew early visitors and potential residents to the area. James Gamble, president of Western Union Telegraph, purchased 350 acres of land north of Oakland in 1877 and created the Piedmont Land Company. The community grew quickly, and the Contra Costa County Water Company extended its water lines into the area by 1880. The City of Piedmont was incorporated in 1907. Town boundaries were based on a map from the Piedmont Sanitary Sewer District and the new town was just 1.8 square

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[16] Carl Abbott, *The Metropolitan Frontier: Cities in the Modern American West* (Tucson: University of Arizona Press, 1993), 4, 37-38, 45-46; Beth Bagwell, *Oakland: The Story of a City*, 236-237; City of Oakland, "Oakland History Timeline."

[17] Beth Bagwell, *Oakland: The Story of a City*, 237; City of Oakland, "Oakland History Timeline."

[18] Scott, *The San Francisco Bay Area*, 199; United State Geological Survey, *San Leandro* 7.5' Quadrangle maps, 1947 and 1959; Oakland Public Library, *An Oakland Chronology*, 16.

miles, though the city leaders planned to expand to the north and east. The 1909 annexation of surrounding land by Oakland prevented any further expansion.[19] After 1909, the town gradually filled with residences, with a small commercial area in its center.

Oakmore/Glenview District

The Oakmore district is roughly bordered by Sausal (a Spanish word for "willow") Creek on the west, the Warren Freeway (the former location of the Palo Seco Creek) to the southeast, the Fruitvale district to the east, and Dimond Canyon (named for its self-proclaimed "capitalist" owner Hugh Diamond; often shown as "Diamond Canyon" or "Diamond Creek") to the south.

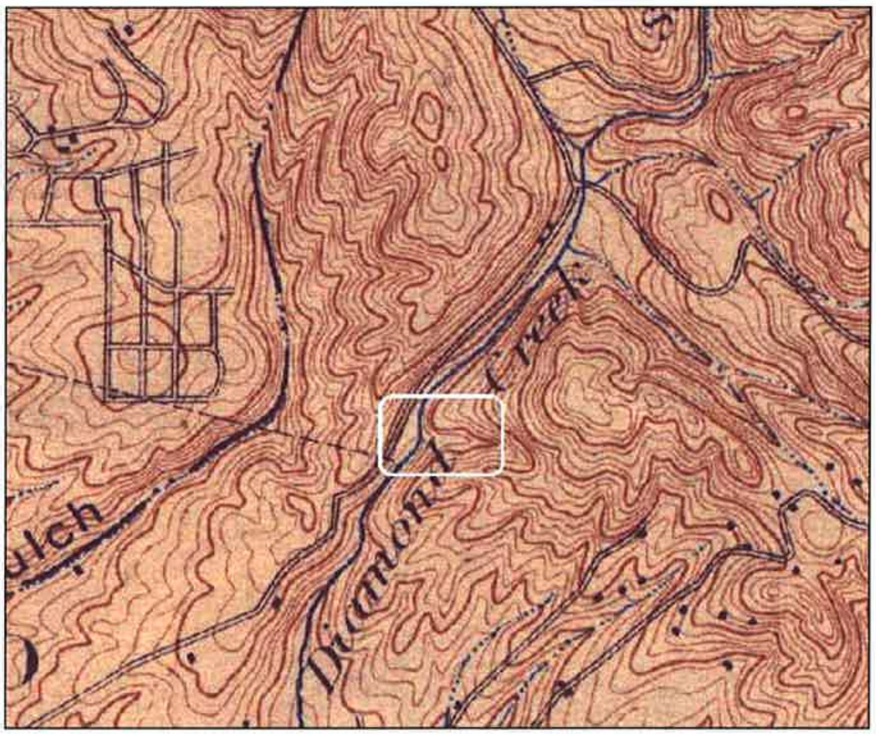

Figure 1: USGS 1897 Concord quadrangle. Project vicinity circled.

Following up on his success with his Lakeshore Highlands subdivision, Walter Leimert eyed nearby lands in the Oakmore Hills area. He created a new association of land developers, the Park Boulevard Company, with himself as its head, to develop a subdivision on the east side of Sausal Creek. His real estate company, the Walter H. Leimert Company, began sales in October 1926 and hired Mitchell & Austin to serve as property managers of the development that came to

[19] Evelyn Craig Pattiani, *Queen of the Hills: The Story of Piedmont, A California City*, (Fresno, CA: The Academy Library Guild, 1953), 15, 18, 27-28, and 104; City of Piedmont, *History of Piedmont*, accessed online at http://www.ci.piedmont.ca.us/history.shtml, December 12, 2007.

be known as Oakmore Highlands. Leimert's advertising strategy emphasized the area's natural beauty such as its abundance of oaks, alders, and wild berries.[20]

There were 440 lots in the 150-acre, four-tract development — most meant for single families, but some designated multi-family and commercial for, as Leimert put it, "the convenience of the homeowners in Oakmore." The streets were wide with ample sidewalks. Although lots sold fairly quickly, the company deferred interest and taxes for nearly a year and a half to encourage the speedy sale of the second tract, which opened in November 1927.[21]

Figure 2: 1927 advertisement for Oakmore Highlands

Leimert's Oakmore Highlands Development required the construction of a bridge spanning the 325-foot wide canyon between Park Boulevard and the new subdivision. Construction began on

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[20] *Oakmore: A growing collection of historical newspaper clippings, marketing materials and photographs of the Oakmore Highlands subdivision*, (Oakland, CA: Oakmore Homes Association, November 2003), 2; "Oakmore Highlands History," Oakmore Homes Association, accessed online at: http://www.oakmorehomes.org/history_SBCV.html, February 6, 2008.

[21] Several prominent architects designed homes in Oakmore Highlands, among them, Miller & Warnecke, Chester H. Treichel, and Guy Brown. Popular architectural styles were Monterey Colonial, Mediterranean, Rustic Tudor, and Spanish. Pattiani, *Queen of the Hills*, 171; JRP Historical Consulting, *Caltrans Historic Bridge Inventory Update: Concrete Arch Bridges, Volume I: Report and Figures*, Prepared for State of California, Department of Transportation Environmental Program, April 2004; "Second Unit of Oakmore Tract Open," *The Oakland Tribune*, (November 6, 1927); "Resolution 1980-8, 138; "Oakmore Highlands History," Oakmore Homes Association, accessed online at: http://www.oakmorehomes.org/history_SBCV.html, February 6, 2008.

the Sausal Creek Bridge, commonly known as the Leimert Boulevard Bridge, in June 1925, and the bridge opened in October 1926. The sale of lots in the subdivision quickly followed. The bridge was the cornerstone of the new development. It was designated a landmark in 1980 by the City of Oakland and was found eligible for the National Register of Historic Places in 2004.[22]

Figure 3: Undated aerial photograph of the early development of Oakmore Highlands. Courtesy Oakmore Homeowners Association.

In a three-quarter page advertisement in the *Oakland Tribune*, Leimert called the crossing "The Bridge that Wrought a Miracle for Oakmore Highlands," boasting that it was the largest single-arch bridge in the west at the time of construction. He noted that it was taller than a ten-story building, and claimed it would "change the geography of Oakland." It carried utility pipes and wires, auto and pedestrian traffic, and the Park Boulevard #18 Car Line (a Key System Transit Company trolley line), further adding to the convenience of the homeowners. The $150,000.00 bridge brought this formerly isolated hillside within 20 minutes of downtown Oakland.[23]

[22] Architectural Historian Christopher McMorris of JRP Historical Consulting, LLC evaluated the Leimert Boulevard Bridge in Oakland for the National Register of Historic Places in March 2003 as a part of the Caltrans Historic Bridge Inventory Update project. His evaluation stated that the bridge was eligible under Criterion A, for its association with the residential development of the Oakland Hills, and under Criterion C, for its aesthetic design, with a period of significance of 1926-1930. In the absence of a concurrence report by the State Historic Preservation Office (SHPO), the date of eligibility has been assumed to coincide with the submission of the report, *Caltrans Historic Bridges Inventory Update: Concrete Arch Bridges, Volume 1*, in April of 2004.

[23] "The Bridge that Wrought a Miracle for Oakmore Highlands," *The Oakland Tribune*, (October 15, 1926); *Oakmore: a growing collection*, 3; "New Park Highlands Opens Today: Street Car Service Over Park Boulevard Starts Into Oakmore Over Concrete Sausal Creek Bridge," *The Oakland Tribune*, (October 17, 1926.).

After a brief cessation of building activity following the onset of the Great Depression in 1929, Oakmore Highlands experienced a boon during the mid-1930s. By 1933, eleven houses were under construction. Although most models displayed elements of Spanish architecture, other types included "rancho-style" and English-style homes.[24] In 1934, thousands of visitors poured into Oakmore Highlands to view the Breuner-Tribune furnished models on display. These model were designed to showcase the "great changes…taking place in home design, construction, furnishing, and financing." In an attempt to stimulate home sales, the real estate firm in charge of selling homes in Oakmore Highlands, L'Hommedieu, Inc., sold empty lots at 8 percent interest "without brokerage or other charges." The firm offered "payout" loans that did not require refinancing and allowed homeowners to pay off their debt in monthly installments until completely amortized. James H. L'Hommedieu, president of L'Hommedieu, stated that their financing plan "furnished the needed impetus to start building along normal lines again."[25] By the end of 1935, the *Oakland Tribune* declared that Oakmore Highlands "was the fastest-growing subdivision in the entire Eastbay area."[26]

By 1935, Oakmore Highlands had become a showcase for several of the Bay Area's well-known architects, including the aforementioned Miller and Warnecks, Frederick L. Confer, Chester H. Treichel, and Earl MacDonald. MacDonald designed a house that became known as "Golden Windows," which included a sweep of windows and large balcony overlooking the Bay, downtown Oakland, and San Francisco.[27]

Oakmore Highlands' continuous growth during the 1935-1936 period soon led to negotiations with East Bay Street Railway, Ltd., to add a new service from Piedmont Pines to the subdivision.[28] The announcement of coach service precipitated a sharp rise in home sales. By the middle of 1936, 35 homes had been built and plans were underway for the construction of 25 more. In 1947, after World War II, the streetcar power lines were converted for street lighting and the water pipes underneath the roadway were replaced.[29]

Building activity in the Oakmore Highlands subdivision took place through the 1930s and into the early 1940s. The residence at 1707 Clemons Road (Map Reference #1), which was built in 1939, is located in the subdivision.

The Glenview district is located opposite Oakmore Highlands on the west side of Leimert Bridge and runs along Park Boulevard. The district developed very slowly in the early twentieth century and most of its homes were located near Park Boulevard. Between 1915 and 1941, Glenview,

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[24] "Revival Noted in Building Activity Here," Oakland Tribune (September 17, 1933).
[25] "Display Home Gets Praise from Public," Oakland Tribune (January 1934).
[26] "Oakmore Sets Tract Record," Oakland Tribune (November 17, 1935).
[27] "House Plans Exhibit Lures," Oakland Tribune (August 11, 1935).
[28] "Coach Line to be Extended," Oakland Tribune (June 28, 1936).
[29] City of Oakland, Landmarks Preservation Advisory Board, *Resolution 1980-8* (Oakland, CA: 1980).

like Oakmore Highlands, experienced a housing boom. A brief interruption in building activity during the early years of the Great Depression gave way to massive building in the late 1930s and 1940s.[30] The residences of 1301 Leimert Boulevard (Map Reference #3), 1321 Leimert Boulevard (Map Reference #2), and 4902 Park Boulevard (Map Reference #4) are examples of Glenview's later development in the early 1940s.

Figure 4: Undated photograph of Leimert Bridge facing northwest. Image shows street car and 4902 Park Boulevard (Map Reference # 4). Courtesy Oakmore Homeowners Association.

3. DESCRIPTION OF RESOURCES

The Built Environment APE covers approximately 600 feet between Park Boulevard and Clemens Road in the City of Oakland. The study area includes the Leimert Boulevard Bridge and four residential buildings, all of which date from the 20th century. Three of the buildings (1321 and 1301 Leimert Boulevard, and 4902 Park Boulevard) are located on the northwest side of Leimert Boulevard Bridge, and the fourth (1707 Clemens Road) is located on the southeast side of the bridge. One parcel, located on the northeast side of Leimert Boulevard Bridge, is a public parking lot devoid of buildings. Only 1707 Clemens Road is located within the Oakmore Highlands subdivision.

As is typical of this period in Alameda County, the residential properties in the area generally consist of wood-frame buildings with concrete foundations. The buildings within the development are predominately Minimal Traditional in style with Monterey, Mediterranean,

[30] United States Geological Service Map (1915; 1941).

Spanish, and Tudor influences. The four buildings surveyed are modest examples of Minimal Traditional (1707 Clemens Road and 1301 Leimert Boulevard), Tudor Revival (4902 Park Boulevard) and Ranch (1321 Leimert Boulevard) styles, and range from one to two stories in height. Overall, these residences have been altered by replacement materials, such as windows, siding and roofing materials. The integrity of these buildings has been diminished by these alterations.

4. FINDINGS AND CONCLUSIONS

JRP prepared this HRER as part of the Leimert Boulevard Bridge Seismic Retrofit Project and to comply with applicable sections of NHPA and the implementing regulations of the ACHP as they pertain to federally-funded undertakings and their impacts on historic resources. Besides the bridge, four historic-era resources were evaluated to determine their eligibility for the National Register for this investigation in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 U.S.C. 470f and 470h-2) and its implementing regulations (36 CFR 800.4). There are five parcels within the APE, of which four required inventory and evaluation. The remaining parcel is exempt from further study by provisions of the 2004 PA.

All properties were evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using criteria outlined in Section 5204.1 of the California Public Resource Code. At this time, none of the resources except the bridge have been designated for city or county landmark status. The tables below summarize the results of this report for all of the historic resources within the architectural APE.

Table 1. Status

Properties Listed in the National Register	None
Properties Previously Determined Eligible for the National Register	Leimert Boulevard Bridge (33C-0215)
Properties Previously Determined Not Eligible for the National Register	None
Resources That Are Historical Resources for the Purposes of CEQA	Leimert Boulevard Bridge (33C-0215)

Table 2. Properties Determined Not Eligible for the National Register and Are Not Historical Resources Under CEQA Per CEQA Guidelines §15064.5 Because They Do Not Meet the California Register Criteria Outlined in PRC §5024.1 as a Result of the Current Study

APN	Address / Name	Resource Name	Year Built	OHP Status Code	Map Reference No.
029A-1327-001	1707 Clemens Road	Clark Residence	Ca. 1939	6Z	1
029A-1330-005	1321 Leimert Boulevard	Togneri Residence	Ca. 1940	6Z	2

APN	Address / Name	Resource Name	Year Built	OHP Status Code	Map Reference No.
029A-1330-004-04	1301 Leimert Boulevard	Cooper Residence	Ca. 1950	6Z	3
029A-1330-041	4902 Park Boulevard	Common area of Tract 4156	Ca. 1945	6Z	4

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6. PREPARERS' QUALIFICATIONS

JRP principal, Rand F. Herbert (MAT in History, University of California Davis), provided overall direction for this project, prepared the APE map, and edited the report. Mr. Herbert has more than 25 years professional experience working as a consulting historian and architectural historian on a wide variety of historical research and cultural resource management projects as a researcher, writer, and project manager. Mr. Herbert qualifies as a historian/architectural historian under United States Secretary of Interior's Professional Standards (as defined in 36 CFR Part 61).

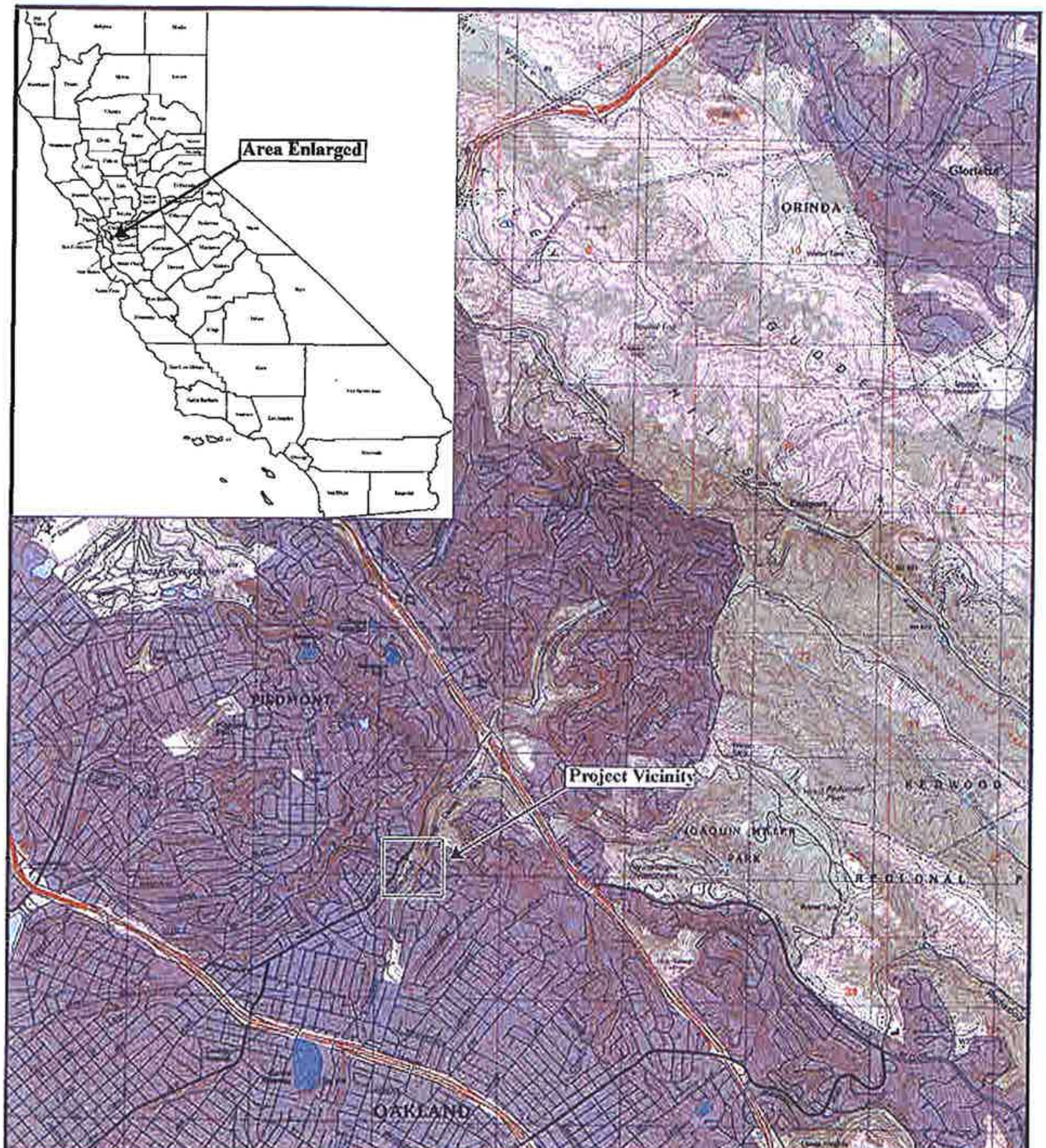
Christopher McMorris (MS in Historic Preservation, Columbia University) reviewed the forms and consulted on architectural styles.

Shawn Riem (MA History, Public History, California State University, Sacramento, 2007) conducted research and fieldwork for this project, created graphics, and wrote and edited the report and forms. Mrs. Riem joined JRP in 2006 and has contributed to a wide variety of historical research and cultural resource management projects. Mrs. Riem qualifies as a historian under United States Secretary of Interior's Professional Standards (as defined in 36 CFR Part 61).

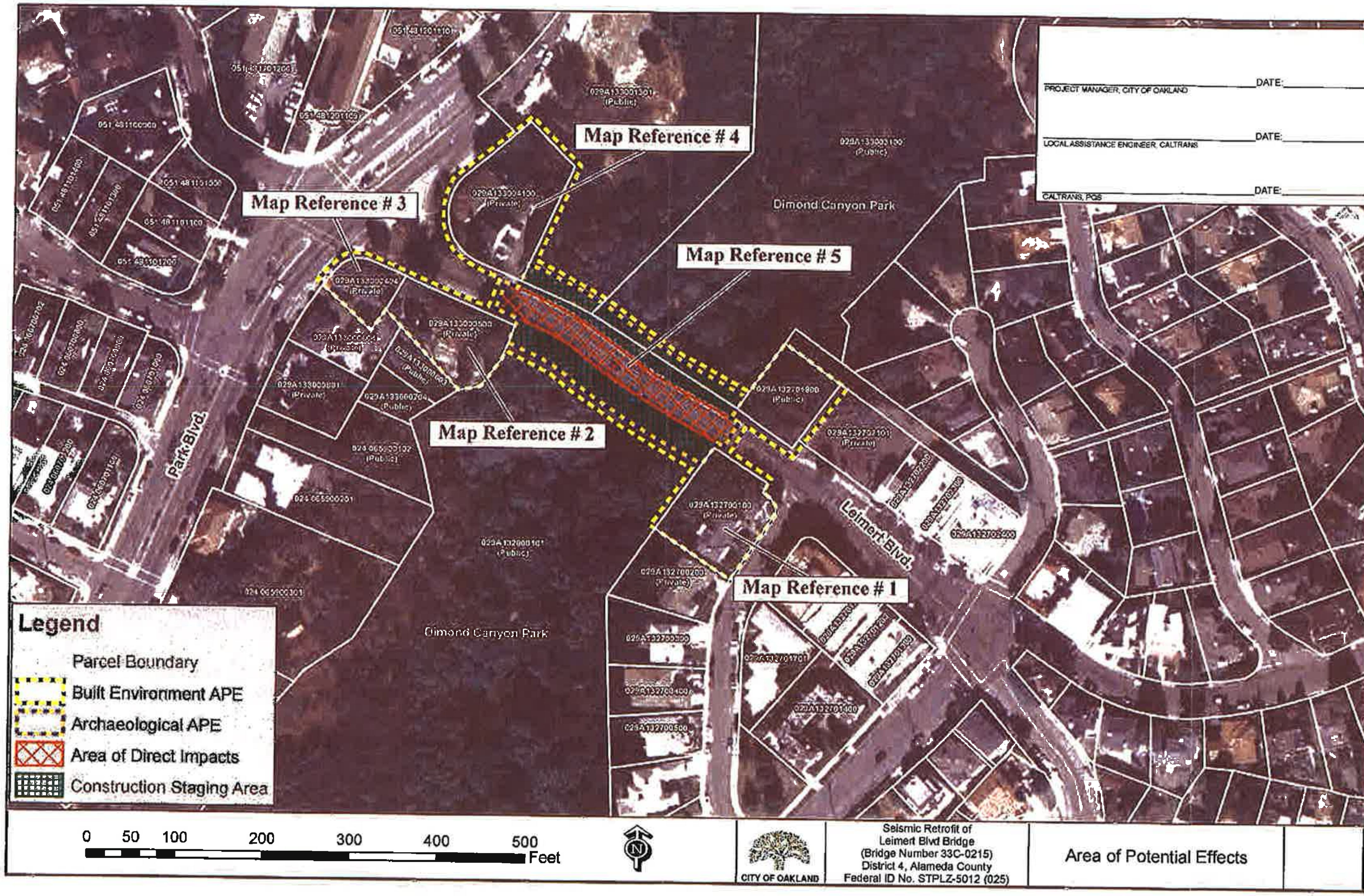
Marta Knight (MA Public History, California State University, Sacramento, 2005) assisted with research and fieldwork and prepared portions of the DPR 523 forms. Ms. Knight has been with JRP since August 2007 and has assisted with a variety of historical research and cultural resource management projects. Ms. Knight qualifies as a historian under United States Secretary of Interior's Professional Standards (as defined in 36 CFR Part 61).

Appendix A

Figures



Map 1. Project Location and Vicinity



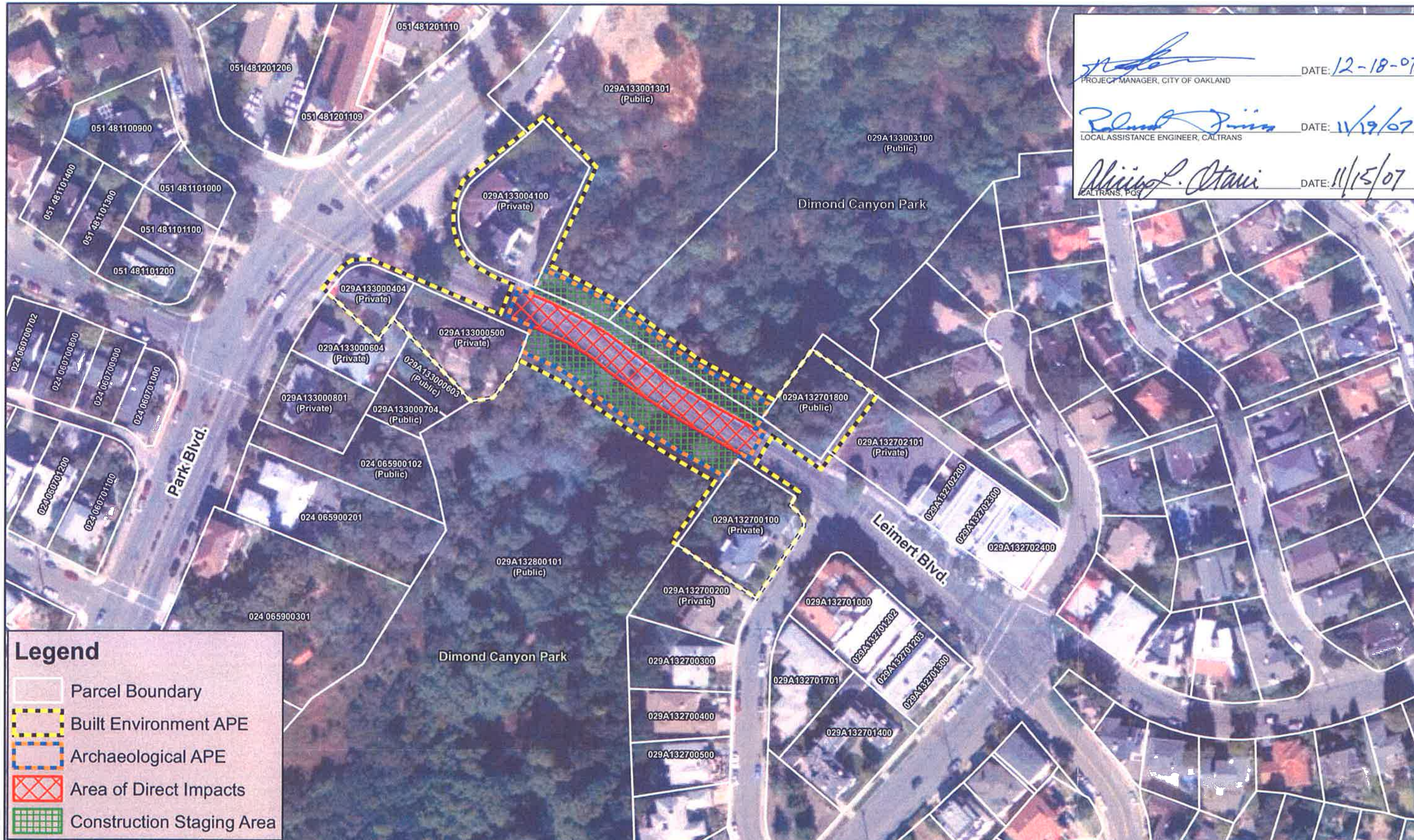
PROJECT MANAGER, CITY OF OAKLAND
DATE:
LOCAL ASSISTANCE ENGINEER, CALTRANS
DATE:
CALTRANS, PQS
DATE:
Map Reference # 4
Map Reference # 3
Map Reference # 5
Map Reference # 2
Map Reference # 1
Dimond Canyon Park
Park Blvd.
Leimert Blvd.
Dimond Canyon Park
Legend
Parcel Boundary
Built Environment APE
Archaeological APE
Area of Direct Impacts
Construction Staging Area
0 50 100 200 300 400 500
Feet
CITY OF OAKLAND
Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (025)
Area of Potential Effects

MAP 2. APE

DATE: 12-18-07
PROJECT MANAGER, CITY OF OAKLAND

DATE: 11/19/07
LOCAL ASSISTANCE ENGINEER, CALTRANS

DATE: 11/15/07
CALTRANS, PQS



0 50 100 200 300 400 500 Feet

CITY OF OAKLAND

Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (025)

Area of Potential Effects

URS Corporation L:\Projects\Eight_Bridges_Seismic_Retrofit\MXD\Current Working Documents\Sausal_Creek_Bridge.mxd Date/Time: 5/2/2007 9:26:11 AM Name: cxbento0

Appendix B

DPR 523 Forms

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # ____
HRI # ____
Trinomial ____
NRHP Status Code 6Z

Other Listings ____
Review Code ____ Reviewer ____ Date ____

 ***Resource Name or #** (Assigned by recorder) Map Reference # 1

P1. Other Identifier: Clark Residence

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Alameda
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Oakland East **Date** 1959 **T** ___; **R** ___; __ ¼ of Sec ___; ______ **B.M.**
c. Address 1707 Clemens Road City Oakland Zip 94602-1802
d. UTM: (give more than one for large and/or linear resources) Zone ______; ______________mE/ ______________mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Assessor Parcel Number: 029A-1327-001

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The two-story building on the parcel identified as 1707 Clemens Road is comprised of two residences (1705 and 1701 Clemens Road). The entire building sits on a side-facing, L-shaped footprint with a concrete foundation, which totals 4,122 square feet. The building's main facade faces east. The exterior walls of the residence on the first floor are stucco, while painted, wood shingle cladding adorns the second floor residence and a portion of the side walls of the first floor. A brick walkway leads to an L-shaped, horizontal brick, staircase that reaches to the second story. The staircase is lined by a slightly curving, diamond-patterned metal railing. The upstairs porch shelters the first floor porch. The doors on both floors are wood with panels. The building also has a casement window with panes set in a pattern of two-over three and wooden frames. Decorative shutters flank the second floor windows on the façade and the first floor windows on the west side. (See Continuation Sheet.)

***P3b. Resource Attributes:** (List attributes and codes) (HP3) Multiple family property

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Camera facing west, December 26, 2007

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1939, Alameda County Assessor's Office

***P7. Owner and Address:**
James B. Clark, 1705 Clemens Road, Oakland, CA 94602-1802

***P8. Recorded by:** (Name, affiliation, address)
Shawn Riem, Marta Knight
JRP Historical Consulting, LLC
1490 Drew Ave, Suite 110
Davis, CA 95618

***P9. Date Recorded:** December 26, 2007

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP, Historic Resources Evaluation Report: Leimert Boulevard Bridge Seismic Retrofit Project, STPL-5012 (025), Alameda County, California. Prepared for URS Corporation, February 2008.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record
☐ Other (list) ____________

***NRHP Status Code** 6Z
***Resource Name or #** (Assigned by recorder) Map Reference # 1

B1. Historic Name: None
B2. Common Name: 1707 Clemens Road
B3. Original Use: Residence B4. Present Use: Residence
***B5. Architectural Style:** Minimal Traditional
***B6. Construction History:** (Construction date, alteration, and date of alterations) Built ca. 1939
***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** Detached Garage
B9. Architect: unknown b. Builder: unknown
***B10. Significance: Theme** n/a **Area** n/a
Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The residence at 1707 Clemens Road is not eligible for listing in the California Register of Historic Resources. Furthermore, this residence has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and the property does not meet the significance criteria as outlined in these guidelines. Therefore, it is not a historical resource for the purposes of CEQA. (See continuation sheet.)

B11. Additional Resource Attributes: (List attributes and codes)

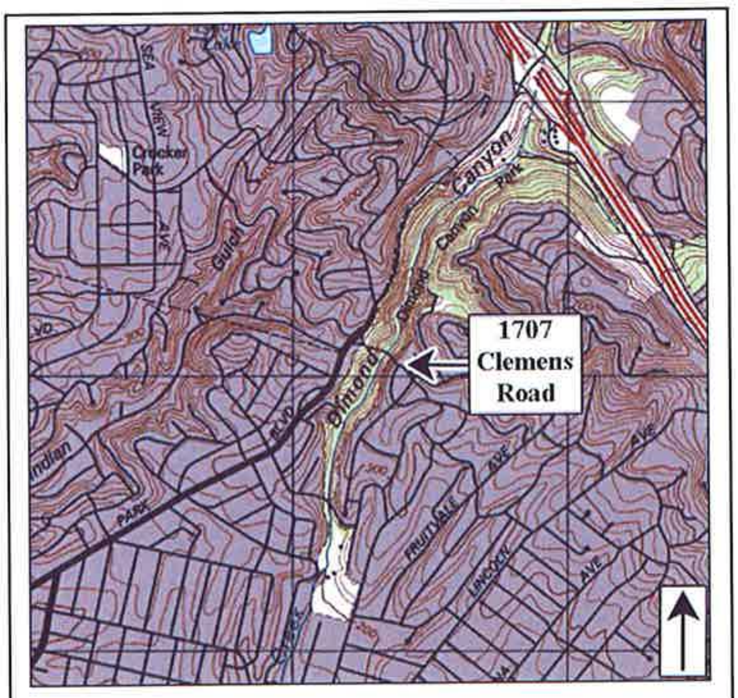
***B12. References:** See Footnotes

B13. Remarks:

***B14. Evaluator:** Shawn Riem

***Date of Evaluation:** February 2008

(This space reserved for official comments.)



P3a. Description (continued):

The shallow, cross-hipped roof has open eaves, exposed rafters and composition shingles. Vents and two chimneys top the roof. One chimney, clad in stucco, appears to be a more recent addition while the second exposed-brick chimney may be original to the building. Brick and concrete paths lead from the east and north sides of the building, respectively, into the steeply sloped backyard. A wood post and rail fence lines the north path. A metal gate and archway with a geometric pattern connects the garage to the house.

A detached 3-car garage with hipped, composition shingle roof, and stucco exterior walls occupies the north end of the property close to the east entrance of Leimert Bridge. The vinyl horizontal sliding slash garage window on the north side has decorative shutters and is covered with ornate metal bars.

B10. Significance (continued):

The Area of Potential Effects (APE) of the Leimert Boulevard Bridge Project is located in what is known as the Oakmore Neighborhood near the central-eastern area of the City of Oakland adjacent to the City of Piedmont, on land that was part of the Peralta Rancho. During the 1920s Bay Area housing boom, developer-realtor Walter Leimert opened up his Oakmore Highlands in the Oakmore hills.[1] Leimert had recently completed the Lakeshore Heights development in the nearby Lower Hills District and sought to take advantage of his success. He created a new association of land developers, the Park Boulevard Company, with himself as head, to develop the subdivision on the east side of Sausal Creek. His real estate company, the Walter H. Leimert Company began sales in October 1926 and hired Mitchell & Austin to serve as property managers of the development.

There were 440 lots in the 150-acre, four-tract development—most single family, but some designated multi-family and commercial for, in the words of Leimert, "the convenience of the homeowners in Oakmore," and the streets were wide with ample sidewalks. Although lots sold quickly, the company deferred interest and taxes for nearly a year and a half to encourage the speedy sale of the second tract, which opened in November 1927.[2]

Oakmore Highlands required the construction of a bridge spanning the 325-foot canyon between Park Boulevard and the new subdivision. Construction began on the Sausal Creek Bridge, commonly known as the Leimert Bridge, in June 1925, and the bridge opened in October 1926. The sale of lots in the subdivision quickly followed. The bridge was the cornerstone of the new development and it was found eligible for the National Register of Historic Places in 2003 and is city designated it a landmark in 1980.

After a brief cessation of building activity following the onset of the Great Depression in 1929, Oakmore Highlands experienced a boon during the mid-1930s. By 1933, eleven houses were under construction. Although most models displayed elements of Spanish architecture, other types included "rancho-style" and English-style homes.[3] By 1935, Oakmore Highlands had become a showcase for several of the Bay Area's well-known architects, including Miller and

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[1] *Oakmore: A growing collection of historical newspaper clippings, marketing materials and photographs of the Oakmore Highlands subdivision*, (Oakland, CA: Oakmore Homes Association, November 2003), 2; "Oakmore Highlands History," Oakmore Homes Association, accessed online at: http://www.oakmorehomes.org/history_SBCV.html, February 6, 2008.

[2] Several prominent architects designed homes in Oakmore Highlands, among them, Miller & Warnecke, Chester H. Treichel, and Guy Brown. Popular architectural styles were Monterey Colonial, Mediterranean, Rustic Tudor, and Spanish. Pattiani, Queen of the Hills, 171; JRP Historical Consulting, *Caltrans Historic Bridge Inventory Update: Concrete Arch Bridges, Volume I: Report and Figures*, Prepared for State of California, Department of Transportation Environmental Program, April 2004; "Second Unit of Oakmore Tract Open," *The Oakland Tribune*, (November 6, 1927); "Resolution 1980-8, Landmarks Preservation Advisory Board, City of Oakland," *Oakmore: A growing collection of historical newspaper clippings, marketing materials, and photographs of the Oakmore Highlands subdivision*, (Oakland, CA: Oakmore Homes Association, November 2003), 138; "Oakmore Highlands History," Oakmore Homes Association, accessed online at: http://www.oakmorehomes.org/history_SBCV.html, February 6, 2008.

[3] "Revival Noted in Building Activity Here," *Oakland Tribune* (September 17, 1933).

Warnecks, Frederick L. Confer, Chester H. Treichel, and Earl MacDonald. MacDonald designed a house that became known as "Golden Windows," which included a sweep of windows and large balcony overlooking the Bay, downtown Oakland, and San Francisco.[4]

The Oakmore district's continuous growth during the 1935-1936 period soon led to negotiations with East Bay Street Railway, Ltd., to add a new service from Piedmont Pines to the subdivision.[5] The announcement of coach service precipitated a sharp rise in home sales. By the middle of 1936, 35 homes had been built and plans were underway for the construction of 25 more. In 1947, after World War II, the streetcar power lines were converted for street lighting and the water pipes underneath the roadway were replaced.[6]

Evaluation

To be listed on the National Register, a property must not only be shown to be significant under the National Register criteria, but it must also have integrity. Integrity is defined by the National Register as the ability of a property to convey its significance. The National Register criteria recognize seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The building at 1707 Clemens Road maintains its integrity of location, design, setting, feeling, and association; however, it has lost its integrity of materials and workmanship. The building has been modified with replacement vinyl windows, modern roofing materials, siding, and the addition of a second chimney.

A property might be found eligible for the National Register under Criterion A/1 if it is associated with events that have made a significant contribution to the broad patterns of our history. The property at 1707 Clemens Road does not appear to be associated with any events significant to national, state or local history, and therefore it is not eligible under Criterion A/1.

Research conducted about the residence did not did not indicate that the building is associated with the lives of anyone significant to local, state, or national history and therefore, the building is not eligible under Criterion B/2.

The property might also be found eligible for the National Register under Criterion C if it embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master. The style now referred to as "Minimal Traditional" developed in the 1930s, following the decline in popularity of Bungalows, and was a continuation of the small house design tradition that dates to the nineteenth century. In the 1930s, the popular period revival dwellings began to give way to simpler styles. Considered a "compromise style," the Minimal Traditional house reflected the form and shape of earlier housing styles, but without the decorative detailing. Minimal Traditional style houses were built in great numbers in California, commonly in large tracts as developers tried to meet the growing demands for affordable housing.[7] The Minimal Traditional residence at 1707 Clemens Road has modest Monterey style influences that can be seen in the second story overhanging balcony and the different cladding materials used on each level of the residence. The architectural style, however, is common to the area and period and this residence is a modest example of the style in the area. Additionally, while several prominent architects designed residences in the area, building permits for 1707 Clemens Road do not indicate that this residence is one such building. Therefore, the property is not eligible under Criterion C/3.

Finally, in rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies (Criterion D/4); however, the residence at 1707 Clemens Road does not appear to be a principal source of important information in this regard.

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[4] "House Plans Exhibit Lures," *Oakland Tribune* (August 11, 1935).

[5] "Coach Line to be Extended," *Oakland Tribune* (June 28, 1936).

[6] City of Oakland, Landmarks Preservation Advisory Board, *Resolution 1980-8* (Oakland, CA: 1980).

[7] Virginia & Lee McAlester, *A Field Guide to American Houses*, (New York: Alfred A. Knoph, 2004), 477-478.

*Recorded by Shawn Riem, Marta Knight *Date December 26, 2007 ☒ Continuation ☐ Update

Photographs (cont):

Photograph 2, camera facing west. December 26, 2007.

Photograph 3, detached garage. Camera facing northwest. December 26, 2007.

***Resource Name or #** (Assigned by recorder) Map Reference # 1

***Recorded by** Shawn Riem, Marta Knight *Date December 26, 2007 ☒ Continuation ☐ Update

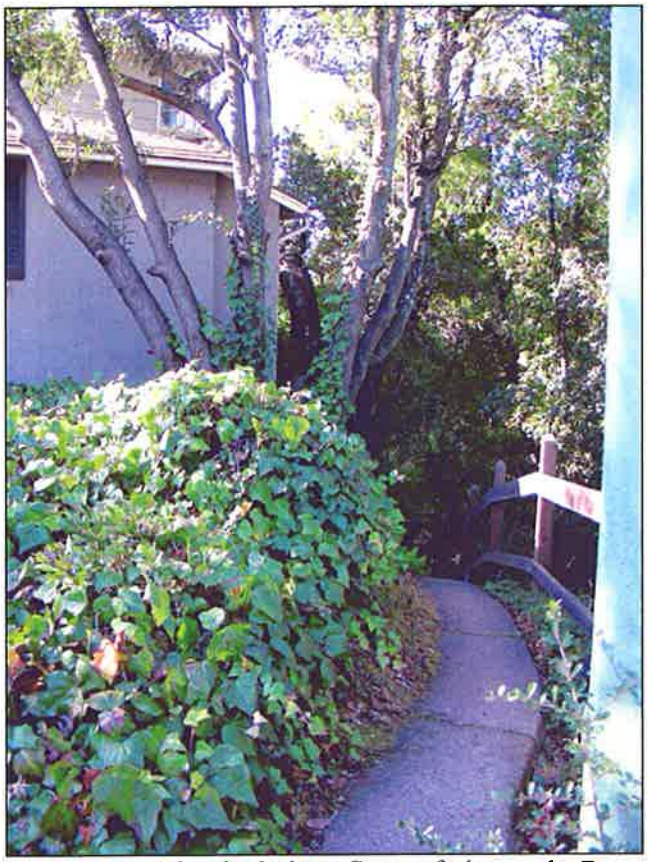
Photographs (cont):

Photograph 4, east facade entrance to stairway on back slope. December 26, 2007.

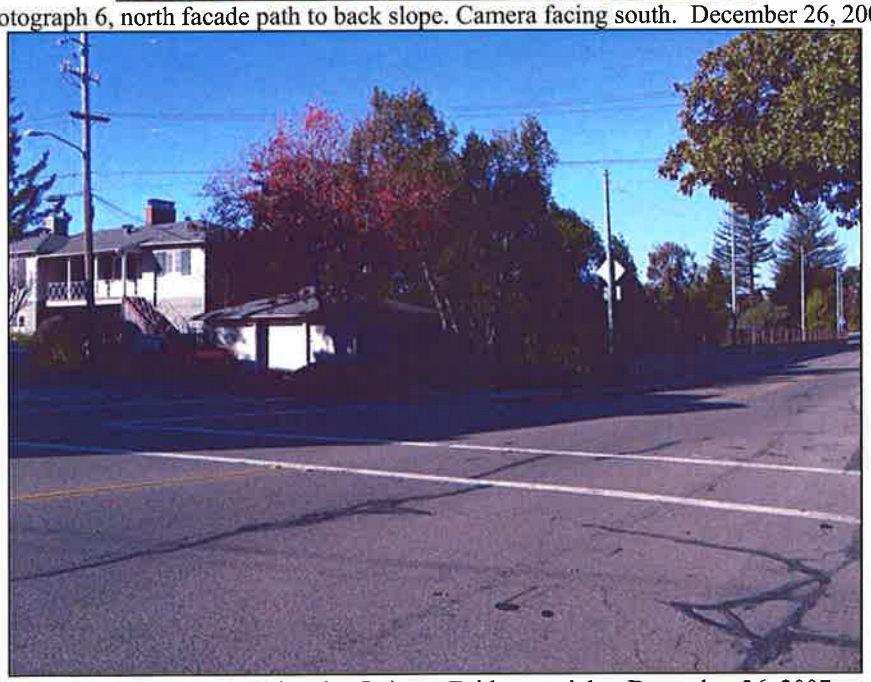
Photograph 5, camera facing northwest. December 26, 2007.

***Resource Name or #** (Assigned by recorder) Map Reference # 1

***Recorded by** Shawn Riem, Marta Knight ***Date** December 26, 2007 ☒ Continuation ☐ Update



Photograph 6, north facade path to back slope. Camera facing south. December 26, 2007.



Photograph 7, context showing Leimert Bridge on right. December 26, 2007.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

***Resource Name or #** (Assigned by recorder) Map Reference # 2

P1. Other Identifier: Togneri Residence

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Oakland East **Date** 1959 **T** ___; **R** ___; __ **¼ of Sec** ___; ______ **B.M.**

c. Address 1321 Leimert Boulevard City Oakland Zip 94602-1828

d. UTM: (give more than one for large and/or linear resources) Zone ______; ______________mE/ ______________mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

Assessor Parcel Number: 029A-1330-005

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The property at 1321 Leimert Blvd has a generally rectangular, but somewhat irregular, footprint. The floor plan covers 1,996 square feet. The building has a wood frame with stucco exterior walls. The front elevation appears as a single story, however, the rear of the house consists of two stories with the lower floor set against the steep slope of Diamond Canyon. The low-pitch, cross-hipped roof is covered in wood shingles. The eaves are open and the rafter ends exposed but covered by gutters. The roof contains four vents and a brick chimney on the south roof slope. (See Continuation Sheet.)

***P3b. Resource Attributes:** (List attributes and codes) (HP2) Single Family Residence

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Camera facing southwest, December 26, 2007

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
1940, Alameda County Assessor's Office

***P7. Owner and Address:**
James G. and Anne D. Togneri, 1321 Leimert Blvd., Oakland, CA 94602-1828

***P8. Recorded by:** (Name, affiliation, address)
Shawn Riem, Marta Knight
JRP Historical Consulting, LLC
1490 Drew Ave, Suite 110
Davis, CA 95618

***P9. Date Recorded:** December 26, 2007

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP, Historic Resources Evaluation Report: Leimert Boulevard Bridge Seismic Retrofit Project, STPL-5013 (025), Alameda County, California. Prepared for URS Corporation, February 2008.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) ____________

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Map Reference # 2

B1. Historic Name: None

B2. Common Name: 1321 Leimert Boulevard

B3. Original Use: Residence B4. Present Use: Residence

***B5. Architectural Style:** Ranch

***B6. Construction History:** (Construction date, alteration, and date of alterations) 1940; Guest house added at unknown date

***B7. Moved?** ☒ No ☐ Yes ☐ Unknown **Date:** N/A **Original Location:** N/A

***B8. Related Features:** Guest house

B9. Architect: unknown b. Builder: unknown

***B10. Significance: Theme** n/a **Area** n/a

Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The residence at 1321 Leimert Road is not eligible for listing in the California Register of Historic Resources. Furthermore, this residence has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and the property does not meet the significance criteria as outlined in these guidelines. Therefore, it is not a historical resource for the purposes of CEQA. (See continuation sheet.)

B11. Additional Resource Attributes: (List attributes and codes)

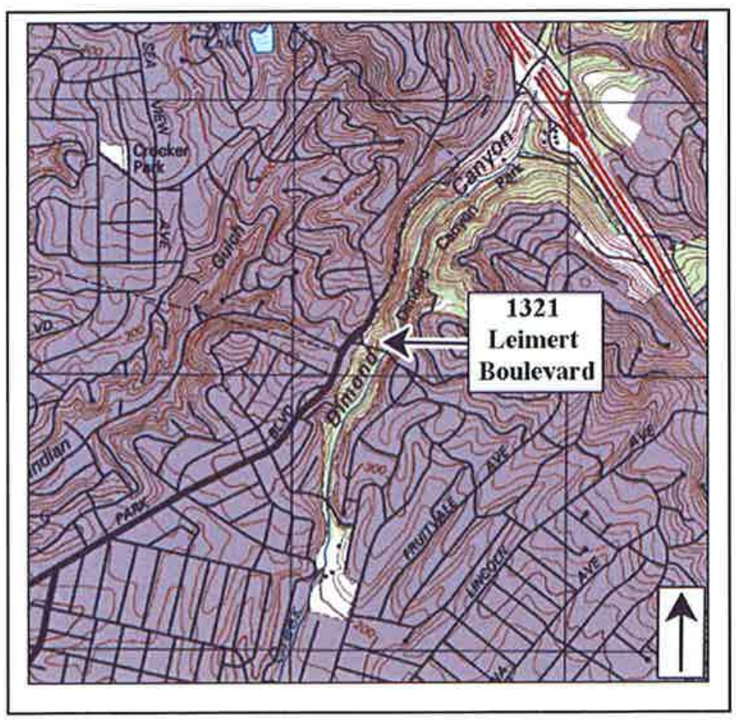
***B12. References:** See Footnotes

B13. Remarks:

***B14. Evaluator:** Shawn Riem

***Date of Evaluation:** February 2008

(This space reserved for official comments.)



P3a. Description (continued):

Fenestration on the north facade consists of a bay window and two casement windows. A scalloped wood bracket tops the bay window. Other fenestration consists of casement windows with decorative wood shutters. A brick walkway leads to a brick porch at the front entrance. A black metal hand railing and decorative wood and metal pillars frame the porch. The wood panel door has a window with panes with steel sash set in a pattern of one-over-four.

There are windows with steel sash on the sides and rear of the house are set in a pattern of four-over-four, four-over-three, two-over-three, and one-over-three steel sash, with casement and fixed sections. Two wood side doors supply access to the house on the east side. The east facade also has small storage alcove. A graduated three panel metal railing slopes slightly away from the alcove. The west side contains a four-over-three corner window. A concrete driveway slopes toward the first floor of the west wing into a garage. A wood staircase at the rear of the house leads up to a second story wood deck which overlooks the back yard.

B10. Significance (continued):

The Area of Potential Effects (APE) of the Leimert Boulevard Bridge Project is located in what is known as the Oakmore Neighborhood near the central-eastern area of the City of Oakland adjacent to the City of Piedmont, on land that was part of the Peralta Rancho. The Glenview district is located opposite Oakmore Highlands on the west side of Leimert Bridge and runs along Park Boulevard. The district developed very slowly in the early twentieth century and most of its homes were located near Park Boulevard. Between 1915 and 1941, Glenview, like Oakmore Highlands, experienced a housing boom. A brief interruption in building activity during the early years of the Great Depression gave way to massive building in the late 1930s and 1940s.[1] The residence of 1321 Leimert Boulevard is an example of Glenview's later development in the early 1940s.

Evaluation

To be listed on the National Register, a property must not only be shown to be significant under the National Register criteria, but it must also have integrity. Integrity is defined by the National Register as the ability of a property to convey its significance. The National Register criteria recognize seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The building at 1321 Leimert Boulevard maintains its integrity of location, design, setting, feeling, and association; however, it has lost a measure of integrity of materials and workmanship. The building has been modified with modern roofing materials, a raised wood rear patio, and the addition of a guest house.

A property might be found eligible for the National Register under Criterion A/1 if it is associated with events that have made a significant contribution to the broad patterns of our history. The house was part of the history of pre-WWII residential development in Oakland and does not appear to be associated with any events significant to national, state or local history, and therefore it is not eligible under Criterion A/1.

Research conducted on the residence did not did not indicate that the building is associated with the lives of anyone significant to local, state, or national history and therefore, the building is not eligible under Criterion B/2.

The property might also be found eligible for the National Register under Criterion C if it embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master. Ranch style houses also began to emerge in the 1930s during the post-Bungalow phase of residential architecture. The style is characterized by elongated linear floor plans and a propensity to combine indoor and outdoor living areas. Eventually, the style incorporated

[1] United States Geological Service Map (1915; 1941).

aspects of Modern architecture, emphasizing horizontality, large windows, unadorned surfaces, and open floor plans.[2] The style first emerged regionally in California by the 1940s, and later reached national popularity in the 1950s and 1960s.[3] The residence at 1321 Leimert Boulevard is a modest example of an early Ranch style residence, with large windows and a recessed entry, as well as the large rear deck. However, the architectural style is common to the area and period and the residence is a modest example of the style in the area. Additionally, while several prominent architects designed residences in the area, building permits for 1321 Leimert Boulevard do not indicate that this residence is one such building. Therefore, the property is not eligible under Criterion C/3.

Finally, in rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies (Criterion D/4); however, the residence at 1707 Clemens Road does not appear to be a principal source of important information in this regard.

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[2] David Gebhard, Eric Sandweiss, and Robert Winter, *Architecture In San Francisco and Northern California,* (Salt Lake City: Gibbs Smith Publisher, 1985), 579.

[3] McAlester, *A Field Guide to American Houses,* 477, 479; Cliff May, *Western Ranch Houses*, 1958 (Santa Monica: Hennessey and Ingalls, 1997), 13-23.

*Resource Name or # (Assigned by recorder) Map Reference# 2

*Recorded by Shawn Riem, Marta Knight *Date December 26, 2007 ☐ Update

Photographs (cont):

Photograph 2, camera facing southeast. December 26, 2007.

Photograph 3, camera facing south. December 26, 2007.

*Resource Name or # (Assigned by recorder) Map Reference# 2

*Recorded by Shawn Riem, Marta Knight *Date December 26, 2007 ☐ Update

Photographs (cont):

Photograph 4, camera facing southwest. December 26, 2007.

Photograph 5, detail driveway, camera facing south. December 26, 2007.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

 *Resource Name or # (Assigned by recorder) Map Reference # 3

P1. Other Identifier: Cooper Residence

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Oakland East **Date** 1959 **T** ___; **R** ___; ___ ¼ **of Sec** ___; ___ **B.M.**

c. Address 1301 Leimert Road City Oakland Zip 94602-1828

d. UTM: (give more than one for large and/or linear resources) Zone ___; ___mE/ ___mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

Assessor Parcel Number: 029A-1330-004-04

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The building on the parcel at 1301 Leimert Boulevard has an L-shaped footprint and contains two residences covering a total floor area of 6,052 square feet. Although the facade appears as a raised, single-story building it is, in fact, two stories, as visible from the rear. The rear of the house is constructed on a slight slope. The front of the house, or east facade, has three stairways, two of which lead to the main entries of each residence and are constructed of stucco and brick. The natural brick color has been painted red on the stairs and porches. Natural red brick and grey mortar border a rectangular grass-covered planter box between the two stairways. Both sets of stairs have metal railings, painted white, and are composed of three sloping rails that end in a nautilus shape. (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) (HP3) Multiple Family Residence

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Camera facing southwest, December 26, 2007

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
1950, Alameda County Assessor's Office

***P7. Owner and Address:**
James R. and Carolyn L. Cooper
1452 Hampel Street
Oakland, CA 94602-1346

***P8. Recorded by:** (Name, affiliation, address)
Shawn Riem, Marta Knight
JRP Historical Consulting, LLC
1490 Drew Ave, Suite 110
Davis, CA 95618

***P9. Date Recorded:** December 26, 2007

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP, Historic Resources Evaluation Report: Leimert Boulevard Bridge Seismic Retrofit Project, STPL-5012 (025), Alameda County, California. Prepared for URS Corporation, February 2008.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) ___

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Map Reference # 3

B1. Historic Name: None

B2. Common Name: 1301 Leimert Boulevard

B3. Original Use: Residence B4. Present Use: Residence

***B5. Architectural Style:** Minimal Traditional

***B6. Construction History:** (Construction date, alteration, and date of alterations) Built 1950

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A

***B8. Related Features:** None

B9. Architect: unknown b. Builder: unknown

***B10. Significance: Theme** n/a **Area** n/a

Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The residence at 1301 Leimert Boulevard is not eligible for listing in the California Register of Historic Resources. Furthermore, this residence has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and the property does not meet the significance criteria as outlined in these guidelines. Therefore, it is not a historical resource for the purposes of CEQA. (See continuation sheet.)

B11. Additional Resource Attributes: (List attributes and codes)

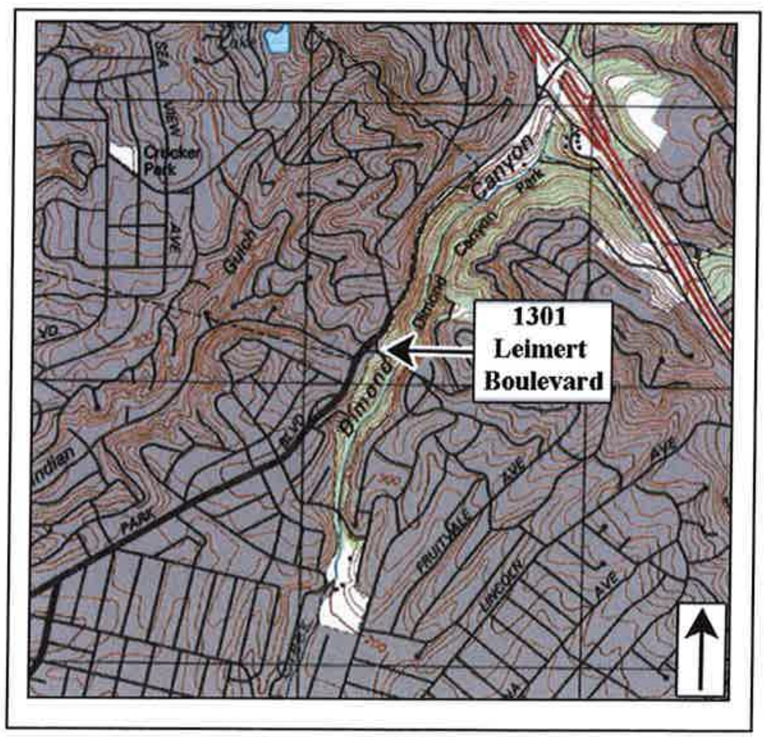
***B12. References:** See Footnotes

B13. Remarks:

***B14. Evaluator:** Shawn Riem

***Date of Evaluation:** February 2008

(This space reserved for official comments.)



P3a. Description (continued):

The north facing porch cover has a single row of scalloped dentils. Four-by-four posts support both porch covers. The third stairway is constructed of wood and is located on the east side of the house. Siding on the exterior east and north facades is horizontal wood with flush, shiplap joints, while the lower floor and the rear of the house is stucco. The front doors appear to be decorative paneled metal, and the door to the south residence has a metal-framed screen door.

The windows are an assortment of double-hung and casement windows with panes set in a pattern of one-over-one, two-over-two, and three-over two. The front of the house has two double-hung three-over-two glazing with faux wood shutters, and two windows with one-over-one glazing. One fixed dual-pane picture window is situated on the east wall of the south residence. One fixed dual-paned picture window and one two-over-one double-hung window with a decorative shutter is located on the north side above a two car, inset garage. The first floor has one double-hung, single sash window situated next to the garage doors. The rear of the house has a wood stairway that leads to the upper floor. A small porch extends from a wood door with diamond-shaped lights set in wood muntins. Several modern, double-hung windows are located on the rear façade. The low-pitched, hipped roof is covered in composite shingles and has open eaves and exposed rafter ends covered by gutters. Two stucco-clad chimneys are located on the west slope of the roof.

B10. Significance (continued):

The Area of Potential Effects (APE) of the Leimert Boulevard Bridge Project is located in what is known as the Oakmore Neighborhood near the central-eastern area of the City of Oakland adjacent to the City of Piedmont, on land that was part of the Peralta Rancho. The Glenview district is located opposite Oakmore Highlands on the west side of Leimert Bridge and runs along Park Boulevard. The district developed very slowly in the early twentieth century and most of its homes were located near Park Boulevard. Between 1915 and 1941, Glenview, like Oakmore Highlands, experienced a housing boom. A brief interruption in building activity during the early years of the Great Depression gave way to massive building in the late 1930s and 1940s.[1] The residence of 1301 Leimert Boulevard is an example of Glenview's later development in the early 1940s.

Evaluation

To be listed on the National Register, a property must not only be shown to be significant under the National Register criteria, but it must also have integrity. Integrity is defined by the National Register as the ability of a property to convey its significance. The National Register criteria recognize seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The building at 1301 Leimert Boulevard maintains its integrity of location, design, setting, feeling, and association; however, it has lost its integrity of materials and workmanship. The building has been modified with modern roofing materials, replacement windows and siding.

A property might be found eligible for the National Register under Criterion A/1 if it is associated with events that have made a significant contribution to the broad patterns of our history. The property at 1301 Leimert Boulevard is typical of pre-WWII development in this area of Oakland and does not appear to be associated with any events significant to national, state, or local history, and therefore it is not eligible under Criterion A/1.

Research conducted on the residence did not did not indicate that the building is associated with the lives of anyone significant to local, state, or national history and therefore, the building is not eligible under Criterion B/2.

[1] United States Geological Service Map (1915; 1941).

The property might also be found eligible for the National Register under Criterion C if it embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master. The style now referred to as "Minimal Traditional" developed in the 1930s, following the decline in popularity of Bungalows, and was a continuation of the small house design tradition that dates to the nineteenth century. In the 1930s, the popular period revival dwellings began to give way to simpler styles. Considered a "compromise style," the Minimal Traditional house reflected the form and shape of earlier housing styles, but without the decorative detailing. Minimal Traditional style houses were built in great numbers in California, commonly in large tracts as developers tried to meet the growing demands for affordable housing.[2] The residence at 1301 Leimert Boulevard is a modest example of this architectural style, one common to the area and period. Additionally, while several prominent architects designed residences in the area, building permits for 1301 Leimert Boulevard do not indicate that this residence is one such building. Therefore, the property is not eligible under Criterion C/3.

Finally, in rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies (Criterion D/4); however, the residence at 1707 Clemens Road does not appear to be a principal source of important information in this regard.

[2] Virginia & Lee McAlester, *A Field Guide to American Houses*, (New York: Alfred A. Knoph, 2004), 477-478.

*Resource Name or # (Assigned by recorder) Map Reference # 3

*Recorded by Shawn Riem, Marta Knight *Date December 26, 2007 ☒ Continuation ☐ Update

Photographs (cont):

Photograph 2, camera facing northeast. December 26, 2007.

Photograph 3, detail of stairs and railing. Camera facing southeast. December 26, 2007.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

 *Resource Name or # (Assigned by recorder) Map Reference # 4

P1. Other Identifier: Common Area of Tract 4156

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Oakland East **Date** 1959 **T** ___; **R** ___; __ **¼ of Sec** ___; ______ **B.M.**

c. Address 4902 Park Boulevard City Oakland Zip 94611-3610

d. UTM: (give more than one for large and/or linear resources) Zone ______; ______________mE/ ______________mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

Assessor Parcel Number: 029A-1330-041

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The parcel at 4902 Park Blvd is comprised of three separate buildings, all within the project APE. Each building has its own address. Assessor's records indicate all three buildings comprise 6,052 square feet. Only the facades were accessible from the right of way at the time of this survey.

The first building numbered 1316 – 1318 is a simplified Tudor Revival style duplex with an asymmetrical facade. It has an off-centered front gable with a curved, sloping roof section that ends at the top of the main floor windows. The exterior walls are clad in stucco. The ground floor consists of garages on each end of the house. The east garage appears to have a slight port cochere overhang. An arched, wood-framed, double-hung window topped by an arched fixed pane is situated between the port cochere and the stairway. (See Continuation Sheet.)

***P3b. Resource Attributes:** (List attributes and codes) (HP3) Multiple Family Residence

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Camera facing northwest, December 26, 2007

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
1945, Alameda County Assessor's Office

***P7. Owner and Address:**
Common Area of Tract 4156
4902 Park Boulevard
Piedmont, CA 94611-3610

***P8. Recorded by:** (Name, affiliation, address)
Shawn Riem, Marta Knight
JRP Historical Consulting, LLC
1490 Drew Ave, Suite 110
Davis, CA 95618

***P9. Date Recorded:** December 26, 2007

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP, Historic Resources Evaluation Report: Leimert Boulevard Bridge Seismic Retrofit Project, STPL-5012 (025), Alameda County, California. Prepared for URS Corporation, February 2008.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) ______

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Map Reference # 4

B1. Historic Name: None

B2. Common Name: 4902 Park Boulevard

B3. Original Use: Residence B4. Present Use: Residence

***B5. Architectural Style:** Tudor Revival

***B6. Construction History:** (Construction date, alteration, and date of alterations) Built ca. 1945, 3rd dwelling added at unknown date

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B9. Architect: unknown b. Builder: unknown

***B10. Significance: Theme** n/a **Area** n/a

Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The residence at 4902 Park Boulevard is not eligible for listing in the California Register of Historic Resources. Furthermore, this residence has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and the property does not meet the significance criteria as outlined in these guidelines. Therefore, it is not a historical resource for the purposes of CEQA. (See continuation sheet.)

B11. Additional Resource Attributes: (List attributes and codes)

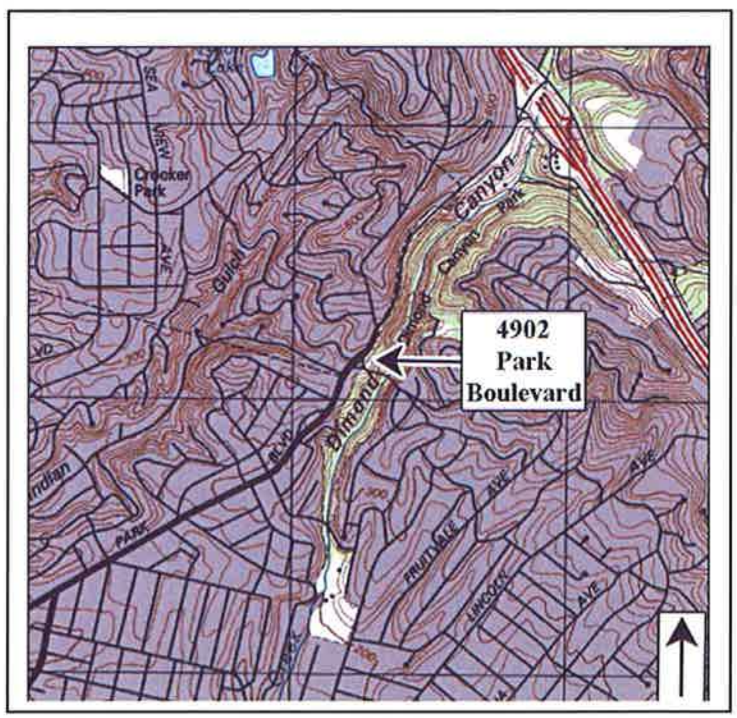
***B12. References:** See Footnotes

B13. Remarks:

***B14. Evaluator:** Shawn Riem

***Date of Evaluation:** February 2008

(This space reserved for official comments.)



P3a. Description (continued):

The stairway to the main floor has stucco sides with concrete steps, black metal railing and leads to an arched covered porch where two wood, vertical panel front doors face each other. The fenestration on the main floor includes one arched, double-hung window topped by an arched fixed pane, and at least four modern sliding dual-pane windows with screens over one panel, each. The second story contains a steep pitched, jerkin head gable dormer. The modern dormer window is comprised of sliding sash with simulated four-over-three light glazing and inset decorative muntins. A mesh screen covers one panel of window. The second window on the parapet gable is also a sliding sash window with simulated six-over-four light glazing and decorative muntins. A screen covers one panel on this window as well. A decorative vent is located at the peak of the parapet. The steeply pitched roof is clad in composition shingle and contains a stucco-clad chimney where the perpendicular ridges meet.

The second building is a two story duplex with a slight T-shaped footprint and two-gable facade, and is in the same minimal Tudor Revival Style as the first building. The ground floor or basement is comprised of a two car garage with brick support pillars and wood garage doors. A narrow deck walkway with black metal railing runs from the south residence around the south side of the building, and becomes a larger wood deck on the first floor of the south side of the house. The building's west-facing facade has a plain gable that is the same height as the roof, while a second, brick-clad gable provides a focal point and entryway to the front doors of the residence. A brick stairway leads to a covered porch, where two doors face each other. One-over-three wood-framed, arch windows are set into each side of the smaller brick gable. A small decorative vent is situated at the peak of the brick gable. The windows appear original with arched or square wood framing and two-over-three lights. The second story has one arched dormer containing a wood-framed casement window with two-over-three glazing. The steeply pitched, composite-shingle roof has a small stucco-clad chimney located on the ridge.

The third building, numbered 4902 Park Boulevard, was designed in a modernistic style, although decorative red brick and the paint scheme match its Tudor Revival neighbors. The generally rectangular footprint has two step-backs on the northwest corner. Decorative, black metal railings frame the red brick stairway which leads to the front door located midway between the first and second floors. The two-story, single residence has modern double-paned fenestration with painted wood framing and sliding glass glazing on all sides of the building. A large picture window above the garage on the northeast facade has a central fixed and lower pane with casement side panes covered by screens. The stucco exterior walls are accented by brick trimming around the porch and two street-level garage doors, as well as under the picture frame window on the northwest facade. This modern picture window consists of one large fixed central pane with casement side panes covered with screens. The low-pitched, hipped composite shingle roof has one brick chimney on the northeast end.

B10. Significance (continued):

The Area of Potential Effects (APE) of the Leimert Boulevard Bridge Project is located in what is known as the Oakmore Neighborhood near the central-eastern area of the City of Oakland adjacent to the City of Piedmont, on land that was part of the Peralta Rancho. The Glenview district is located opposite Oakmore Highlands on the west side of Leimert Bridge and runs along Park Boulevard. The district developed very slowly in the early twentieth century and most of its homes were located near Park Boulevard. Between 1915 and 1941, Glenview, like Oakmore Highlands, experienced a housing boom. A brief interruption in building activity during the early years of the Great Depression gave way to massive building in the late 1930s and 1940s.[1] The residence of 4902 Park Boulevard is an example of Glenview's later development in the early 1940s.

Evaluation

[1] United States Geological Service Map (1915; 1941).

To be listed on the National Register, a property must not only be shown to be significant under the National Register criteria, but it must also have integrity. Integrity is defined by the National Register as the ability of a property to convey its significance. The National Register criteria recognize seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The buildings at 4902 Park Boulevard retain their integrity of location, design, setting, feeling and association; however, they have lost some integrity of materials and workmanship. The buildings have been modified with replacement windows and roofing materials and a third, modern residence has been constructed.

A property might be found eligible for the National Register under Criterion A/1 if it is associated with events that have made a significant contribution to the broad patterns of our history. The property at 4902 Park Boulevard does not appear to be associated with any events significant to national, state or local history, and therefore it is not eligible under Criterion A/1.

Research conducted on the residence did not did not indicate that the building is associated with the lives of anyone significant to local, state, or national history and therefore, the building is not eligible under Criterion B/2.

The property might also be found eligible for the National Register under Criterion C if it embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master. The Tudor style became popular in the late 19^{th} century and is usually dominated by a prominent cross gabled, steeply pitched roof and arched entries.[2] The residences at 4902 Park Boulevard are modest examples of the Tudor Revival style, seen in the steeply sloping front gable, arched entry, and jerkin head gable dormer. The architectural style is common to the area and period, and while prominent architects Miller & Warnecke are known to have designed Tudor Revival homes in the area, building permits for 4902 Park Boulevard do not indicate that Miller & Warnecke designed this residence. The addition of the third, modernistic building alters the overall aesthetics of the other two Tudor Revival residences. Therefore, the property is not eligible under Criterion C/3.

Finally, in rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies (Criterion D/4); however, the residence at 1707 Clemens Road does not appear to be a principal source of important information in this regard.

[2] Virginia & Lee McAlester, *A Field Guide to American Houses*, (New York: Alfred A. Knopf, 2004), 355-357.

 ***Resource Name or #** (Assigned by recorder) Map Reference # 4
***Recorded by** Shawn Riem, Marta Knight ***Date** December 26, 2007 ☒ Continuation ☐ Update

Photographs (cont):

Photograph 2, north building. Camera facing north.

Photograph 3, west building. Camera facing east.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # ______
HRI # ______
Trinomial ______

 ***Resource Name or #** (Assigned by recorder) Map Reference # 4
***Recorded by** Shawn Riem, Marta Knight *Date December 26, 2007 ☒ Continuation ☐ Update

Photographs (cont):

Photograph 4, west and south buildings. Camera facing northeast.

Photograph 5, south building. Camera facing north.

Appendix C

Letters to Interested Parties

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA, SUITE 4314 • OAKLAND, CALIFORNIA 94612-2032

Community and Economic Development Agency (CEDA) (510) 238-3171

Design & Construction Services Department FAX (510) 238-6412

TDD (510) 238-3254

January 23, 2008

Oakland Heritage Alliance
446 17th Street, Suite 301
Oakland, CA 94612
Attn: Ms. Naomi Schiff

Alameda County Historical Society
484 Lake Park Avenue
Oakland, CA 94610
Attn: Ms. Helen Moore

RE: City of Oakland Bridge Seismic Retrofit Projects

Dear Naomi and Helen:

The City of Oakland is in the process of preparing the construction documents for the seismic retrofit of six City-owned bridges. These bridges are listed below and shown on the attached project vicinity map:

1) Park Blvd Viaducts 1, 2, 3 (bridges # 33C-0178, 0179, 0180)
2) Hegenberger Rd. Overhead (bridge # 33C-0202)
3) 23rd Ave. Overhead (bridge # 33C-0148)
4) Campus Dr. Bridge over Tributary to Lion Creek (bridge # 33C-0238)
5) Coliseum Way Bridge over Damon Slough (bridge # 33C-0253)
6) Leimert Blvd. Bridge over Sausal Creek (bridge # 33C-0215)

Caltrans, acting as the lead agency under the delegated authority of the Federal Highway Administration (FHWA), is providing the project oversight as federal funds are involved. Therefore, the cultural resources effort must follow the requirements of Section 106 of the Historic Preservation Act. In partial fulfillment of these requirements, the City of Oakland is seeking public input regarding the potential for historic properties within the project area to be affected by project activities.

The construction activities will require ground disturbance in all six bridge areas. At all bridge areas, proposed construction is limited to existing public right-of-way; however, temporary construction easements (TCEs) will be needed for two bridges, the 23rd Avenue Overhead and the Campus Drive Bridge. The proposed construction on each bridge is as follows:

1) Park Boulevard Viaducts: This project involves the seismic retrofit of three viaducts on a 1,125-foot segment of Park Boulevard. Viaducts 1, 2, and 3 are approximately 342 feet, 206 feet, and 162 feet long, respectively. The decks of the viaducts are supported by bents. Each bent consists of at least two columns holding up one beam. The viaduct deck sits on the beam. The seismic retrofit for each viaduct would require construction of transverse concrete infill walls between the columns of a bent and longitudinal infill walls between the columns of two bents, excavation around columns to strengthen their footings, and reinforcement of joints of structural members of the viaducts. This work is assumed to result in surface disturbance of the entire area beneath each viaduct and an area about 30 feet downslope of the viaducts.

Because of the steep terrain, it was determined that pioneering a trail from Park Boulevard down to the base of the viaduct bents would be difficult and cause substantial slope damage. Therefore, construction equipment and materials would be lowered to the ground by a crane on the decks of the viaducts.

2) Hegenberger Road Overhead Bridge: The Hegenberger Road Overhead Bridge is supported by four piers. The seismic retrofit of the bridge would require construction of concrete pedestals on the existing abutments at either end of the bridge, excavation around two of the four piers supporting the bridge to strengthen their footings, excavation of the footing of the other two piers to add structural concrete to the columns, construction of concrete infill walls between the pier columns, strengthening of struts between the bridge deck and the piers, and addition of restraints to hinge points on the bridge deck. This work is assumed to result in surface disturbance of the entire area beneath the bridge outside of the existing BART and Union Pacific Railroad tracks and paved streets (e.g., San Leandro Street and Snell Street) that the bridge spans. Surface disturbance would also occur in a laydown area south of San Leandro Street on unpaved City of Oakland property.

3) 23rd Avenue Overhead Bridge: The 23rd Avenue Overhead Bridge is supported by five bents spaced along the length of the bridge. A bent is a structural engineering term for a beam supported by columns. Each bent consists of at least two columns holding up one beam. The deck of the bridge sits on the beam.

The seismic retrofit of the 23rd Avenue overhead bridge would require excavation around the existing bents to strengthen the bent footings, construction of infill walls between the columns of the bents at either end of the bridge, expansion of the columns of the other three bents, and addition of restraints to the two hinge connections on the bridge deck. This work is assumed to result in surface disturbance of the entire area beneath the bridge outside of the existing Union Pacific Railroad tracks that the bridge spans. Surface disturbance would also occur in a laydown area at the north end of the bridge on unpaved City of Oakland property between East 12th Street and the Union Pacific Railroad tracks. An unpaved area adjacent to the northern portion of this laydown site would also be disturbed from transporting materials to and from the laydown site and for accessing the two bents at the northern end of the bridge.

4) Campus Drive Bridge over Tributary to Lion Creek (Tributary to Lion Creek Bridge): The Campus Drive Bridge across a tributary to Lion Creek is supported by four bents. A bent is a structural engineering term for a beam supported by columns. Each bent on the Campus Drive Bridge consists of two columns holding up one beam except for Bent 5 which has only one column. Precast, prestressed concrete girders supporting the deck of the bridge sit on the bent beams. The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them, strengthening the bridge abutments with a concrete beam supporting the bridge deck girders, and strengthening the caps of the bent columns where they attach to the bent beams. It is expected that this work would disturb the entire area under the bridge.

Because of the steep terrain, it was determined that pioneering a trail from Campus Drive down to the base of the bridge bents would be difficult and cause substantial slope damage. Therefore, construction equipment and materials would be lowered over the side of the bridge to the ground. It is estimated that construction laydown and staging could disturb an area approximately 30 feet on either side of the bridge.

5) Coliseum Way Bridge over Damon Slough (Damon Slough Bridge): The seismic retrofit of the Coliseum Way Bridge across Damon Slough would require installation of three new bents supporting the bridge deck, strengthening of the abutment at either end of the bridge between the shore and the bridge structure, and structural reinforcement of the bridge deck girders. Each new bent would be supported by 5 pilings driven from an opening in the top of the bridge deck to a depth of about 100 feet. These pilings would consist of steel pipe 36 inches in diameter. After the piles are in place, they would be filled with concrete. The existing concrete approach slabs at the ends of the bridge would be removed and 5 steel piles 24 inches in diameter would be driven to a depth of about 100 feet at the north end of the bridge and 88 feet at the south end of the bridge to strengthen the bridge abutments. The piles would be filled with concrete after they are in place and new concrete approach slabs would be installed.

The piles would be driven with a hammer. Because of the nature of the soils under the bridge, vibrating the piles into place could result in soil liquefaction. After the piles are driven into place, the soil from the inside of the pipe would be cored out onto the bridge deck where it would be transferred to dump trucks for off-site disposal at an approved landfill.

Project construction would disturb soils about 20 feet inland from the banks of Damon Slough at either end of the bridge for installation of the piles that will strengthen the abutments and installation of new approach slabs. A laydown area for construction equipment and materials would also be located along the north side of Damon Slough immediately west of the bridge. This area is owned by Alameda County.

6) Leimert Boulevard Bridge over Sausal Creek (Sausal Creek Bridge): The Leimert Boulevard Bridge across Sausal Creek is supported by a concrete arch and 17 bents. A bent is a structural engineering term for a beam supported by columns. Each bent on the bridge consists of two columns holding up one beam. The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them and adding a concrete brace between Bents 6 and 14 and the bridge arch, and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns would also be removed as part of this project. It is expected that this work would disturb the entire area under the bridge. Construction equipment and materials would be lowered over the side of the bridge to the ground. It is estimated that construction laydown, staging, and temporary wooden platforms for construction equipment could disturb an area approximately 30 feet on either side of the bridge.

JRP Historical Consulting firm has been retained by the City to study the historic/architectural and engineering resources in the proposed project Area of Potential Effect to determine if any further buildings, structures, objects, sites, or districts are potentially eligible for the National Register of Historic Places or the California Register of Historical Resources. The firm has reviewed national, state, and local historic properties inventories, and its staff is currently working on evaluating historic architectural resources for this project. If you or your organization has any concerns regarding specific historic resources within the project area, please respond in writing citing your concerns before February 15, 2008.

If you have any questions regarding these projects or require additional information, please contact me at 510-238-6605 or by email at nzrabahat@oaklandnet.com.

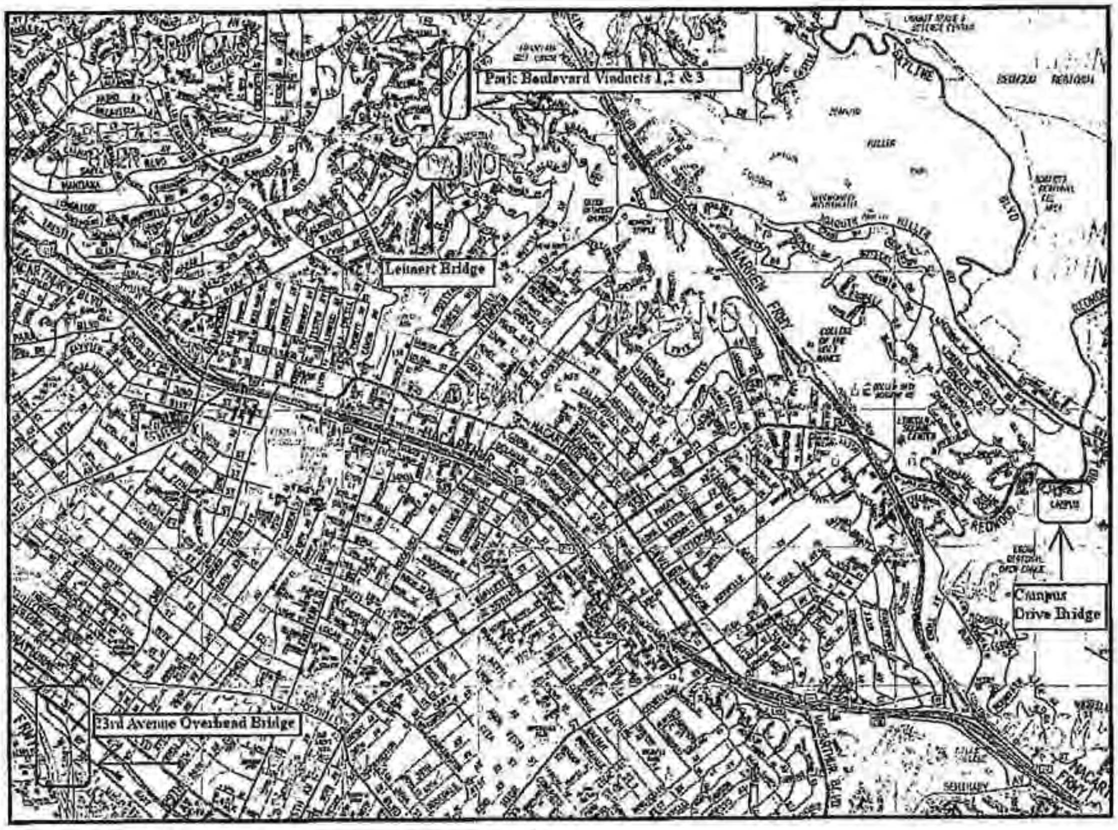
Thank you,

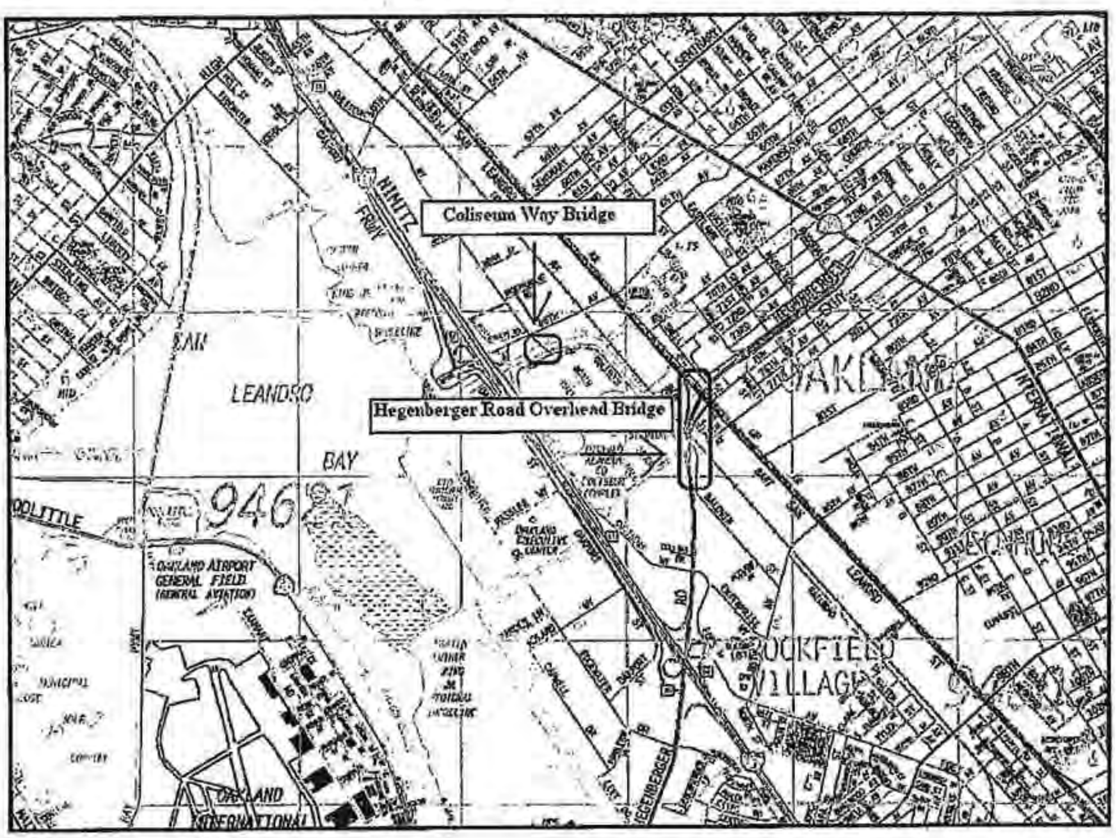
Nader Rabahat
Project Manager

Attachment

cc: Roland Nimis, Caltrans Local Assistance
Tom Baily, URS Corporation

Project Vicinity Map: project areas are circled, see arrows for project locations.





CITY OF OAKLAND

Community & Economic Development Agency
Design & Construction Services Dept.

Memorandum

To: Distribution List

From: Nader Rabahat, Engineering Design Division

Date: January 23, 2008

Re: City of Oakland Bridge Seismic Retrofit Projects

We are in the process of preparing the construction documents for the seismic retrofit of six City-owned bridges. These bridges are listed below and shown on the attached project vicinity map:

1) Park Blvd Viaducts 1, 2, 3 (bridges # 33C-0178, 0179, 0180)
2) Hegenberger Rd. Overhead (bridge # 33C-0202)
3) 23rd Ave. Overhead (bridge # 33C-0148)
4) Campus Dr. Bridge over Tributary to Lion Creek (bridge # 33C-0238)
5) Coliseum Way Bridge over Damon Slough (bridge # 33C-0253)
6) Leimert Blvd. Bridge over Sausal Creek (bridge # 33C-0215)

Caltrans, acting as the lead agency under the delegated authority of the Federal Highway Administration (FHWA), is providing the project oversight as federal funds are involved. Therefore, the cultural resources effort must follow the requirements of Section 106 of the Historic Preservation Act. In partial fulfillment of these requirements, we are seeking public input regarding the potential for historic properties within the project area to be affected by project activities. Similar letter has been sent to Oakland Heritage Alliance and Alameda County Historic Society for their input.

The construction activities will require ground disturbance in all six bridge areas. At all bridge areas, proposed construction is limited to existing public right-of-way; however, temporary construction easements (TCEs) will be needed for two bridges, the 23rd Avenue Overhead and the Campus Drive Bridge. The proposed construction on each bridge is as follows:

1) Park Boulevard Viaducts: This project involves the seismic retrofit of three viaducts on a 1,125-foot segment of Park Boulevard. Viaducts 1, 2, and 3 are approximately 342 feet, 206 feet, and 162 feet long, respectively. The decks of the viaducts are supported by bents. Each bent consists of at least two columns holding up one beam. The viaduct deck sits on the beam. The seismic retrofit for each viaduct would require construction of transverse concrete infill walls between the columns of a bent and longitudinal infill walls between the columns of two bents, excavation around columns to strengthen their footings, and reinforcement of joints of structural members of the viaducts. This work is assumed to result in surface disturbance of the entire area beneath each viaduct and an area about 30 feet downslope of the viaducts.

Because of the steep terrain, it was determined that pioneering a trail from Park Boulevard down to the base of the viaduct bents would be difficult and cause substantial slope damage. Therefore, construction equipment and materials would be lowered to the ground by a crane on the decks of the viaducts.

2) Hegenberger Road Overhead Bridge: The Hegenberger Road Overhead Bridge is supported by four piers. The seismic retrofit of the bridge would require construction of concrete pedestals on the existing abutments at either end of the bridge, excavation around two of the four piers supporting the bridge to strengthen their footings, excavation of the footing of the other two piers to add structural concrete to the columns, construction of concrete infill walls between the pier columns, strengthening of struts between the bridge deck and the piers, and addition of restraints to hinge points on the bridge deck. This work is assumed to result in surface disturbance of the entire area beneath the bridge outside of the existing BART and Union Pacific Railroad tracks and paved streets (e.g., San Leandro Street and Snell Street) that the bridge spans. Surface disturbance would also occur in a laydown area south of San Leandro Street on unpaved City of Oakland property.

3) 23rd Avenue Overhead Bridge: The 23rd Avenue Overhead Bridge is supported by five bents spaced along the length of the bridge. A bent is a structural engineering term for a beam supported by columns. Each bent consists of at least two columns holding up one beam. The deck of the bridge sits on the beam.

The seismic retrofit of the 23rd Avenue overhead bridge would require excavation around the existing bents to strengthen the bent footings, construction of infill walls between the columns of the bents at either end of the bridge, expansion of the columns of the other three bents, and addition of restraints to the two hinge connections on the bridge deck. This work is assumed to result in surface disturbance of the entire area beneath the bridge outside of the existing Union Pacific Railroad tracks that the bridge spans. Surface disturbance would also occur in a laydown area at the north end of the bridge on unpaved City of Oakland property between East 12th Street and the Union Pacific Railroad tracks. An unpaved area adjacent to the northern portion of this laydown site would also be disturbed from transporting materials to and from the laydown site and for accessing the two bents at the northern end of the bridge.

4) Campus Drive Bridge over Tributary to Lion Creek (Tributary to Lion Creek Bridge): The Campus Drive Bridge across a tributary to Lion Creek is supported by four bents. A bent is a structural engineering term for a beam supported by columns. Each bent on the Campus Drive Bridge consists of two columns holding up one beam except for Bent 5 which has only one column. Precast, prestressed concrete girders supporting the deck of the bridge sit on the bent beams. The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them, strengthening the bridge abutments with a concrete beam supporting the bridge deck girders, and strengthening the caps of the bent columns where they attach to the bent beams. It is expected that this work would disturb the entire area under the bridge.

Because of the steep terrain, it was determined that pioneering a trail from Campus Drive down to the base of the bridge bents would be difficult and cause substantial slope damage. Therefore, construction equipment and materials would be lowered over the side of the bridge to the ground. It is estimated that construction laydown and staging could disturb an area approximately 30 feet on either side of the bridge.

5) Coliseum Way Bridge over Damon Slough (Damon Slough Bridge): The seismic retrofit of the Coliseum Way Bridge across Damon Slough would require installation of three new bents supporting the bridge deck, strengthening of the abutment at either end of the bridge between the shore and the bridge structure, and structural reinforcement of the bridge deck girders. Each new bent would be supported by 5 pilings driven from an opening in the top of the bridge deck to a depth of about 100 feet. These pilings would consist of steel pipe 36 inches in diameter. After the piles are in place, they would be filled with concrete. The existing concrete approach slabs at the ends of the bridge would be removed and 5 steel piles 24 inches in diameter would be driven to a depth of about 100 feet at the north end of the bridge and 88 feet at the south end of the bridge to strengthen the bridge abutments. The piles would be filled with concrete after they are in place and new concrete approach slabs would be installed.

The piles would be driven with a hammer. Because of the nature of the soils under the bridge, vibrating the piles into place could result in soil liquefaction. After the piles are driven into place, the soil from the inside of the pipe would be cored out onto the bridge deck where it would be transferred to dump trucks for off-site disposal at an approved landfill.

Project construction would disturb soils about 20 feet inland from the banks of Damon Slough at either end of the bridge for installation of the piles that will strengthen the abutments and installation of new approach slabs. A laydown area for construction equipment and materials would also be located along the north side of Damon Slough immediately west of the bridge. This area is owned by Alameda County.

6) Leimert Boulevard Bridge over Sausal Creek (Sausal Creek Bridge): The Leimert Boulevard Bridge across Sausal Creek is supported by a concrete arch and 17 bents. A bent is a structural engineering term for a beam supported by columns. Each bent on the bridge consists of two columns holding up one beam. The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them and adding a concrete brace between Bents 6 and 14 and the bridge arch, and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns would also be removed as part of this project. It is expected that this work would disturb the entire area under the bridge. Construction equipment and materials would be lowered over the side of the bridge to the ground. It is estimated that construction laydown, staging, and temporary wooden platforms for construction equipment could disturb an area approximately 30 feet on either side of the bridge.

JRP Historical Consulting firm has been retained by the City to study the historic/architectural and engineering resources in the proposed project Area of Potential Effect to determine if any further buildings, structures, objects, sites, or districts are potentially eligible for the National Register of Historic Places or the California Register of Historical Resources. The firm has reviewed national, state, and local historic properties inventories, and its staff is currently working on evaluating historic architectural resources for this project. If you have any concerns regarding specific historic resources within the project area, please respond in writing citing your concerns before February 15, 2008.

If you have any questions regarding these projects or require additional information, please contact me at x6605 or by email at nzrabahat@oaklandnet.com.

Thank you,

Nader Rabahat
Project Manager

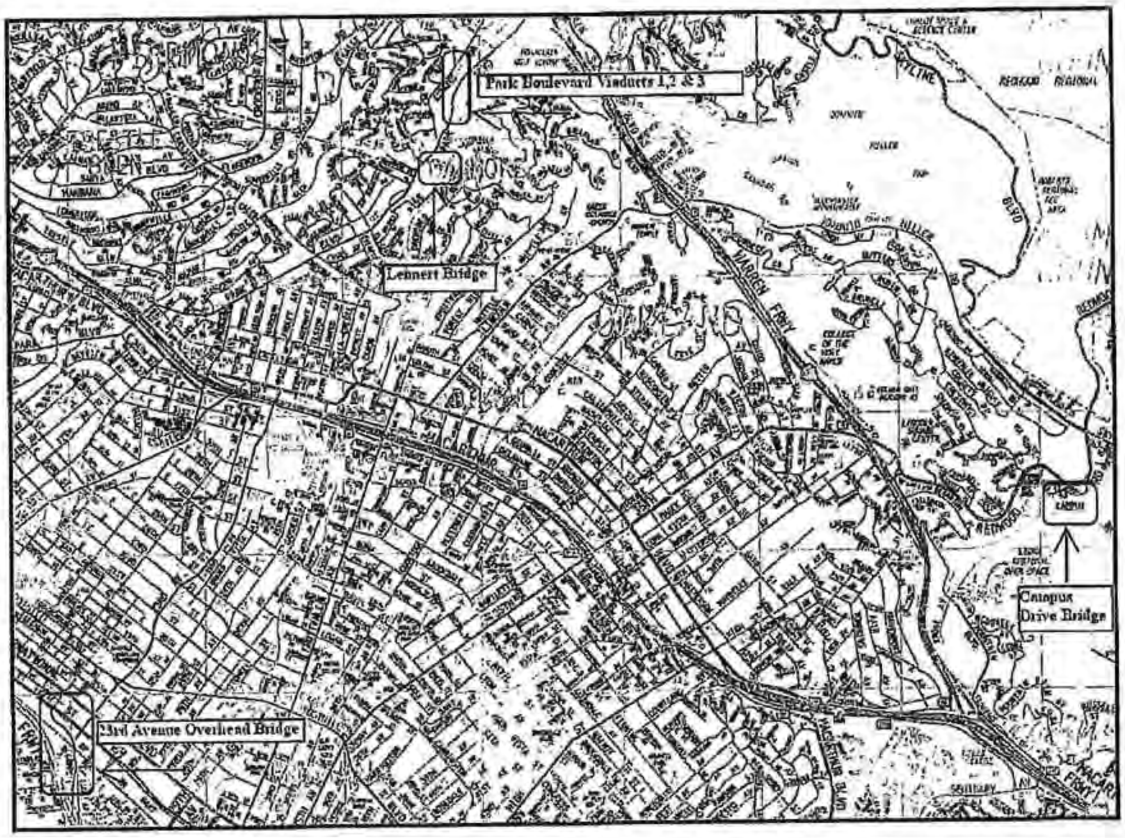
Distribution:

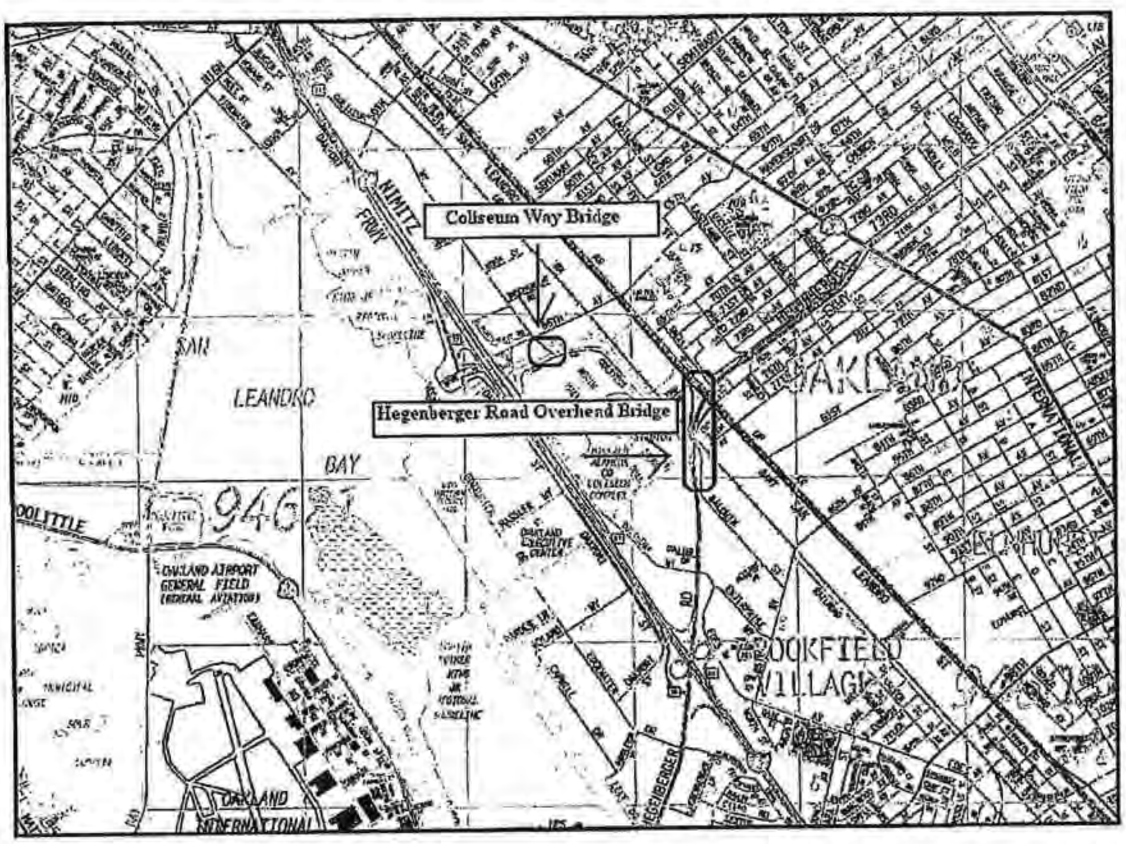
Joann Pavlinec, Landmarks Preservation Advisory Board, City of Oakland
Betty Marvin, Oakland Cultural Heritage, City of Oakland

Attachment

cc: Roland Nimis, Caltrans Local Assistance
Tom Baily, URS Corporation

Project Vicinity Map: project areas are circled, see arrows for project locations.





Appendix D

Caltrans Historic Bridge Inventory

Bridge No.	County	Name	Facility	City	Year Blt	NR Status
33C0207	Alameda	ESTUDILLO CANAL DITCH	WICKES AVE	San Leandro	1972	5
33C0208	Alameda	ESTUDILLO CANAL	FARNSWORTH ST	San Leandro	1955	5
33C0209	Alameda	LAGUNA CK(FLD CNTRL L E)	GRIMMER BLVD	Fremont	1964	5
33C0210	Alameda	TENNYSON FLOOD CNTRL CHN	FOLSOM AVE	Hayward	1960	5
33C0211	Alameda	WHITMAN STREET SEP	WHITMAN ST	Hayward	1970	5
33C0212	Alameda	ORCHARD AVE UP	ORCHARD AVE	Hayward	1970	5
33C0213	Alameda	BARTD	ORCHARD AVE	Hayward	1970	5
33C0214	Alameda	NO NAME CREEK	HARDER RD	Hayward	1955	5
33C0215	Alameda	SAUSAL CREEK	LEIMERT BLVD	Oakland	1930	2
33C0216	Alameda	LION CREEK	SANLEANDRO,RR,BART	Oakland	1940	5
33C0217	Alameda	BARTD AERIAL	105TH AVE	Oakland	1968	5
33C0218	Alameda	SAN LEANDRO CREEK	98TH AVE	Oakland	1939	5
33C0219	Alameda	WHITMAN STREET SEP	WHITMAN ST	Hayward	1970	5
33C0220	Alameda	HARDER ROAD UP	HARDER ROAD	Hayward	1970	5
33C0221	Alameda	BARTD	HARDER RD	Hayward	1970	5
33C0222	Alameda	ALAMEDA CREEK	WHIPPLE RD	Union City	1977	5
33C0223	Alameda	WHIPPLE RD OH (BARTD)	WHIPPLE ROAD	Union City	1970	5
33C0224	Alameda	LAGUNA CREEK	BLACOW RD	Fremont	1955	5
33C0225	Alameda	PASEO PADRE PARKWAY UP	PASEO PADRE PKWY	Fremont	1975	5
33C0228	Alameda	SINBAD CREEK	KILKARE RD		1950	5
33C0229	Alameda	ALAMEDA LAKE	GRAND ST	Alameda	1958	5
33C0230	Alameda	BALLENA BAY	BALLENA BLVD	Alameda	1966	5
33C0231	Alameda	SAN LORENZO CREEK	HAZEL AVE	Hayward	1925	5
33C0232	Alameda	GREENVILLE ROAD UP	GREENVILLE ROAD		1930	4
33C0235	Alameda	ASHLAND AVE UP	ASHLAND AVE		1960	5
33C0236	Alameda	BARTD	ASHLAND AVE		1960	5
33C0237	Alameda	ELGIN STREET OC	ELGIN ST		1960	5
33C0238	Alameda	LION CREEK TRIBUTARY	CAMPUS DR	Oakland	1970	5
33C0239	Alameda	ARROYO DEL VALLE	BERNAL AVE	Pleasanton	1983	5
33C0240	Alameda	ARROYO SECO	GREENVILLE RD		1962	5
33C0241	Alameda	SOUTH BAY AQUEDUCT	GREENVILLE RD		1962	5
33C0242	Alameda	LAGUNA CREEK	DELEWARE ST	Fremont	1954	5
33C0243	Alameda	SOUTH BAY AQUEDUCT	LUPIN RD		1962	5
33C0244	Alameda	ALAMEDA CREEK BRANCH	HUNTWOOD AVE	Hayward	1980	5
33C0245	Alameda	PALOMARES CREEK	PALOMARES RD		1962	5
33C0246	Alameda	PALOMARES CREEK	PALOMARES RD		1970	5
33C0247	Alameda	PALOMARES CREEK	PALOMARES RD		1973	5
33C0248	Alameda	CROW CREEK	COLDWATER DR		1970	5
33C0249	Alameda	BARTD AERIAL	75TH AVE	Oakland	1968	5

Appendix E

Evaluation Report for Bridge 33C-0215

Inventory of Concrete Arch Bridges

Bridge #: 33C0215 **District** 4

Road: LEIMERT BLVD **Route:** **PM:**

Feature Intersected: SAUSAL CREEK

City: Oakland **County:** Alameda

Other Location Info: 0.1 Mile East of Park Blvd.

Year Built: 1926

Year Altered:

Owner: County

Designer: George A. Posey, Alameda County Survey

Contractor: Park Boulevard Company

Evaluation Summary (NRHP Eligibility)

Previous: 5 Not eligible

Update: 2 Eligible

Description: A reinforced concrete, open spandrel, fixed, parabolic bridge with a single arch span measuring 173 feet long. Total bridge length is 357 feet and includes two reinforced concrete T-Beam approach spans supported by reinfoced concrete columns. This two lane bridge is 34.3 feet wide and has a cantilevered walkway. Alterations include addition of concrete barrier railings topped with a chain link barrier.

Surveyor: CDM / JMC **Survey Date:** 3/27/2003

Points	1986		2003	
Date of Construction	8	1926 - 1930 period	8	1926-1930 period
Designer Significance	0	Not significant or not known	0	Not significant or not known
Length:				
Max. Span Length	4	150-174	4	150-174
Total Length	2	250-499	2	250-499
Technical Merit	5	Fair	5	Fair
Special Features:				
Lanterns	0	None	0	None
Railings	0	None	0	None
Pylons	0	None	0	None
Spandrel Treatment	0	None	0	None
Distinctive Texture	0	None	0	None
Pedestrian Amenities	0	None	0	None
Aesthetics				
Site	3	Good	3	Good
Structural	3	Good	3	Good
Integrity:				
Location/Setting	0	Excellent	0	Excellent
Design/Material	-3	Good	-3	Good
Feeling/Association	0	Excellent	0	Excellent
Transport. / Hist.Assoc.	0	None / unknown	N/A	
Totals	22		22	

Criterion A Evaluation:
See Historic Evaluation.

Notes:
Year built changed from 1930 to 1926 per plaque.

This bridge is designated as an Oakland City Landmark.

Historic Evaluation

Bridge 33C0215 on Leimert Boulevard over Sausal Creek in the City of Oakland, appears to meet the criteria for listing in the National Register because it is significant under both Criterion A and C and it retains historic integrity.

In the 1920s there was increasing demand for residential development in the outlying areas of Oakland. Developers at the time designed subdivisions and built various structural or street features, such as neighborhood entry gates and landscaped traffic islands, as a way to encourage parcel sales and successful development. Demand for new housing was sufficient that the Park Boulevard Company, an association of land developers headed by realtor Henry Leimert, set out to develop the area that became Oakmore, which until that time had been undeveloped and where redwoods were cleared and floated down creeks to Lake Merritt. The plans for the subdivision, which the developers called Oakmore Highlands, required a bridge to be built over Sausal Creek in order for future residents to reach the area. Without a bridge, the relatively deep 325 foot canyon served as a natural barrier to residential development. The Park Boulevard Company hired Alameda County Surveyor, George A. Posey to design the fixed arch span that was to carry Park Boulevard (currently Leimert Boulevard) over the Creek and into the planned residential areas and small commercial area. The bridge was constructed to carry both an extension of the Park Boulevard streetcar line as well as automobile traffic. Immediately following the completion of the bridge in 1926, the company advertised for the sale of lots in Oakmore Highlands, specifically advertising the accessibility of the new subdivision due to the construction of the Leimert Bridge. The subdivision was made up of four tracts totaling 440 lots. Most of the lots were zoned for single family residences with some, especially in the central area, being zoned for multi-family and commercial use. Beginning with the grand opening of the subdivision in 1926, it was developed in sections with new sections being offered for sale only after adjoining sections were sold. By the mid 1930s, Oakmore Highlands was called “one of the bright spots in metropolitan Oakland’s real estate activity,” as lots continued to sell and the subdivision saw continued construction activity. The majority of the homes in the subdivision were constructed in the late 1920s through the late 1930s in a range of architectural styles including Mediterranean, Tudor, Monterey, Rustic, and Moderne.

Bridge 33C0215 is significant under Criterion A, at the local level, for its association with residential development of the Oakland Hills. The bridge is important within this context because it was constructed specifically to permit development of the Oakmore subdivision. It is one of the few bridges in the state that exhibits this importance. It was built in response to specific demand of residential development and its construction led directly to the successive development of a previously inaccessible area.

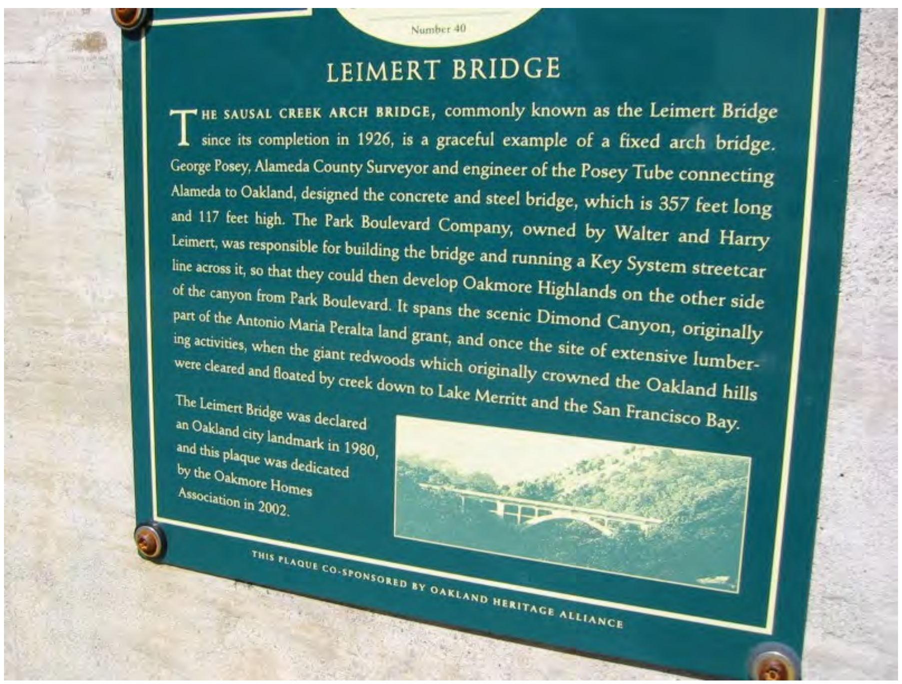
Bridge 33C0215 is significant under Criterion C because it embodies distinctive characteristics of type, period, and method of construction. Its significance is not for its structural engineering achievement, rather, this significance lies in the aesthetic design of the structure and its successful integration with the Oakmore subdivision development. Since this bridge was constructed to be the entrance to the new Oakmore Highlands subdivision, the design was carefully crafted to create the image of the community that the developers were trying to sell to would be home buyers. The sturdy yet graceful structure provided an attractive access to the hills, which had formerly been isolated by Dimond Canyon on the northwest and the bed of the former Palo Seco Creek (currently State Route 13) to the east. The single span open spandrel reinforced concrete arch bridge was designed to create both a literal and figurative gateway to the Oakmore Highlands area, and it corresponds to the period architectural designs used throughout the subdivision.

In addition to its significance, bridge 33C0215 also retains historic integrity that conveys its design significance. The structure is in its original location with it original design, materials, and workmanship intact. One can still ascertain the structure’s integrity of feeling and association.

References: Oakmore History Booklet accessed online on March 23, 2004 at http://www.oakmorehomes.org/Value/ValueHistoryBook.htm; Oakland Historic Landmark documents for the Leimert Bridge, 1980; Map of the County of Alameda, CA., 1927, compiled from Official County and City Records and other Original Sources by American Surveys, 401 Wakefield Bldg., Oakland, CA.

Facing west 03-27-2003

Facing west 03-27-2003



Facing north 03-27-2003

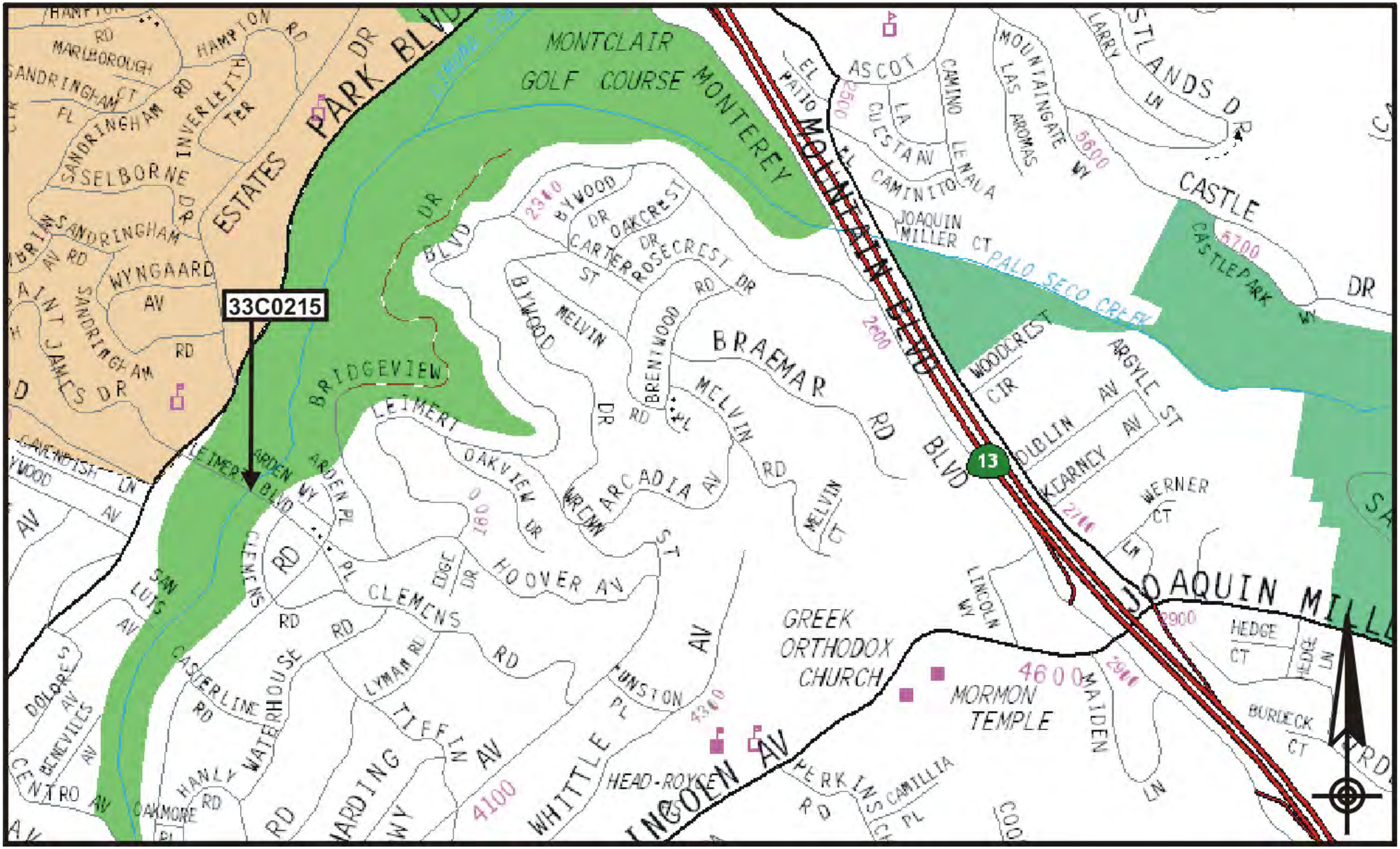
Facing west 03-27-2003

Bridge 33C0215

Facing west 1984

Facing west 1984

Location Map



ATTACHMENT C
ARCHAEOLOGICAL SURVEY REPORT

ARCHAEOLOGICAL SURVEY REPORT

LEIMERT BOULEVARD BRIDGE (33C-0215) RETROFIT PROJECT, ALAMEDA COUNTY, CALIFORNIA

STPLZ-5012 (025)

LEIMERT BOULEVARD, OAKLAND, CALIFORNIA

Prepared for –
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March 2008

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ARCHAEOLOGICAL SURVEY REPORT

LEIMERT BOULEVARD BRIDGE RETROFIT PROJECT, ALAMEDA COUNTY, CALIFORNIA, STPLZ-5012 (025)

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February 2008

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Acronyms

APE	area of potential effects
ASR	Archaeological Survey Report
BP	before present
BART	Bay Area Rapid Transit
Caltrans	California Department of Transportation
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DPR	(California) Department of Parks and Recreation
GIS	Geographic Information System
GLO	General Land Office
HPSR	Historic Properties Survey Report
JRP	JRP Historical Consulting, LLC
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NRHP	National Register of Historic Places
OHP	Office for Historic Preservation
PA	Programmatic Agreement
ROW	Right-of-way

Background research and an archaeological survey were conducted in an effort to identify any archaeological resources that could be potentially affected by the proposed seismic retrofit of the Leimert Boulevard Bridge, City of Oakland, California.

All accessible portions of the archaeological area of potential effects (APE) were subject to intensive pedestrian survey. The field survey was conducted by URS archaeologist, Dean Martorana in January 2008. No cultural resources were identified or recorded.

Background research revealed no previously known cultural resources (both built environment and archaeological resources) within a half-mile of the project. Background research included cultural resources formally recorded on California Department of Parks and Recreation (DPR) site records, as well as informally recorded resources identified by the Northwest Information Center, Sonoma State University.

These sources/agencies were initially consulted as part of the cultural resources compliance process for the project. Applicable information was used in compiling the background data for the project, as documenting in this ASR. This ASR is Attachment C of the Historic Property Survey Report (HPSR).

It is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the Project changes to include areas not previously surveyed.

The project is located in Alameda County, California (Figures 1 and 2). This ASR reports the archaeological survey of the APE that was conducted on January 15, 2008. The archaeological APE includes the area encompassing the bridge itself and the proposed staging areas (Figure 3).

The record search results are included in Appendix A. The Native American consultation is discussed in the ASR, and records of the correspondence are in Appendix B.

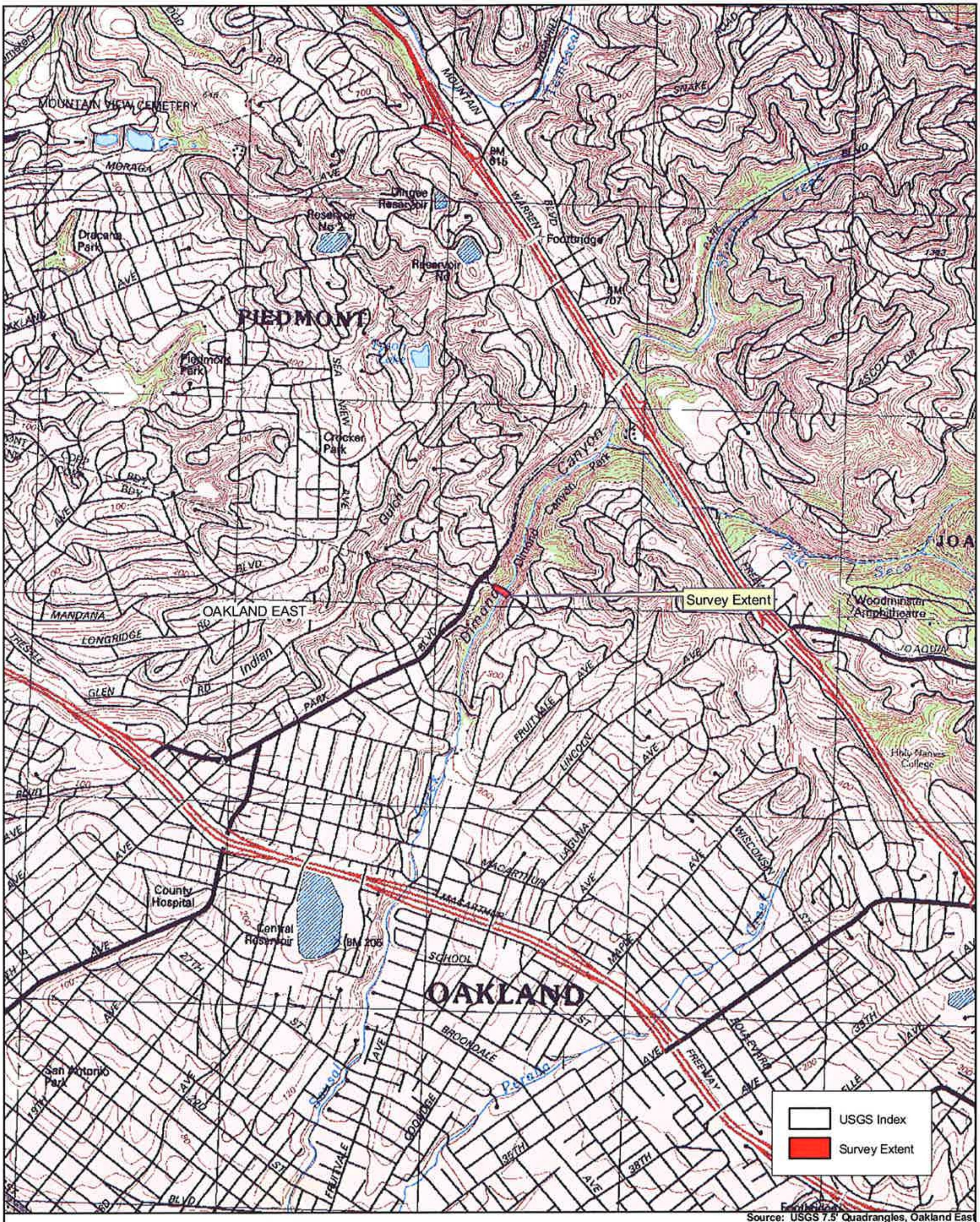
In accordance with Caltrans guidance for an ASR, the following are the names and qualifications of the Project personnel:

- Mr. Dean Martorana holds a Master's degree in Anthropology from California State University, Long Beach. Mr. Martorana served as the Lead Archaeologist on the project. He has seven years experience in archaeology, with four years experience in cultural resources management in Northern California.
- Mr. Brian Hatoff holds a an M.A. in Anthropology and is a Registered Professional Archaeologist. He over 30 years of experience in the management of cultural resources with specialized expertise in the prehistoric archaeology and ecology of California and the Great Basin. Mr. Hatoff served as the Principal Archaeologist for this project and provided peer review of the document.

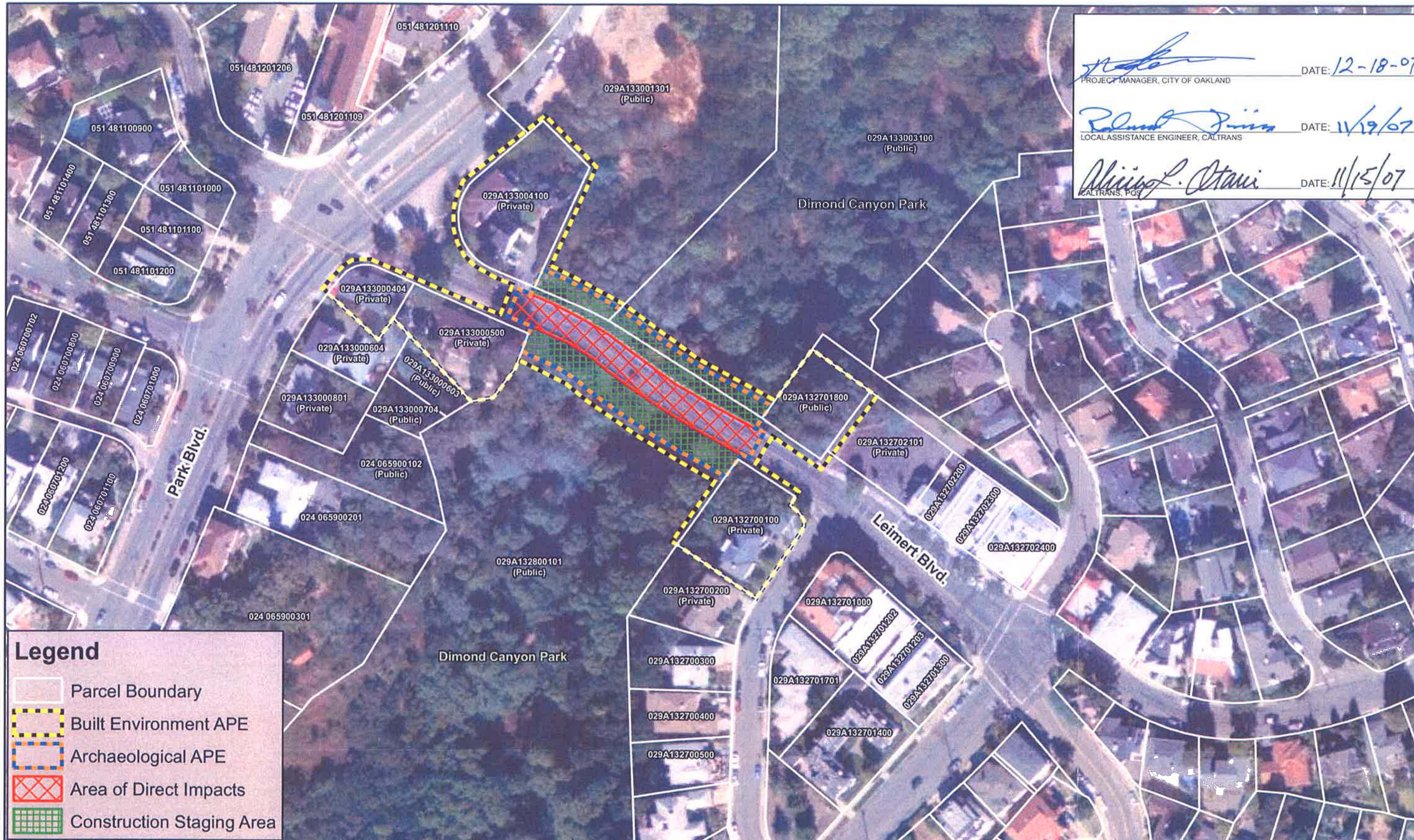
Source: ESRI Online 2007 Street Map

0 10 Miles

Seismic Retrofit of Leimert Boulevard Bridge Number 33C-0215 District 4, Alameda County	Project Vicinity	Figure 1
26815977.00600		January 2008



Seismic Retrofit of Leimert Boulevard Bridge, Number 33C-0215 District 4, Alameda County 26815977.00600	Study Location	Figure 2 January 2008



0 50 100 200 300 400 500 Feet

CITY OF OAKLAND

Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (025)

Area of Potential Effects

URS Corporation L:\Projects\Eight_Bridges_Seismic_Retrofit\MXD\Current Working Documents\Sausal_Creek_Bridge.mxd Date/Time: 5/2/2007 9:26:11 AM Name: cxbento0

3.1 PROJECT LOCATION

The Leimert Boulevard Bridge is located between the Oakmore Heights neighborhood of the City of Oakland and Piedmont in Alameda County. The bridge is within the City of Oakland. The bridge accommodates two-way traffic on Leimert Boulevard and provides access to Park Boulevard to the west and to Clemens Road to the east (Figure 1). The bridge structure traverses Sausal Creek, which flows north - south through Dimond Canyon. The headwaters of Sausal Creek originate in the Oakland Hills and make their way through Dimond Canyon before discharging at Fruitvale Avenue into the tidal channel that separates the island of Alameda from Oakland.

The existing bridge is approximately 360 feet in length, 34 feet wide, and 120 feet in height. Existing 16-inch water and gas mains extend through the length of the bridge. Light standards extend approximately 30 feet above the existing bridge deck.

3.2 PROJECT DESCRIPTION

Currently the Leimert Boulevard Bridge is supported by a concrete arch and 17 bents. A bent is a structural engineering term for a beam supported by columns, and each bent on the Leimert Boulevard Bridge consists of two columns holding up one beam. The seismic retrofit of the Leimert Boulevard Bridge consists of strengthening the bent columns by placing steel casings around them; adding a concrete brace between Bents 6 and 14 and the bridge arch; and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns will be removed as part of this project.

The columns for Bents 2 though 5, 15, and 16 would have full height column casings which would require excavation around the columns. Construction of these casings would require excavation for 4 feet in all directions from the existing columns. The columns are nominally 2.5 by 5 feet. Therefore, the excavations would be 10.5 by 13 feet down to the top of the existing column footings (137 square feet). The excavations would be approximately 2 feet wider than the footings. The depth of excavation would vary from about 2 feet at the south column of Bent 5 to about 10 to 11 feet at the south column of Bent 2, north column of Bent 5, and south column of Bent 16.

Limits of Construction Disturbance

The Leimert Boulevard bridge across Sausal Creek is supported by a concrete arch and 17 bents (Bents 1 through 17 on the attached General Plan sheet). The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them and adding a concrete brace between Bents 6 and 14 and the bridge arch, and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns would also be removed as part of this project. It is expected that this work would disturb the entire area under the bridge. Construction equipment and materials would be lowered over the side of the bridge to the ground. It is estimated that construction laydown, staging, and temporary wooden platforms for construction equipment could disturb an area approximately 30 feet on either side of the bridge. The Area of Potential Effects (APE) map shows the limits of horizontal disturbance for the project.

Limits of Vertical Disturbance

The columns for Bents 2 through 5, 15, and 16 would have full height column casings which would require excavation around the columns. Construction of these casings would require excavation for 4 feet in all directions from the existing columns. It is anticipated the excavations would be 10.5 by 13 feet down to the top of the existing column footings (137 square feet). The excavations would be approximately 2 feet wider than the footings. The depth of excavation would vary from about 2 feet at the south column of Bent 5 to about 10 to 11 feet at the south column of Bent 2, north column of Bent 5, and south column of Bent 16.

3.3 AREA OF POTENTIAL EFFECTS

The horizontal archaeological APE consists of the area that could be directly disturbed by project construction or could be disturbed by staging and storage of construction equipment and materials. The area of direct impact for project construction was assumed to be the area that represents the supports of the bridge and the bridge itself (area shown with red hatching in Figure 3). The area that could be disturbed by construction staging and storage consists of an area 30 feet wide on either side of the bridge (area shown with green hatching in Figure 3).

4.1 NORTHWEST INFORMATION CENTER RECORD SEARCH

A cultural resources records search of pertinent survey and site data at the Northwest Information Center of the California Historical Resources Information System, Sonoma State University, was conducted on February 6, 2002 (File No. 01-1247). The date of the records search is older than would be typically used for establishing a baseline of known cultural resources; however, given the limited levels of new disturbance required for the current project, it was determined that the results of the records search would adequately reflect the level of sensitivity at the project site for the purposes of this document. The information center staff accessed the records for the Oakland East U.S. Geological Survey (USGS) 7.5-minute quadrangles and included the project area along with a quarter-mile radius around each project element. The following references were also reviewed:

- NRHP (2002)
- California Register of Historical Resources (CRHR) (2002)
- Office for Historic Preservation (OHP) Historic Property Directory (2002)
- California State Historical Landmarks (1996 and updates) listing
- California Inventory of Historic Resources (1976 and updates)
- California Points of Historical Interest (1992 and updates) listing

No listings for resources within the archaeological APE and the quarter-mile search radius were found the above resources.

4.2 RESULTS OF RECORD SEARCH

No previously recorded cultural resources were identified in the NWIC records search. One cultural resource survey has been submitted to the NWIC for the project study area.

Young, B.T., and G.R. Miller, *An Archaeological Reconnaissance of Sausal Creek between Leimert and Hyde Streets, City of Oakland,* On file at the Northwest Information Center, Rohnert Park, CA, File No. S-5629, 1982.

No cultural resources were identified as a result of the above studies for the project APE.

4.3 SUMMARY OF NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission was contacted on May 1, 2007 to request a database search for sacred lands or other cultural properties of significance to Native Americans. The records search did not indicate the presence of Native American sacred lands in the project areas. The Commission provided a list of people who may have specific information pertaining to cultural resources in the project areas, and letters were sent to each person on May 9, 2007. Follow up emails were sent to each contact on December 27, 2007. Follow-up emails and phone calls were placed to each contact on December 28, 2007 and January 3, 2007. Mr. Andrew Galvan of the Ohlone Indian Tribe responded on January 3, 2007 and January 17, 2008 and did not have any specific comments on resources in the project area. No further response has been received to date.

4.4 ENVIRONMENT AND GEOMORPHOLOGY

As a means to further elucidate the potential for subsurface resources within the APE, a recent geotechnical boring program was reviewed to help identify any lithostratigraphic evidence of prehistoric landscape use for this area (URS 2008). Typical procedures for logging geologic borings call for identification of unusual inclusions in the geologic strata, such as the presence of layers of shell or charcoal that may indicate a cultural site. The location of these borings and the boring logs are provided in the attached Log of Test Borings sheet. Borings were advanced immediately adjacent to or within the footprint of the areas to be excavated / disturbed by the seismic retrofit project. As shown in the borings, the top 5 to 7 feet of the site consists of sand, clay, and gravel with sandstone bedrock below that level. This site is located in an active fluvial environment in an area of moderate to steep terrain. It is in a geomorphic setting that would be an unlikely location for prehistoric use. In any event, the high-energy fluvial environment would preclude the potential for the presence of in situ, intact cultural deposits. Borings did not encounter any evidence of cultural activity such as lenses of shell or charcoal, and no artifacts were identified in the borings except in the surface fill material. For these reasons, it is unlikely that excavations associated with the project would encounter buried cultural sites and there is no further need for investigation of the vertical APE.

5.1 ETHNOGRAPHY

Prior to Euro-American contact, the land of present-day Alameda County was occupied by the Ohlone (also known as the Costanoans). As with many tribes of California, the ethnic groups recognized by the Ohlone were sets of tribelets that spoke their own language and had a distinct territory. Chochenyo was likely spoken in the East Bay (Levy 1978). Tribelets ranged in size from 40 to 200 members; however, the numbers of Chochenyo speakers reached 2,000 by 1770 (Levy 1978). Each tribelet lived within a circumscribed territory. The territories for each tribelet were usually divided at the tops of ridges or other physiographic features and were only crossed for trading and celebrations.

Despite having a common language base, the tribelets were not bound together in any political sense. Therefore, they did not have a single term or word in their language by which they referred to themselves as a whole. Europeans referred to them as Costanos or "people of the coast" from which the name "Costanoan" was derived (Levy, 1978). The Costanoans or Ohlone inhabited most of the Bay area except the northwestern side of the Bay.

The Costanoans maintained a consistent output of yield from plant and animal foods through many techniques of land management, including the possible use of controlled burning (Williams 2001).

Indeed, the acorn was the most important dietary staple of the Costanoan—specifically the coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) for their prolific acorn production. The acorns were ground to produce a meal that was leached to remove the bitter tannin. Technologically, the Costanoan crafted tule balsa, basketry, lithics such as mortars and metates, and household utensils.

5.2 PREHISTORY

The natural marshland biotic communities along the edges of bays and channels were the principal source for subsistence and other activities from the middle Holocene until the contact period in the San Francisco Bay region. Efforts to reconstruct prehistoric times into broad cultural stages (e.g., Early Period, Middle Period) allows researchers to describe a wide number of sites with similar cultural patterns and components during a given period of time, thereby creating a regional chronology.

Many of the original surveys of archaeological sites in the Bay region were conducted between 1906 and 1908 by N.C. Nelson and yielded the initial documentation of nearly 425 "earth mounds and shell heaps" along the littoral zone of the Bay (Nelson, 1909). From these beginnings, the most notable sites in the Bay region were excavated, such as the Emeryville shellmound (Ala 309), the Ellis Landing Site (CCo-295) in Richmond, and the Fernandez Site (CCo-259) in Rodeo Valley (Moratto, 1984). These dense midden sites are vast accumulations of domestic debris, which have been carbon-14 dated to be between 2,100 and 2,500 years old, but other evidence from around the Bay suggests that human occupation in the region is of greater antiquity, or ±5000 B.C. (Jones, 1992). While many interpretations exist as to the function of the shellmounds, much of the evidence suggests that they served as sociopolitical landmarks on the cultural landscape and perhaps as ceremonial features as well.

For the San Francisco Bay Area, the Early Period, or the so-called "Berkeley Pattern," is characterized by almost exclusive use of cobble mortars and pestles, which is often associated with a heavy reliance on acorns in the economy (Moratto, 1984). This unusually intensive reliance on one foodstuff indicates that, by around 1000 BP, a shift away from the earlier reliance on a broad spectrum of dietary sources to supply demand was needed. The Late Pleistocene/Early Holocene profusion of food availability along lakeshores and estuaries likely led to an overexploitation of the resources, which initially resulted in population increases but may also have forced inhabitants to rely on a readily available yet lower-ranked resource like acorns or seeds (Jones, 1991). Nevertheless, given the burgeoning size of Early Period settlements, the populations were probably denser and more sedentary, yet continued to exploit a diverse resource base—from woodland, grassland, and marshland to bayshore resources throughout the San Francisco Bay Area (King, 1974). Many of the Berkeley traits diffused throughout the region and spread to the interior areas of central California during this time period.

The population increases and larger, more complex settlements that began in the late-Early Period typify the Middle Period (circa 500 BC–AD 1000) (Arnold et al., 2004). The sociopolitical landscape also appears to become more elaborate, with clear differentiations in wealth and evidence of personal aggrandizement. During the Late Period (circa AD 1000–1700), however, new sites start to decline in the record, and the large shellmounds were abandoned. The Late Period also showed population declines and concomitant changes in resource use—likely due to human-caused depletions in some terrestrial food sources during the Middle Period (Broughton, 1994).

5.3 HISTORY*

Oakland, along with the rest of California, was claimed for the Spanish king by explorers from New Spain in 1772. In the early 19th century, the area which later became Oakland (along with most of the East Bay), was granted to Luís María Peralta by the Spanish royal government for his Rancho San Antonio. The grant was confirmed by the successor Mexican republic upon its independence from Spain. The area of the ranch that is today occupied by the downtown and extending over into the adjacent part of Alameda (originally not an island, but a peninsula), included a woodland of oak trees. This area was called *encinal* by the Peraltas, a Spanish word which means "oak grove", the origin of the later city's name. Upon his death in 1842, Peralta divided his land among his four sons. Most of Oakland fell within the shares given to Antonio Maria and Vicente. They would open the land to settlement by American settlers, loggers, European whalers, and fur-traders.

Full-scale settlement and development occurred following California being conquered by the United States during the Mexican-American War, and the California Gold Rush in 1848. The original settlement in what is now the downtown was initially called "Contra Costa" and was included in Contra Costa County before Alameda County was established on March 25, 1853. The California state legislature incorporated the town of Oakland on May 4, 1852.

* A detailed historic context for the project, along with historic themes appropriate for the project area, has been developed in the companion memorandum for this project (JRP 2007). The reader is referred to that companion document for a more detailed discussion of the project area history.

The town and its environs quickly grew with the railroads, becoming a major rail terminus in the late 1860s and 1870s. In 1868, the Central Pacific constructed the Oakland Long Wharf at Oakland Point, the site of today's Port of Oakland. The Long Wharf served as both the terminus of the Transcontinental Railroad as well as the local commuter trains of the Central (later, Southern) Pacific. The Central Pacific also established one of its largest rail yards and servicing facilities in West Oakland which continued to be a major local employer under the Southern Pacific well into the 20th century. The principal depot of the Southern Pacific in Oakland was the 16th Street Station located at 16th and Wood which is currently (2006–7) being partially restored as part of a redevelopment project.

6.1 FIELD METHODS

A pedestrian-level survey of the project APE was conducted on January 15, 2008 by URS Archaeologist, Dean Martorana (see Figures 2 and 3). The existing bridge is constructed over a very steep ravine (around 75 percent slopes) and thus the only areas accessible were just below the arch along the edge of the road platform. The area surrounding the support structures for the bridge have been heavily used by people accessing the creek below or to camp out and thus afforded clear visibility of the surface. Those areas safe to survey were more closely inspected for archaeological deposits.

6.2 FINDINGS AND CONCLUSIONS

No cultural resources were identified as a result of this survey. Borings taken during project design studies did not encounter any evidence of cultural activity such as lenses of shell or charcoal, and no artifacts were identified in the borings except in the surface fill material. For these reasons, it is unlikely that excavations associated with the project would encounter buried cultural sites.

Reasonable means have been used to identify historical properties within the APE of the proposed project, including archival research, review of subsurface conditions and geomorphology, contacts with Native Americans, and a field survey. Due to the extensive modification of the ground surface at the project site and the proposed excavation within artificial fill soils, the probability of encountering subsurface archaeological deposits is considered extremely low.

6.3 UNANTICIPATED DISCOVERY AND/OR CHANGES IN THE PROJECT

If previously unidentified cultural resources are unearthed during construction, it is Caltrans' policy that work be halted in the area until a qualified archaeologist can assess the significance of the find. Additional archaeological survey will be needed if the Project limits area extends beyond the present survey limits. If human remains are encountered during construction, all work in that area must halt and the Alameda County Corner must be contacted pursuant to California Public Resources Code Sections 5097.94, 5097.98, and 5097.99.

Arnold, J.E., M.R. Walsh, and S.E. Hollimon.

2004. *The Archaeology of California,*. Journal of Archaeological Research, Vol. 12, No. 1: 1-73.

Broughton, J. M.

1994. *Declines in mammalian foraging efficiency during the late Holocene, San Francisco Bay, California*, Journal of Anthropological Archaeology 13: 371–401.

Jones, T. L.

1991 *Marine-resource value and the priority of coastal settlement: A California perspective*, American Antiquity 56: 419–443.

Jones, T. L.

1992. *Settlement trends along the California coast. In* Jones, T. L. (ed.), Essays on the Prehistory of Maritime California, Center for Archaeological Research at Davis, Vol. 10, University of California, Davis, pp. 1–37.

King, T.F.

1974 *The evolution of status ascription around San Francisco Bay, In* ?Antap: California Indian Political and Economic Organization. Eds Bean, L.J. and King, T.F. Bellena Press Anthropological Papers. 2: 35-54.

Levy, R.,

1978 *Costanoan, In* Handbook of North American Indians. Volume 8: California. Ed by R.F. Heizer. Smithsonian Institution: Washington, D.C.

Moratto, Michael J.

1984 *California Archaeology.* Academic Press, New York.

Nelson, N.C.

1909. *Shellmounds of the San Francisco Bay Region*, University of California Publications, American Archaeology and Ethnology, Vol. 7, No. 4.

San Francisco Estuary Institute (SFEI)

1999 Ecoatlas: Historical Baylands and Adjacent Habitats ca. 1800, Map Available online: http://www.sfei.org/ecoatlas/Habitat/maps/SFBay/pastDist.html.

United States Geologic Survey (USGS)

2006 Geologic Map of the San Francisco Bay Region, U.S. Geological Survey Scientific Investigations Map 2918, Available online: http://pubs.usgs.gov/sim/2006/2918

Appendix A
NWIC Records Search Results

CALIFORNIA
HISTORICAL
RESOURCES
INFORMATION
SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
1303 Maurice Avenue
Rohnert Park, California 94928-3609
Tel: 707.664.0880 • Fax: 707.664.0890
E-mail: nwic@sonoma.edu

February 6, 2002

File No: 01-1247

Michael Johnson
Harding ESE, Inc.
90 Digital Drive
Novato, CA 94949

Re: Cultural resources records search for the proposed seismic retrofit at the Leimert Bridge (Bridge No. 33C-0215)

Dear Mr. Johnson:

Review of records and literature on file at this office indicate that the proposed project area contains no recorded Native American or historic cultural resources listed with the Historical Resources Information System. This office has a record of an archaeological study covering approximately 50% of the southern half of the project area (NWIC File No. S-5629). The Historic Properties Directory (HPD), published by the Office of Historic Preservation in Sacramento, does not list the Leimert Bridge. I have enclosed a copy of Leimert Blvd., Oakland HPD listings with this letter for your reference.

At the time of Euroamerican contact the Native Americans that lived in the area spoke a Costanoan language, subsumed by linguists under the Utian family of California Indian languages. Native American archaeological sites in this portion of Alameda County tend to be situated near the historic bayshore margin and adjacent to seasonal and perennial drainages. The project area includes a small section of Sausal Creek. The project description notes that this project may involve disturbance in and around streambeds. Given the environmental setting there is a moderate potential for Native American sites in the project area.

Review of historical literature and maps on file in this office indicate possible historic archaeological sites or historic structures in the project area. A previous study of a portion of the project area notes WPA constructed channels and masonry in much of the stream course in Dimond Park (S-5629, p. 10). These structures are noted to date from "a significant period in Oakland, and the nation's history." With this in mind, there is a high possibility of identifying historic cultural resources in the project area.

RECOMMENDATIONS:

1) There is a moderate possibility of identifying Native American and a high possibility of identifying historic cultural resources in the project area and further archival and field study by an archaeologist is recommended.

2) Review for possible historic structures has included only those sources listed in the attached bibliography and should not be considered comprehensive. The Office of Historic Preservation has determined that buildings, structures, and objects 45 years or older may be of historical value. If the area of potential effect contains such properties we recommend that the agency responsible for section 106 compliance consult with the Office of Historic Preservation regarding potential impacts to these properties.

Project Review and Compliance Unit
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
(916) 653-6624

3) If cultural resources are encountered **during the project**, avoid altering the materials and their context until a cultural resource consultant has evaluated the situation. Project personnel should not collect cultural resources. Prehistoric resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits, often in old wells and privies.

4) Identified cultural resources should be recorded on DPR 523 (historic properties) forms.

Thank you for using our services. Please contact our office if you have any questions, (707) 664-0880.

Sincerely,

E. Timothy Jones

E. Timothy Jones
Researcher II

LITERATURE REVIEWED

In addition to archaeological maps and site records on file at the Historical Resources Information System, Northwest Information Center, the following literature was reviewed:

Gudde, Erwin G.

1969 *California Place Names: The Origin and Etymology of Current Geographical Names.* Third Edition. University of California Press, Berkeley and Los Angeles.

Helley, E.J., K.R. Lajoie, W.E. Spangle, and M.L. Blair

1979 *Flatland Deposits of the San Francisco Bay Region - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning.* Geological Survey Professional Paper 943. United States Geological Survey and Department of Housing and Urban Development.

Hoover, Mildred Brooke, Hero Eugene Rensch, and Ethel Rensch, William N. Abeloe, revised by Douglas E. Kyle

1990 *Historic Spots in California.* Fourth Edition. Stanford University Press, Stanford.

Levy, Richard

1978 Costanoan. In *California,* edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Nelson, N.C.

1909 *Shellmounds of the San Francisco Bay Region.* University of California Publications in American Archaeology and Ethnology 7(4):309-356. Berkeley. (Reprint by Kraus Reprint Corporation, New York, 1964)

Nichols, Donald R., and Nancy A. Wright

1971 Preliminary Map of Historic Margins of Marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map. U.S. Department of the Interior, Geological Survey in cooperation with the U.S. Department of Housing and Urban Development, Washington, D.C.

State of California Department of Parks and Recreation

1976 *California Inventory of Historic Resources.* State of California Department of Parks and Recreation, Sacramento.

State of California Office of Historic Preservation **

2002 *Historic Properties Directory.* Listing by City (through January 2002). State of California Office of Historic Preservation, Sacramento.

**Note that the Office of Historic Preservation's *Historic Properties Directory* Includes National Register, State Registered Landmarks, and Historic Points of Interest.

Special Search Report
Archaeological Records

Northwest Information Center
Sonoma State University
1303 Maurice Ave
Rohnert Park, CA 94928-3609

S - Number	5629	*Report Date*	82	*County*	Alameda
Author(s)	Bertrand T. Young, George R. Miller				
Title of Report	An Archaeological Reconnaissance of Sausal Creek between Leimert and HydeStreets in the City of Oakland. Streets in the City of Oakland.				
Quad	Oakland East	*Additional Quads*			
Sites	0	*Additional Counti*			
Size	c 1.75 li mi	*Maps*	3	*Trinomials or P-N*	
Comments					

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS	NAMES	CITY.NAME	OWN	YR-C	OHP-PROG.	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
106881		1070 LANGLEY ST	BUILDING L-725,USAACMTDC	OAKLAND		1942	HIST.RES.	DOE-01-97-0069-0000	02/21/97	6Y2	
							PROJ.REVW.	FAA960912A	02/21/97	6Y2	
106876		1079 LANGLEY ST	BUILDING L-739,USAACMDTC	OAKLAND		1942	HIST.RES.	DOE-01-97-0064-0000	02/21/97	6Y2	
							PROJ.REVW.	FAA960912A	02/21/97	6Y2	
106880		1080 LANGLEY ST	BUILDING L-727,USAACMTDC	OAKLAND		1942	HIST.RES.	DOE-01-97-0068-0000	02/21/97	6Y2	
							PROJ.REVW..	FAA960912A	02/20/97	6Y2	
106875		1085 LANGLEY ST	BUILDING L-741-USAACMDTC	OAKLAND		1942	HIST.RES.	DOE-01-97-0063-0000	02/21/97	6Y2	
							PROJ.REVW.	FAA960912A	02/21/97	6Y2	
106874		1089 LANGLEY ST	BUILDING L-743-USAACMTDC	OAKLAND		1942	HIST.RES.	DOE-01-97-0062-0000	02/21/97	6Y2	
							PROJ.REVW.	FAA960912A	02/21/97	6Y2	
106879		1090 LANGLEY ST	BUILDING L-729,USAACMTDC	OAKLAND		1942	HIST.RES.	DOE-01-97-0067-0000	02/21/97	6Y2	
							PROJ.REVW.	FAA960912A	02/21/97	6Y2	
106182		933 LARKSPUR RD		OAKLAND	P	1929	HIST.SURV.	4623-3116-0000	01/08/97	7R	
106183		943 LARKSPUR RD		OAKLAND	P	1929	HIST.SURV.	4623-3117-0000	01/08/97	7R	
098716		9016 LAWLOR ST		OAKLAND	P	1941	PROJ.REVW.	HUD951101A	12/19/95	6Y2	
114830		9403 LAWLOR ST		OAKLAND	P	1925	HIST.RES.	DOE-01-98-0013-0000	03/17/98	6Y2	
							PROJ.REVW.	HUD980112O	03/17/98	6Y2	
083340		5252 LAWTON AVE		OAKLAND	P	1914	PROJ.REVW.	HUD930708B	08/05/93	6Y2	
106184		5405 LAWTON AVE		OAKLAND	P	1910	HIST.SURV.	4623-3118-0000	01/08/97	7R	
106186		220 LEE ST	BRADLWY-GIDEON HOUSE	OAKLAND	P	1889	HIST.SURV.	4623-3119-0000	01/08/97	7R	
011625		292 LEE ST	DAHLKE HOUSE	OAKLAND	P	1908	HIST.SURV.	4623-0201-0000		3S	
106187		297 LEE ST	HAMMER HOUSE	OAKLAND	P	1907	HIST.SURV.	4623-3120-0000	01/08/97	7R	
011626		401 LEE ST	MCELROY HOUSE	OAKLAND	P	1907	HIST.SURV.	4623-0202-0000		3S	
106188		406 LEE ST	TOUCHARD HOUSE	OAKLAND	P	1910	HIST.SURV.	4623-3121-0000	01/08/97	7R	
106189		1815 LEIMERT BLVD		OAKLAND	P	1937	HIST.SURV.	4623-3122-0000	01/08/97	7R	
106190		1817 LEIMERT BLVD		OAKLAND	P	1933	HIST.SURV.	4623-3123-0000	01/08/97	7R	
106191		1850 LEIMERT BLVD		OAKLAND	P	1932	HIST.SURV.	4623-3124-0000	01/08/97	7R	
106669		LENOX AVE	LENOX AND VAN BUREN AVENUE DISTRIC	OAKLAND	P	1906	HIST.SURV.	4623-3443-9999	02/04/97	7R	
092823		266 LENOX AVE	LENOX MANOR APARTMENTS	OAKLAND	P	1929	HIST.SURV.	4623-1101-0000	09/30/94	7R	
106192		286 LENOX AVE	GRAYSTON APARTMENTS	OAKLAND	P	1930	HIST.SURV.	4623-3125-0000	01/08/97	7R	
106193		306 LENOX AVE	CARLTON HOUSE	OAKLAND	P	1907	HIST.SURV.	4623-3126-0000	01/08/97	7R	
106194		315 LENOX AVE	MATHER-DUVAL HOUSE	OAKLAND	P	1905	HIST.SURV.	4623-3127-0000	01/08/97	7R	
092824		377 LENOX AVE	LENOX GRAND APARTMENTS	OAKLAND	P	1926	HIST.SURV.	4623-1102-0000	09/30/94	7R	
092825		291 LESTER AVE	GEROW-LESTER LAKE APARTMENTS	OAKLAND	P	1928	HIST.SURV.	4623-1103-0000	09/30/94	7R	
011782		320 LEWIS ST	SUN MILLING CO CEREAL FACTORY	OAKLAND	P	1910	HIST.SURV.	4623-0283-0048	07/21/93	5D1	
							HIST.SURV.	4623-0246-0068		5D	
011783		322 LEWIS ST		OAKLAND	P	1982	HIST.SURV.	4623-0246-0069		5D	
011784		323 LEWIS ST	JOHN BOBO METALS %/SALIH BROS. WAR	OAKLAND	P	1940	HIST.SURV.	4623-0283-0049	07/21/93	6Z1	
							HIST.SURV.	4623-0246-0070		5D	
011785		329 LEWIS ST	PATRICK FANNON ANTONE SIMMONS HSE	OAKLAND	P	1877	HIST.SURV.	4623-0283-0050	07/21/93	6Z1	
							HIST.SURV.	4623-0246-0071		5D	
011786		335 LEWIS ST	DUNCAN MCEACHEN ELLEN MULVEY HSE	OAKLAND	P	1877	HIST.SURV.	4623-0283-0051	07/21/93	6Z1	
							HIST.SURV.	4623-0246-0072		5D	
011787		339 LEWIS ST	GEO FRASHER M S FLETCHER HSE	OAKLAND	P	1870	HIST.SURV.	4623-0283-0052	07/21/93	6Z1	
							HIST.SURV.	4623-0246-0073		5D	
011788		341 LEWIS ST	GEO W FRASHER JOHN & ROSE TULLY HS	OAKLAND	P	1870	HIST.SURV.	4623-0283-0053	07/21/93	6Z1	
							HIST.SURV.	4623-0246-0074		5D	
011789		344 LEWIS ST	JOHN B BYRNES JOSEPH FOSTER HSE	OAKLAND	P	1877	HIST.SURV.	4623-0283-0054	07/21/93	5D1	
							HIST.SURV.	4623-0246-0075		5D	
011790		350 LEWIS ST	SOUTH PRESCOTT VILLIAGE	OAKLAND	P	1987	HIST.SURV.	4623-0246-0076		5D	
011791		364 LEWIS ST	FOGG-CLARK-PUHERA HOUSE	OAKLAND	P	1872	HIST.SURV.	4623-0283-0055	07/21/93	5D1	
							HIST.SURV.	4623-0246-0077		4D	
011792		398 LEWIS ST	LILLIANS UNIQUE THRIFT SHOP	OAKLAND	P	1890	HIST.SURV.	4623-0283-0056	07/21/93	6Z1	
							HIST.SURV.	4623-0246-0078		4D	
011793		502 LEWIS ST	CHARLES KEENE RENTAL COTTAGES	OAKLAND	P	1870	HIST.SURV.	4623-0246-0079		4D	
011794		508 LEWIS ST	CHARLES KEENE RENTAL COTTAGES	OAKLAND	P	1870	HIST.SURV.	4623-0246-0080		5D	

Appendix B
Native American Consultation

URS
1333 Broadway, Suite 800
Oakland, CA 94612
PH: (510) 874-3204
FAX: (510) 874-3268

FACSIMILE TRANSMITTAL

Transmitted By:

Name: Christine K. Michalczuk Date: 1 May 2007
Number of Pages (including cover sheet): 2

Please Deliver To:

Name: Rob Wood
Company: California Native American Heritage Commission
Fax No.: (916) 657-5390 Office No.: (916) 653-4040
Subject: Data request for a project in Alameda County Project No.: 26815977

Remarks: **City of Oakland "Oakland Bridges Seismic Retrofit" Project, Alameda County, California**

Dear Mr. Wood,

I am writing to request a record search of the Sacred Lands File, and a list of appropriate Native American contacts, for a proposed project that will seismically retrofit six bridges located throughout the City of Oakland. Known as the "Oakland Bridges Seismic Retrofit" Project, the proposed project area falls within the following USGS 7.5 minute quadrangle:

- Oakland East

The project areas are located across various portions of Oakland, and are east of Highway 880. One is located near Leone Heights Park; two are located near the Oakland-Alameda County Coliseum Complex; one at the intersection of Highway 880 and 23rd Avenue; and two in Dimond Canyon Park.

One bridge falls within the San Antonio (Y. Peralta) Landgrant
The remaining five bridges fall within San Antonio (A. M. Peralta) Landgrant

I am requesting the following information:

- Groups or individuals the listed by the NAHC as contacts for Alameda County.
- Identification by the NAHC of any sacred lands in the area that are listed within the Sacred Lands File.

Thank you for your attention to this request. I appreciate your continued assistance.

Sincerely,

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

We are transmitting from Fax. No. (510) 874-3268.
If you do not receive all pages or if the transmission is not legible, please contact the sender at your earliest convenience.

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

May 7, 2007

Christine K. Michalcauk
URS Corporation

Sent by Fax: 510-874-3268
Number of Pages: 2

RE: Oakland Bridges Seismic Retrofit project, Alameda County

Dear Ms. Michalcauk:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
Alameda County
May 3, 2007

Jakki Kehl 720 North 2nd Street Patterson , CA 95363 jakki@bigvalley.net (209) 892-2436 (209) 892-2435 - Fax	Ohlone/Costanoan	Indian Canyon Mutsun Band of Costanoan Ann Marie Sayers, Chairperson P.O. Box 28 Hollister , CA 95024	Ohlone/Costanoan
Katherine Erolinda Perez PO Box 717 Linden , CA 95236 canutes@verzion.net (209) 474-2602	Ohlone/Costanoan Northern Valley Yokuts Bay Miwok	Muwekma Ohlone Indian Tribe of the SF Bay Area Rosemary Cambra, Chairperson PO Box 360791 Milpitas , CA 95036 muwekma@muwekma.org 408-434-1668 408-434-1673	Ohlone / Costanoan
Amah/Mutsun Tribal Band Michelle Zimmer, Cultural Resource Coordinator P O Box 3892 Clear Lake , CA 94422 408-375-4281	Ohlone/Costanoan	The Ohlone Indian Tribe Andrew Galvan PO Box 3152 Mission San Jose , CA 94539 chochenyo@AOL.com (510) 656-0787 - Voice (510) 882-0527 - Cell (510) 687-9393 - Fax	Ohlone/Costanoan Bay Miwok Plains Miwok Patwin
Amah/MutsunTribal Band Irene Zwierlein, Chairperson 789 Canada Road Woodside , CA 94062 amah_mutsun@yahoo.com (650) 851-7747 - Home (650) 851-7489 - Fax	Ohlone/Costanoan	Trina Marine Ruano Family Ramona Garibay, Representative 16010 Halmar Lane Lathrop , CA 95330 510-300-5971 - cell	Ohlone/Costanoan Bay Miwok Plains Miwok Patwin

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Oakland Bridges Seismic Retrofit project, Alameda County.

URS

May 9, 2007

Jakki Kehl
720 North 2nd Street
Patterson, CA 95363

Re: **Oakland Bridges Seismic Retrofit Project – Cultural Resources Technical Report, Alameda County, California**

Dear Jakki Kehl:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

URS Corporation contacted the California Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files for the entire project area. A response was received on May 7th, 2007, indicating that the records search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources within the immediate project area. The NAHC also provided a list of groups or individuals that may have specific knowledge of cultural resources or have other concerns in the specific project area. Your name was among those provided by the NAHC. Should you have any knowledge of cultural resources in the specific project area, know of other contacts that may have such specific knowledge, or have other concerns in the specific project areas, please contact me at (510) 874-3204, or write to the address below.

Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

May 9, 2007

Chairperson Ann Marie Sayers
Indian Canyon Mutsun Band of Costanoan
P.O. Box 28
Hollister, CA 95024

Re: **Oakland Bridges Seismic Retrofit Project – Cultural Resources Technical Report, Alameda County, California**

Dear Chairperson Sayers:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

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Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

May 9, 2007

Katherine Erolinda Perez
P.O. Box 717
Linden, CA 95236

Re: **Oakland Bridges Seismic Retrofit Project – Cultural Resources Technical Report, Alameda County, California**

Dear Ms. Perez:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

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Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

May 9, 2007

Chairperson Rosemary Chambra
Muwekma Ohlone Indian Tribe of the SF Bay Area
P.O. Box 360791
Milpitas, CA 95036

Re: **Oakland Bridges Seismic Retrofit Project – Cultural Resources Technical Report, Alameda County, California**

Dear Chairperson Chambra:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

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Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

May 9, 2007

Cultural Resource Coordinator Michelle Zimmer
Amah/Mutsun Tribal Band
P.O. Box 3892
Clear Lake, CA 94422

Re: **Oakland Bridges Seismic Retrofit Project – Cultural Resources Technical Report, Alameda County, California**

Dear Ms. Zimmer:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

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Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

May 9, 2007

Andrew Galvan
The Ohlone Indian Tribe
P.O. Box 3152
Mission San Jose, CA 94539

Re: **Oakland Bridges Seismic Retrofit Project – Cultural Resources Technical Report, Alameda County, California**

To Dear Andrew Galvan,:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

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Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

May 9, 2007

Chairperson Irene Zwierlein
Amah/Mutsun Tribal Band
789 Canada Road
Woodside, CA 94062

Re: **Oakland Bridges Seismic Retrofit Project -- Cultural Resources Technical Report, Alameda County, California**

Dear Chairperson Zwierlein:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

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Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

May 9, 2007

Representative Ramona Garibay
Trina Marine Ruano Family
16010 Halmar Lane
Lathrop, CA 95330

Re: **Oakland Bridges Seismic Retrofit Project – Cultural Resources Technical Report, Alameda County, California**

Dear Representative Garibay:

The purpose of this letter is to apprise you of a proposed project in Alameda County. The project proposes to seismically retrofit six bridges located within the City of Oakland, California. The six bridges are located in various portions of Oakland, and are all east of Highway 880. One is located near Leone Heights; two are located near the Oakland-Alameda County Coliseum Complex; one is at the intersection of Highway 880 and 23rd Avenue; two are within Dimond Park.

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Thank you for your help and consideration with this request.

Sincerely,

URS Corporation

Christine K. Michalczuk, M.A., R.P.A.
Senior Archaeologist

Enclosure: Map

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

Dean Martorana/Oakland/URSCorp
12/27/2007 09:39 AM

Files Attached: 1
Total Email Size: 1.08 mb

To
jakki@bigvalley.net, canutes@verizon.net, amah_mutsun@yahoo.com, muwekma@muwekma.org, chochenyo@aol.com

cc

bcc

Subject
Oakland Bridges Seismic Retrofitting

Hello,

The proposed Bridge Earthquake Retrofit Work, will consist of constructing various structural improvements to reinforce various bridges in the City of Oakland and improve their ability to withstand a major earthquake. The work proposed is designed to comply with federal regulations regarding seismic hazards.
In an effort to obtain any specific information regarding cultural resources in the vicinity of the proposed projects, letters were sent to each contact provided by the NAHC on May 9, 2007. Please see the attached map for the locations of the individual bridges. Please let me know if you have any comments or concerns regarding the work proposed with respect to known cultural resources.

Thank you,

Dean Martorana, RPA
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
Tel: 510.893.3600 | Direct: 510.874.3145
Fax: 510.874.3268
dean_martorana@urscorp.com

Chochenyo@aol.com

01/03/2008 07:16 AM

To Dean_
cc
bcc

Subject Re: O

Files Attached: **0**	Total Email Size: **6 kb**

History:

This message has been replied to.

Hi there,

can you please tell me the results of your firm's Phase 1 Lit Search and Foot Survey for this project?

Thank you,

Andrew Galvan
cell: 510-882-0527

In a message dated 12/27/2007 9:38:19 A.M. Pacific Standard Time, Dean_Martorana@URSCorp.com writes:
Hello,

The proposed Bridge Earthquake Retrofit Work, will consist of constructing various structural improvements to reinforce various bridges in the City of Oakland and improve their ability to withstand a major earthquake. The work proposed is designed to comply with federal regulations regarding seismic hazards.

In an effort to obtain any specific information regarding cultural resources in the vicinity of the proposed projects, letters were sent to each contact provided by the NAHC on May 9, 2007. Please see the attached map for the locations of the individual bridges. Please let me know if you have any comments or concerns regarding the work proposed with respect to known cultural resources.

Thank you,

Dean Martorana, RPA
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
Tel: 510.893.3600 | Direct: 510.874.3145
Fax: 510.874.3268
dean_martorana@urscorp.com

Dean Martorana/Oakland/URSCorp

01/03/2008 09:48 AM

Files Attached: **0** | Total Email Size: **7 kb**

To Chochenyo@

cc

bcc

Subject Re: Oakland I

Mr. Galvan,

The records search revealed no previously recorded sites and the survey was negative. The bridge passes over BART right-of-way.

Thanks,

Dean Martorana, RPA
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
Tel: 510.893.3600 | Direct: 510.874.3145
Fax: 510.874.3268
dean_martorana@urscorp.com

Chochenyo@aol.com

01/03/2008 07:16 AM

To Dean_M

cc

Subject Re: Oal

Hi there,

can you please tell me the results of your firm's Phase 1 Lit Search and Foot Survey for this project?

Thank you,

Andrew Galvan
cell: 510-882-0527

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Hello,

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Thank you,

Dean Martorana, RPA
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
Tel: 510.893.3600 | Direct: 510.874.3145
Fax: 510.874.3268
dean_martorana@urscorp.com

Chochenyo@aol.com

01/03/2008 10:14 AM

To Dean
cc
bcc

Subject Re: O

Files Attached: 0 | Total Email Size: 4 kb

Hi,

I would suggest that the usual language that details what to do archaeologically, just in case something pops up.

Andrew Galvan

In a message dated 1/3/2008 9:48:37 A.M. Pacific Standard Time, Dean_Martorana@URSCorp.com writes:

The records search revealed no previously recorded sites and the survey was negative. The bridge passes over BART right-of-way.

Thanks,

Dean Martorana, RPA
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
Tel: 510.893.3600 | Direct: 510.874.3145
Fax: 510.874.3268
dean_martorana@urscorp.com

chochenyo@aol.com
01/17/2008 04:21 PM

Files Attached: 0
Total Email Size: 17 kb
To
Dean_Martorana@URSCorp.com
cc

bcc

Subject
Re: Oakland Bridges Seismic Retrofitting

Hi there,

you are correct. PLease use Standard Laungauage regarding accidental discovery.

Thank you for the follow-up.

Andrew Galvan
Did you have any further comments on any of these bridge locations (other than the standard language regarding accidental discovery)?

-----Original Message-----
From: Dean_Martorana@URSCorp.com
To: Chochenyo@aol.com
Sent: Thu, 17 Jan 2008 2:27 pm
Subject: Re: Oakland Bridges Seismic Retrofitting

Mr. Galvan,

For your information, the remaining bridges being retrofitted were also negative for identified cultural resources during both the literature review and field surveys. Did you have any further comments on any of these bridge locations (other than the standard language regarding accidental discovery)?

(See attached file: Location_Map_Topo.pdf)

Thank you for your time,

Dean Martorana, RPA
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
Tel: 510.893.3600 | Direct: 510.874.3145
Fax: 510.874.3268
dean_martorana@urscorp.com

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation
1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corp., Oakland, CA

DATE 1-3-07 TIME 1445
VIA WITH Michelle Zimmer
COMPANY
ADDRESS PHONE NO. 209-474-2602
PROJ NAME Oakland Bridges PROJ/TASK NO.

No answer.

X:\x_env\Oakland Bridges\Cultural Resources\NA Consultation\CONVERSATION RECORD_Zimmer_010307.doc

RECORDED BY: C. Hacking

TELEPHONE CONVERSATION RECORD (TelCon)

URS Corporation
1333 Broadway, Suite 800, Oakland, CA 94612

(Environmental Planning and Permitting Group)

COPIES TO:

File:

URS Corp., Oakland, CA

DATE 1-3-07 TIME 1445

VIA WITH Ramona Garibay

COMPANY

ADDRESS PHONE NO. 510-300-5971

PROJ NAME Oakland Bridges - PROJ/TASK NO.

Number invalid.

X:\x_env\Oakland Bridges\Cultural Resources\NA Consultation\CONVERSATION RECORD_Garibay_010307.doc

RECORDED BY: C. Hacking

Appendix D
FINDING OF EFFECT

LEIMERT BOULEVARD BRIDGE SEISMIC RETROFIT PROJECT
CITY OF OAKLAND, CALIFORNIA

FINDING OF EFFECT
(Adverse Effect)

PREPARED BY

JRP Historical Consulting, LLC
1490 Drew Avenue, Suite 110
Davis, CA 95618

August 13, 2008

FINDING OF EFFECT
(Adverse Effect)

LEIMERT BOULEVARD (SAUSAL CREEK) BRIDGE, NUMBER 33C-0215 SEISMIC RETROFIT PROJECT STPLZ-5012(025)

Prepared by:

Rand Herbert, Principal
JRP Historical Consulting, LLC
1490 Drew Avenue, Suite 110
Davis, CA 95618

Prepared for:
City of Oakland, California
One Frank Ogawa Plaza
Oakland, California, 94612
and
Office of Cultural Resource Studies
Caltrans District 4
111 Grand Avenue
Oakland, CA 94612

Reviewed by:

Andrew Hope
PQS Principal Architectural Historian
Caltrans, District 4
111 Grand Avenue
Oakland, CA 94612

Approved by:

Jennifer Darcangelo, Chief, Office of Cultural Resource Studies
Caltrans, District 4
111 Grand Avenue
Oakland, CA 94612

Contents

Figures

Appendices

Acronyms

ACHP	Advisory Council on Historic Preservation
Caltrans	California Department of Transportation
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
SHPO	State Historic Preservation Officer

1. Introduction

This report identifies and applies the criteria of effect pursuant to 36 CFR Part 800.4 for the Leimert Boulevard Bridge Seismic Retrofit Project proposed by the City of Oakland located in the Oakmore Heights neighborhood, City of Oakland, Alameda County, California. This report was completed to assist the City of Oakland in fulfilling their responsibilities as required by the National Historic Preservation Act (NHPA) of 1966 (as amended) (16 U.S.C., Section 470 (f) and its implementing regulations (36 CFR Part 800). The Department of Transportation provided project oversight.

The City of Oakland proposes to make a number of structural changes to the Leimert Boulevard Bridge. Cylindrical steel casings will be added near the base of both sides of the arch and will enclose the columns. A concrete and steel support will be attached to the base of both sides of the arch. All of the connecting beams between columns will be removed, and a portion of the top of the arch will be sawcut and altered for strengthening. The existing, non-original chain link suicide fence mounted on top of the bridge railing will be removed and replaced with wrought iron bars and cross-pieces, and the existing non-original snake-head streetlights will be replaced with new lights at intervals along both sides of the pedestrian walkway on the bridge. The project description (see Section 1) contains more detail regarding the project.

The changes will not be consistent with the Secretary of the Interior's standards for rehabilitation and reuse. The proposed changes to the deck of the bridge are reversible; however, the changes to the sub-structure of the bridge are not.

This document applies the Criteria of Effect and Adverse Effect (36 CFR 800.5 et. seq.) to the historic resource potentially affected by the project, and finds that the proposed project will result in an adverse effect to a historic resource, the Leimert Boulevard Bridge.[1]

[1] The bridge is referred to variously as Leimert Boulevard Bridge and Sausal Creek Bridge. For the purposes of this discussion, it will be referred to as Leimert Boulevard Bridge.

2. Project Description

The Leimert Boulevard Bridge across Sausal Creek is supported by a concrete arch and 17 bents (Bents 1 through 17 on the attached General Plan sheet). A bent is a structural engineering term for a beam supported by columns. Each bent on the bridge consists of two columns holding up one beam. The seismic retrofit project for this bridge consists of strengthening the bent columns by placing steel casings around them and adding a concrete brace between Bents 6 and 14 and the bridge arch, and strengthening the arch by placing steel jackets around the arch ribs. The existing bracing between bent columns would also be removed as part of this project.

The columns for Bents 2 through 5, 15, and 16 would have full height column casings which would require excavation around the columns. Construction of these casings, which would be welded together in segments placed around the columns, would require excavation for 4 feet in all directions from the existing columns. The columns are nominally 2.5 by 5 feet. Therefore, the excavations would be 10.5 by 13 feet down to the top of the existing column footings (137 square feet). The excavations would be approximately 2 feet wider than the footings. The depth of excavation would vary from about 2 feet at the south column of Bent 5 to about 10 to 11 feet at the south column of Bent 2, north column of Bent 5, and south column of Bent 16. Project plans depicting these changes are located in Section 4.

A new fence is proposed that will replace the existing modern chain link fence. The new fence will be three feet high and placed on top of a three foot high concrete wall. The fence will be installed in eight foot section links with one inch pickets and posts. The space between the pickets and posts will not exceed four inches. Project plans depicting these changes are located in Section 6.

3. Public Participation

Letters informing interested parties of this project were sent to area planning agencies, local governments, historical societies, and museums on January 23, 2008. No responses have been received to date. A copy of the transmittal letter is included in Appendix C of the Leimert Boulevard Bridge HRER.

4. Description of Historic Properties

a. Description and Discussion of Significance

The Leimert Boulevard Bridge was designated as a landmark of special historical, architectural, cultural, aesthetic or engineering interest or value of a historic nature, by the City of Oakland in 1980. Architectural Historian Christopher McMorris of JRP Historical Consulting, LLC evaluated the Leimert Boulevard Bridge in Oakland for the National Register of Historic Places in March 2003 as a part of the Caltrans Historic Bridge Inventory Update project. His evaluation stated that the bridge was eligible under Criterion A, for its association with the residential development of the Oakland Hills, and under Criterion C, for its aesthetic design, with a period of significance of 1926-1930. In the absence of a concurrence report by the State Historic Preservation Office (SHPO), the date of eligibility has been assumed to coincide with the submission of the report, *Caltrans Historic Bridges Inventory Update: Concrete Arch Bridges, Volume 1*, in April of 2004.[2] The single span, open spandrel reinforced concrete arch bridge, with a cantilevered walkway, was designed by George A. Posey and built by Park Boulevard Company, and bridged the gap between the existing development in Piedmont on the northwest side of Dimond[3] Canyon and the Oakland Hills on the southeast side of the canyon. Mr. McMorris described the bridge:

> A reinforced concrete, open spandrel, fixed, parabolic bridge with a single arch span measuring 173 feet long. Total bridge length is 357 feet and includes two reinforced concrete T-Beam approach spans supported by reinforced concrete columns. This two lane bridge is 34.3 feet wide and has a cantilevered walkway. Alterations include addition of concrete barrier railings topped with a chain link barrier.[4]

A copy of the nomination form is attached to this report in Appendix A.

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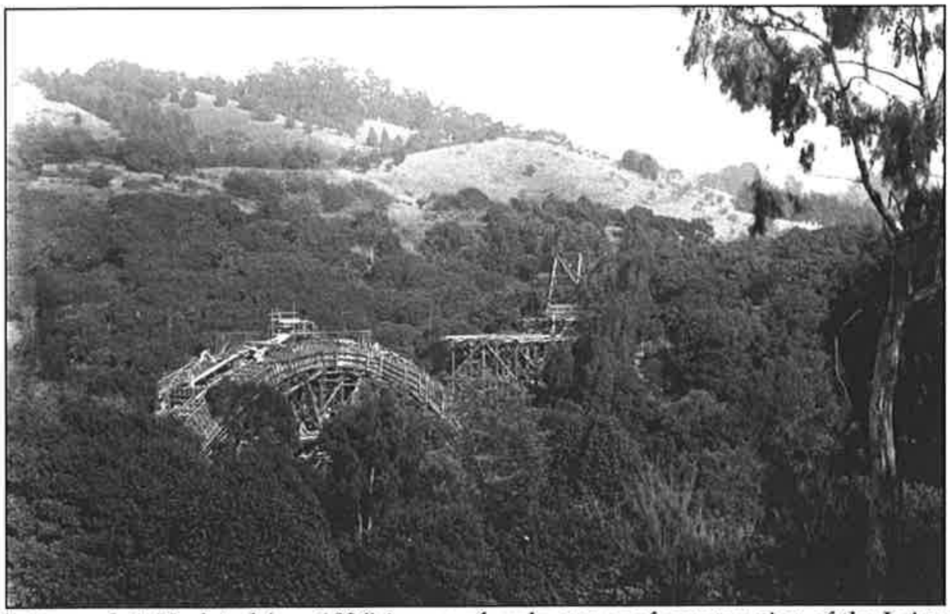
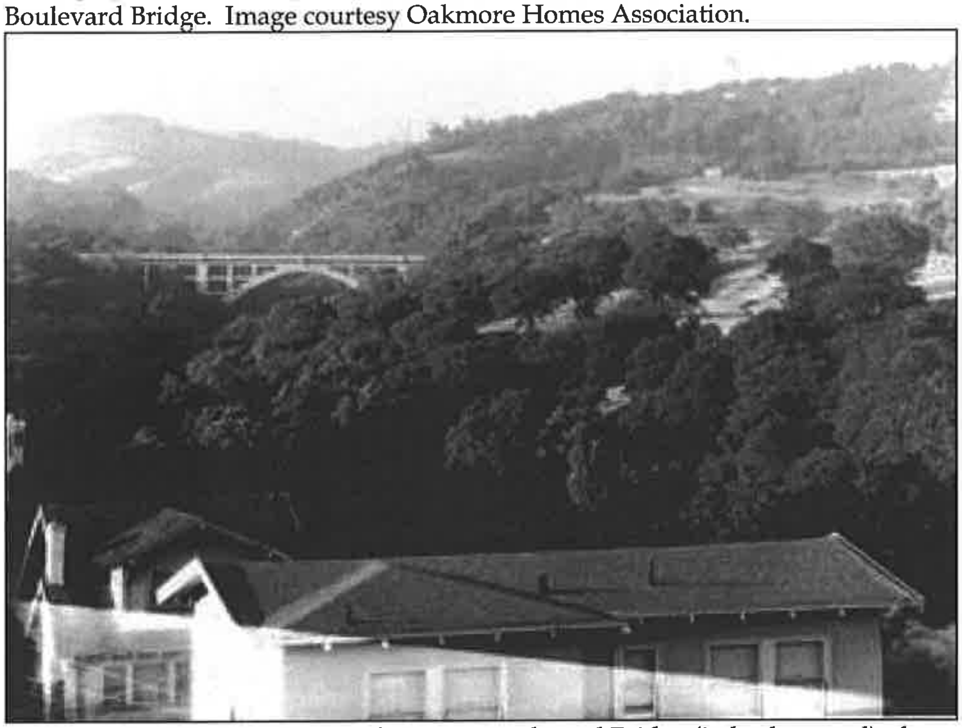
[2] JRP Historical Consulting, LLC, *Caltrans Historic Bridges Inventory Update: Concrete Arch Bridges* (April, 2004); conversation with Andrew Hope, Caltrans Architectural Historian, August 8, 2008.

[3] The canyon was named for Hugh Diamond, a local landowner / developer; it is commonly rendered as "Dimond" and that spelling is used in this report.

[4] National Register evaluation form for Leimert Boulevard Bridge, Oakland. Prepared by Christopher McMorris, March 2003. Examination of photographs taken soon after the bridge opened indicate that the original railing was a similar concrete panel.



Photograph 1: Undated (pre-1926) image of early stages of construction of the Leimert Boulevard Bridge. Image courtesy Oakmore Homes Association.



Photograph 2: Undated image of Leimert Boulevard Bridge (in background) after construction was completed. Image courtesy Oakmore Homes Association.

Photograph 3: Substructure of Leimert Boulevard Bridge, camera facing west. December 26, 2007.

Photograph 4: Undated image of deck of Leimert Boulevard Bridge during construction. Image courtesy Oakmore Homes Association.

Photograph 5: Undated image of deck of Leimert Boulevard Bridge after construction completed with Key System trolley car on the deck. Image courtesy Oakmore Homes Association.

Photograph 6: Deck of Leimert Boulevard Bridge, camera facing west. December 26, 2007.

b. Significant Features of Leimert Boulevard Bridge

As noted above, the following features were specified as significant in the National Register nomination and in the historic preservation covenant.

Significant contributing historic features of the bridge include:

- Single arch open spandrel concrete bridge
- Approach spans
- Bents and support braces
- Bridge T-beam deck
- concrete sidewalk and railing

The chain link fence suicide barrier atop the railing, and the modern metal street lights and poles are additions / replacements.

5. Finding of Adverse Effect

This Finding of Adverse Effect follows the guidelines for documentation in 36 CFR 800.11. The finding assesses effects of the project for the Leimert Boulevard Bridge, which is an historic resource eligible for listing in the National Register of Historic Places.

a. Defining Effects

The definition of effect is that contained within 36 CFR Part 800: "*Effect* means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." An adverse effect occurs "when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." (36 CFR 800.5(a)) An effect is noted in this document only when it poses the potential to alter the characteristics of the historic property that qualify it for inclusion in the NRHP.

The language of 36 CFR Part 800.5 also states:

> (1) *Criteria of adverse effect.* ... Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National

Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

(2) *Examples of adverse effects.* Adverse effects on historic properties include, but are not limited to:

> (i) Physical destruction of or damage to all or part of the property;
>
> (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines;
>
> (iii) Removal of the property from its historic location;
>
> (iv) Change of the character of the property's use or of physical features within the property's setting that contributes to its historic significance;
>
> (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
>
> (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
>
> (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Of these, "(i) Physical destruction of or damage to all or part of the property"; "(ii) alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines," and "(v) introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features" apply to this project.

Table 1: Summary of Adverse Effects on Leimert Boulevard Bridge

Examples of Adverse Effects (36 CFR Part 800.5)	**Project Effects**
Physical destruction of or damage to all or part of the property	Adverse, owing to demolition / removal of cross bracing beams
Alteration of the property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines	Adverse, owing to alteration of the columns and arch, installation of cylindrical steel column casings, steel plate and arch bracing; removal of bracing beams
Removal of the property from its historic location	Not Adverse, because location is unchanged
Change of the character of the property's use or of physical features within the property's setting, that contributes to its historic significance	Not Adverse, because no such changes are contemplated to the bridge's use or physical features within the setting
Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features	Adverse; see above for changes described under other categories of effect
Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization	Not Adverse; does not apply to the bridge retrofit project
Transfer, lease, or sale of property out of the Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance	Not Adverse; does not apply to the bridge retrofit project

b. Analysis of Effects

The Leimert Boulevard Bridge has been determined eligible for listing in the National Register of Historic Places. Section 1.1 above, "Project Description," describes the proposed list of improvements to the bridge. Each will be addressed below.

Cylindrical steel casings will be added near the base of both sides of the arch and will enclose the columns, which are currently rectangular in cross section (see **Figure 3**). A concrete and steel support will be attached to the base of both sides of the arch, forming what will appear to be a triangle at the outer ends of the arch (see **Figure 6**). All of the cross beams will be removed and a portion of the top of the arch will be strengthened (see **Figures 4** and **8**). Finally, the existing chain link fence will be removed and replaced with wrought iron fencing, and streetlights will be installed at intervals along both sides of the pedestrian walkway on the bridge. **Figures 12** and **13** depict the bridge upon project completion. **Figures 14** and **15** provide a design and a photosimulation of the new fence.

Because the proposed alterations do not meet the Secretary of the Interior's *Standards for Treatment of Historic Properties*, the conclusion of this analysis is that they will have an adverse effect on the resource.

Table 2: Summary of Effects on Leimert Boulevard Bridge

Aspects of Historic Integrity	Project Effects
Location	Not Adverse
Design	Adverse
Setting	Not Adverse
Materials	Adverse
Workmanship	Adverse
Feeling	Not Adverse
Association	Not Adverse

There will be no adverse effect to location, setting, feeling, or association, because the bridge is retained in place, the project will not affect the setting or feeling, and the bridge retains its association. The integrity of design, material and workmanship of the bridge will be adversely affected by the alterations because the project will remove elements of the original design, i.e., the cross beams between the bridge's columns. It will also alter other elements of the original design of the columns and the main arch through the addition of steel casings meant to provide greater strength. While the original design will remain within the casings, the appearance will be of thicker structural members. Also, the addition of steel casings will add a visual and structural element that is not original to the bridge, as will the steel arch plates and arch bracing.

The changes are sufficiently significant to important design elements, material and workmanship of the bridge that, taken as a whole, the bridge would not longer retain sufficient integrity to merit eligibility for listing in the National Register of Historic Places.

c. Cumulative Effects

Because the proposed alterations do not meet the Secretary of the Interior's *Standards for Treatment of Historic Properties*, the alterations proposed in this analysis were considered adverse and make substantial irreversible changes to character defining features of the resource. This is the first project proposed for the bridge in recent years, so cumulative effects are not yet an issue.

6. Alternatives Considered and Rejected

a. Alternatives Considered For Seismic Retrofit Of Leimert Boulevard Bridge

Alternatives considered for the Leimert Boulevard Bridge included bridge replacement, construction of a new bridge, and different design approaches. These alternatives are described below along with the reasons why they were excluded from further consideration.

Bridge Replacement

In this alternative, the existing Leimert Boulevard Bridge would be demolished and a new bridge would be constructed within essentially the same "footprint" as the existing bridge. Leimert Boulevard is the principal access to the Oakmore Highlands neighborhood from the west. Demolition of the existing bridge and construction of a new bridge would close this access point for at least a year, resulting in substantial inconvenience to neighborhood residents and increased congestion on the remaining access roads to Oakmore Highlands such as Lincoln Avenue to the east, Monterey Boulevard to the north, and Fruitvale Avenue and Lyman Road to the south.

Demolition and replacement of the Leimert Boulevard Bridge would result in substantially greater impacts to Dimond Canyon Park than the proposed retrofit project. Under this alternative, it would be necessary to pioneer a construction road to the bottom of Sausal Creek Canyon in order to bring in demolition and construction equipment and remove some of the demolition debris. Because the canyon is very steep, construction of this temporary road would require substantial earthmoving and vegetation removal, impacting a much larger area than the proposed retrofit project.

Finally, replacement of the Leimert Boulevard Bridge could cost more than twice as much as the seismic retrofit project.

Replacement of the Leimert Boulevard Bridge was eliminated from further consideration because it would result in substantially greater temporary traffic impacts than the proposed project, would cause greater impacts to the existing vegetation communities in Dimond Canyon Park, and could cost more than twice as much as the seismic retrofit project.

New Bridge

This alternative would construct a new bridge for Leimert Boulevard immediately north or south of the existing bridge. The existing bridge would either be abandoned or used for only pedestrian and bicycle traffic.

Construction of a new bridge north of the existing Leimert Boulevard Bridge would require the relocation of two single family residences and a portion of the parking lot for a small commercial development. Construction of a new bridge south of the existing bridge would require the relocation of two single family residences and could also result in the relocation of an apartment building. The proposed seismic retrofit project will not result in relocations.

As with the bridge replacement alternative, construction of a new bridge would require pioneering a temporary road to the bottom of Sausal Creek Canyon to bring in construction equipment and materials. This would require substantial earthmoving and vegetation removal, impacting a much larger area of Dimond Canyon Park than the proposed retrofit project.

Construction of a new bridge and abandonment of the existing Leimert Boulevard Bridge was eliminated from further consideration for two reasons. First, this alternative would result in relocations that would not occur with the proposed project. Second, this alternative would result in substantially greater impacts to the vegetation communities in Dimond Canyon Park than the proposed seismic retrofit project.

Retrofit Designs

A fundamental purpose of the proposed seismic retrofit design is to increase the resistance of the bridge columns to lateral movement. The proposed design accomplishes this purpose by placing round steel casings along the length of the columns and buttressing the bottom of the bridge arches with large concrete blocks. Placement of the steel casings along the length of the columns requires the removal of the existing column cross bracing. This will result in the most apparent alteration to the original bridge design caused by the project.

No design alternative has been identified that would remove the need to reinforce the bridge arches with large blocks of concrete. Two design alternatives were reviewed for strengthening the columns. It may be possible to install steel casings between the cross braces and leave the braces in place. However, to obtain the needed lateral resistance, some type of attachment between the segments of steel casing would be required. This would result in bulky "nodes" at each connection of the cross braces with the columns. This would also substantially alter the original bridge design. It may also be possible to use a fiber reinforced polymer wrap to strengthen the bridge columns. This wrap could be placed around the columns in a way that would not require the removal of the cross braces. Fiber reinforced polymer reinforcement was not an acceptable Caltrans design option at the time this seismic retrofit design was reviewed and approved by Caltrans. It is uncertain whether the use of this material would meet the seismic stability criteria for the project. No alternative design concept was identified that would prevent substantial modification to the original bridge design.

7. Proposed Mitigation Measures

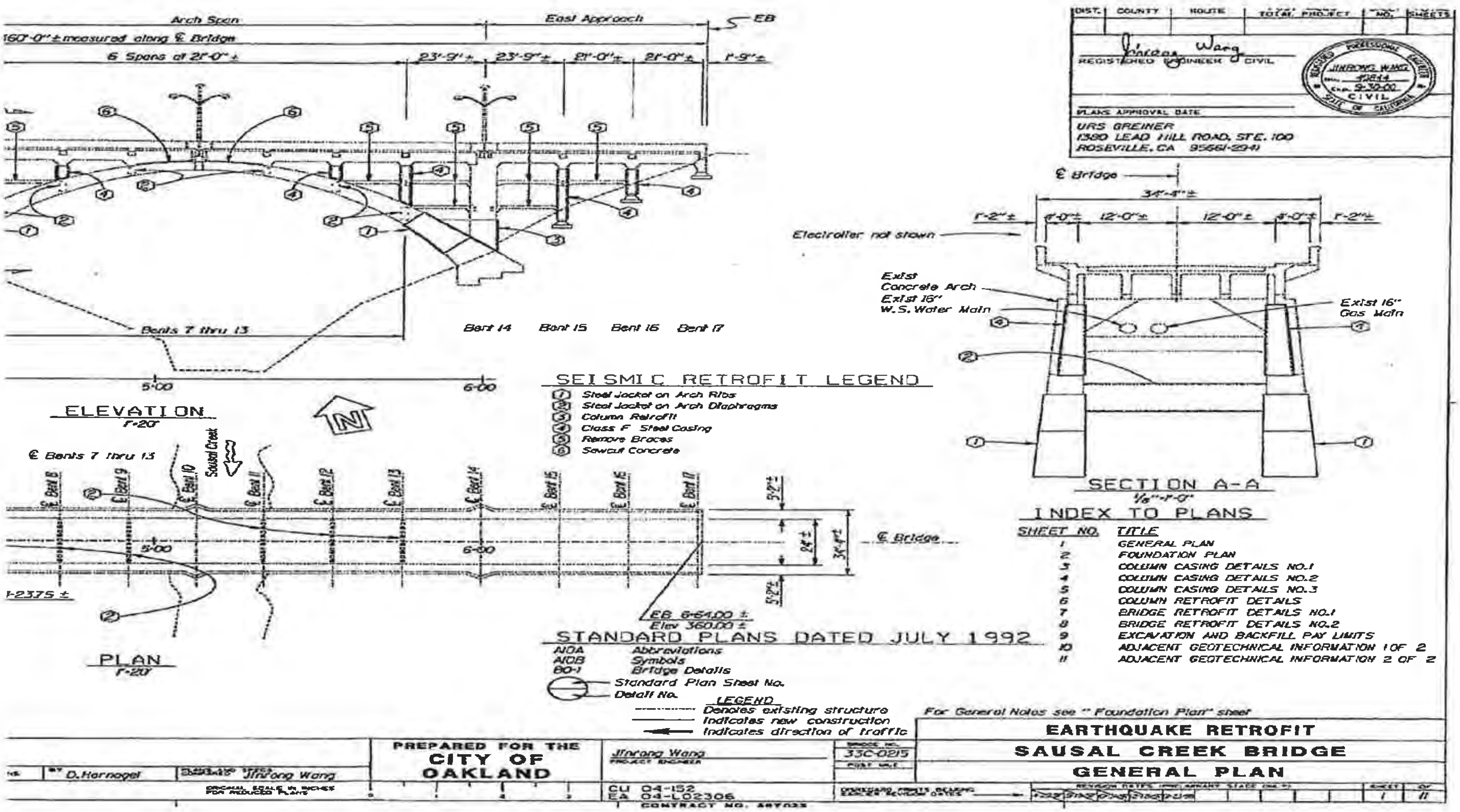
Proposed mitigation measures for this project may include:

1. Preparation of a Historic American Engineering Record (HAER) Report, to Level 2, including technical photography of pre-project conditions, original plans (if any), reproduction of historic photographs, and required text.
2. Preparation of a booklet suitable for distribution to Oakland and Alameda County libraries, and others as identified, providing a history of the bridge with text graphics based on materials generated by the HAER report.
3. Preparation of plaques to be mounted at each end of the bridge noting its significance, original construction information, and reasons for alteration / retrofit.
4. Adaptation of the HAER report for posting on the City of Oakland's website, for two years, at a suitable search location.

Mitigation measures adopted will be formalized in a Memorandum of Agreement.

8. Conclusion

This study finds that the Leimert Boulevard Bridge Seismic Retrofit Project will have several adverse effects on the Leimert Boulevard Bridge in the following ways such as (1) contributing to the physical destruction of or damage to all parts of the property through the removal of cross-bracing beams; (2) altering property due to modifications to the columns and arch, installation of cylindrical steel column casings, steel plate and arch bracing and removal of bracing beams; and (3) introducing visual, atmospheric or audible elements that diminish the integrity of the property's significant historical significance due to reasons mentioned above.


Arch Span
East Approach
EB
160'-0"± measured along ℄ Bridge
6 Spans at 21'-0"±
23'-9"±
23'-9"±
21'-0"±
21'-0"±
1'-9"±
Bents 7 thru 13
Bent 14
Bent 15
Bent 16
Bent 17
5+00
6+00
ELEVATION
1"=20'
℄ Bents 7 thru 13
Sausal Creek
℄ Bent 8
℄ Bent 9
℄ Bent 10
℄ Bent 11
℄ Bent 12
℄ Bent 13
℄ Bent 14
℄ Bent 15
℄ Bent 16
℄ Bent 17
1+2375 ±
℄ Bridge
34'-4"±
24'±
5'-2"±
EB 6+64.00 ±
Elev 360.00 ±
PLAN
1"=20'
SEISMIC RETROFIT LEGEND
1 Steel Jacket on Arch Ribs
2 Steel Jacket on Arch Diaphragms
3 Column Retrofit
4 Class F Steel Casing
5 Remove Braces
6 Sawcut Concrete
STANDARD PLANS DATED JULY 1992
A10A Abbreviations
A10B Symbols
B0-1 Bridge Details
Standard Plan Sheet No.
Detail No.
LEGEND
Denotes existing structure
Indicates new construction
Indicates direction of traffic
℄ Bridge
34'-4"±
1'-2"±
4'-0"±
12'-0"±
12'-0"±
4'-0"±
1'-2"±
Electrolier not shown
Exist Concrete Arch
Exist 16" W.S. Water Main
Exist 16" Gas Main
SECTION A-A
1/8"=1'-0"
INDEX TO PLANS
SHEET NO. TITLE
1 GENERAL PLAN
2 FOUNDATION PLAN
3 COLUMN CASING DETAILS NO.1
4 COLUMN CASING DETAILS NO.2
5 COLUMN CASING DETAILS NO.3
6 COLUMN RETROFIT DETAILS
7 BRIDGE RETROFIT DETAILS NO.1
8 BRIDGE RETROFIT DETAILS NO.2
9 EXCAVATION AND BACKFILL PAY LIMITS
10 ADJACENT GEOTECHNICAL INFORMATION 1 OF 2
11 ADJACENT GEOTECHNICAL INFORMATION 2 OF 2
For General Notes see "Foundation Plan" sheet
DIST. COUNTY ROUTE TOTAL PROJECT NO. SHEETS
Jinrong Wang
REGISTERED ENGINEER CIVIL
JINRONG WANG
CIVIL
PLANS APPROVAL DATE
URS GREINER
1380 LEAD HILL ROAD, STE. 100
ROSEVILLE, CA 95661-2941
EARTHQUAKE RETROFIT
SAUSAL CREEK BRIDGE
GENERAL PLAN
PREPARED FOR THE
CITY OF OAKLAND
Jinrong Wang
PROJECT ENGINEER
33C-0215
CU 04-152
EA 04-L02306
CONTRACT NO.
D. Hornagel
Jinrong Wang
SHEET 1 OF 11

General Plan

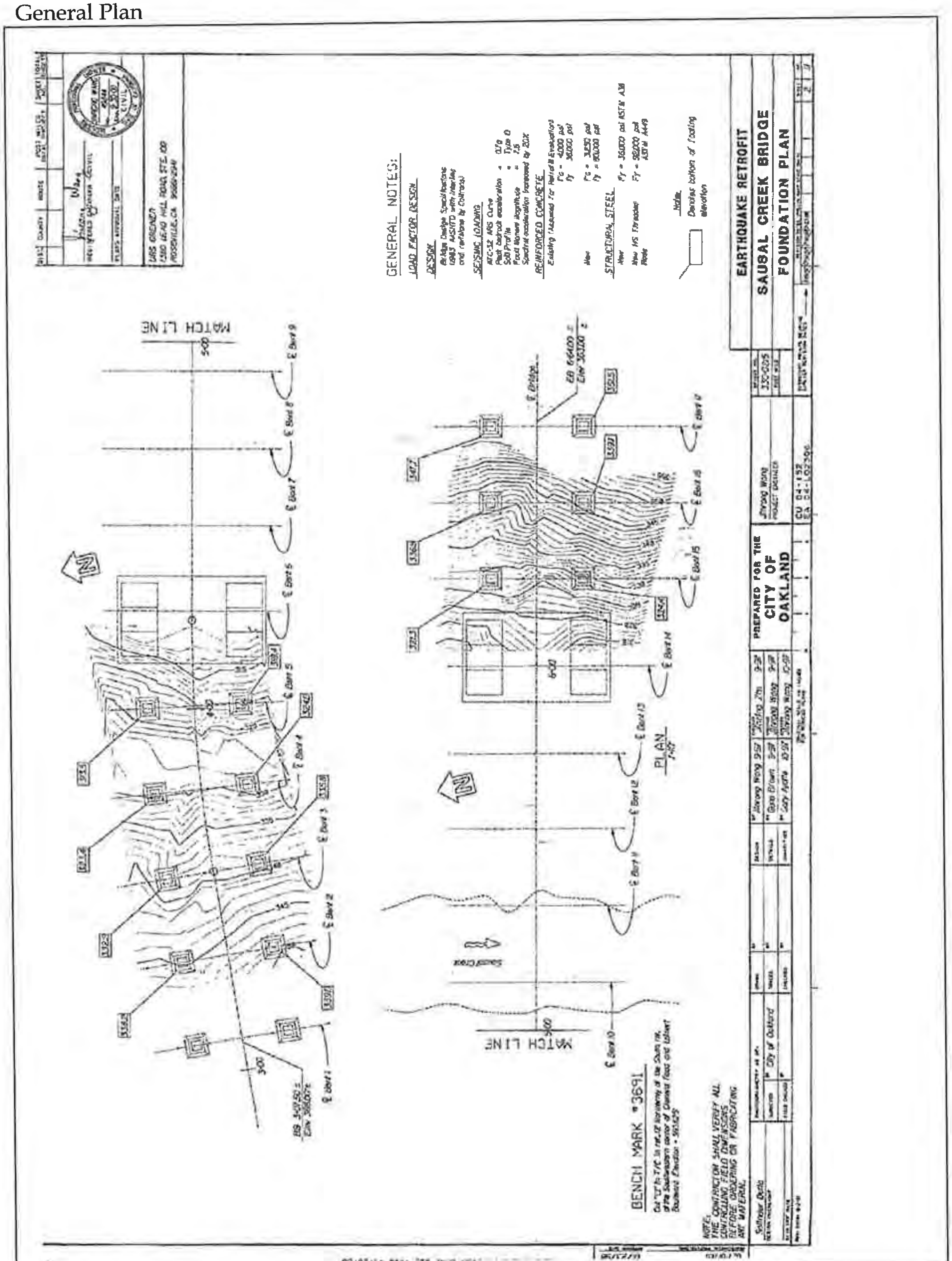


Figure 2: Foundation Plan

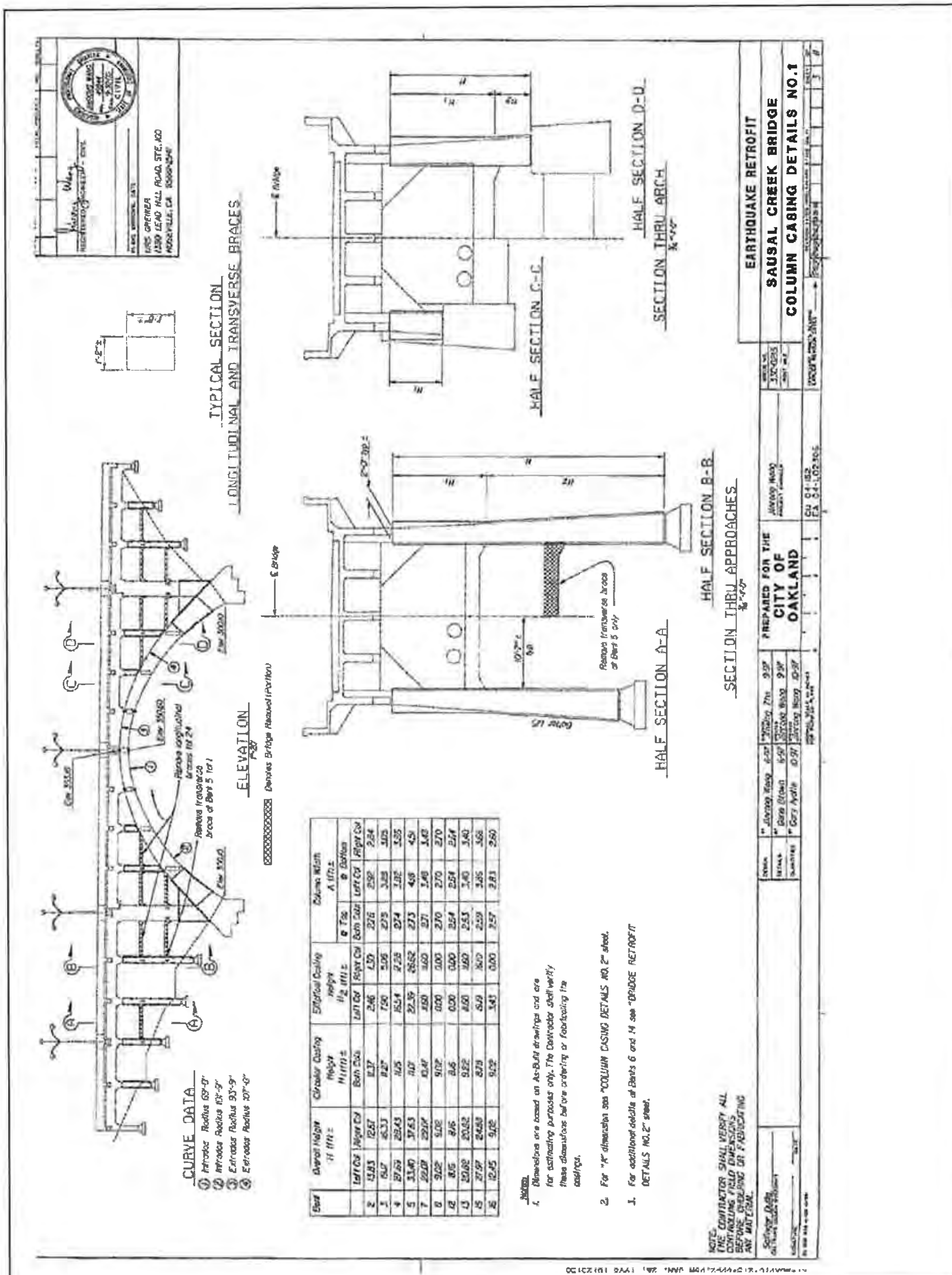


Figure 3: Column Casing Details No. 1

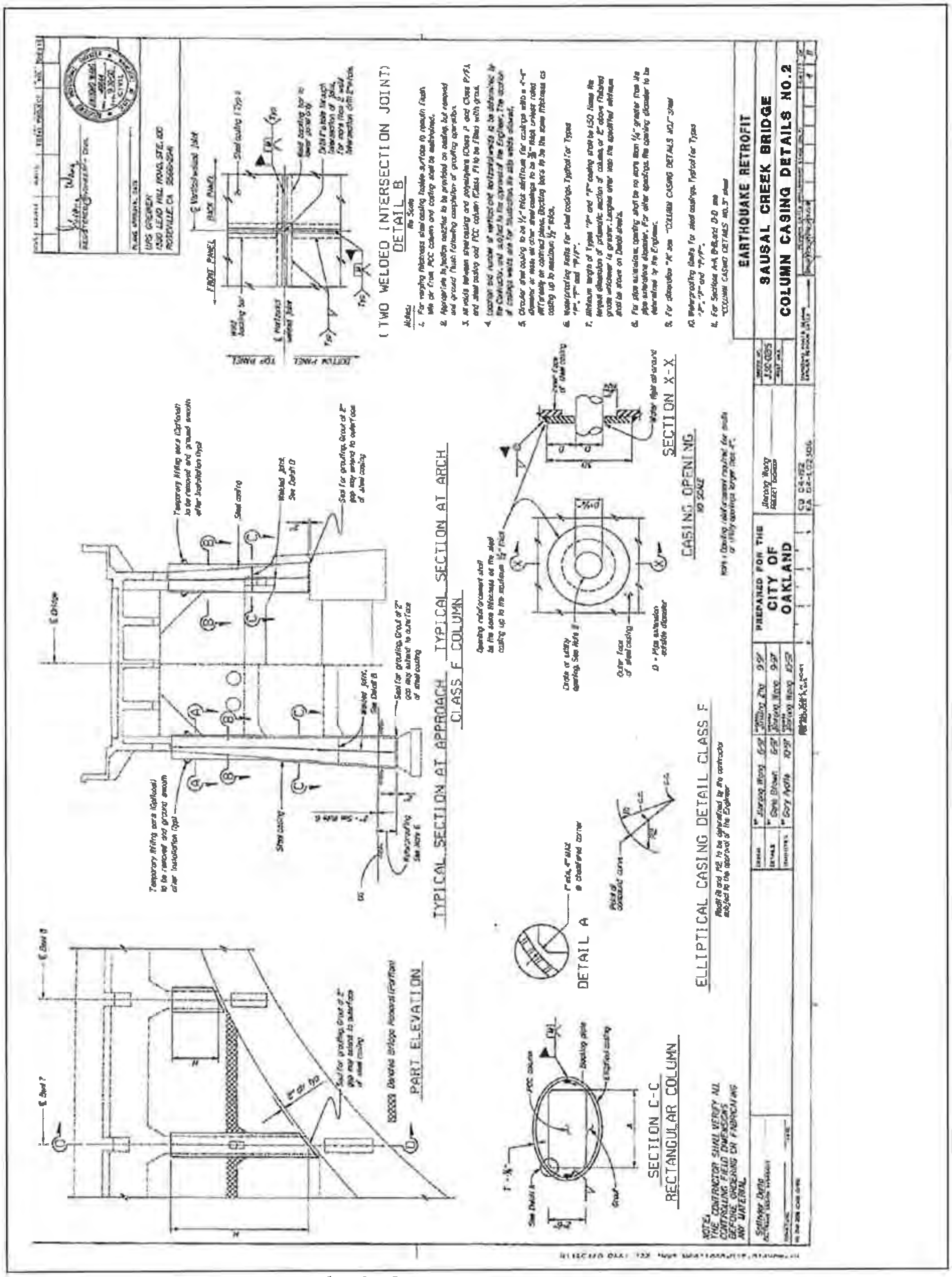


Figure 4: Column Casing Details No. 2

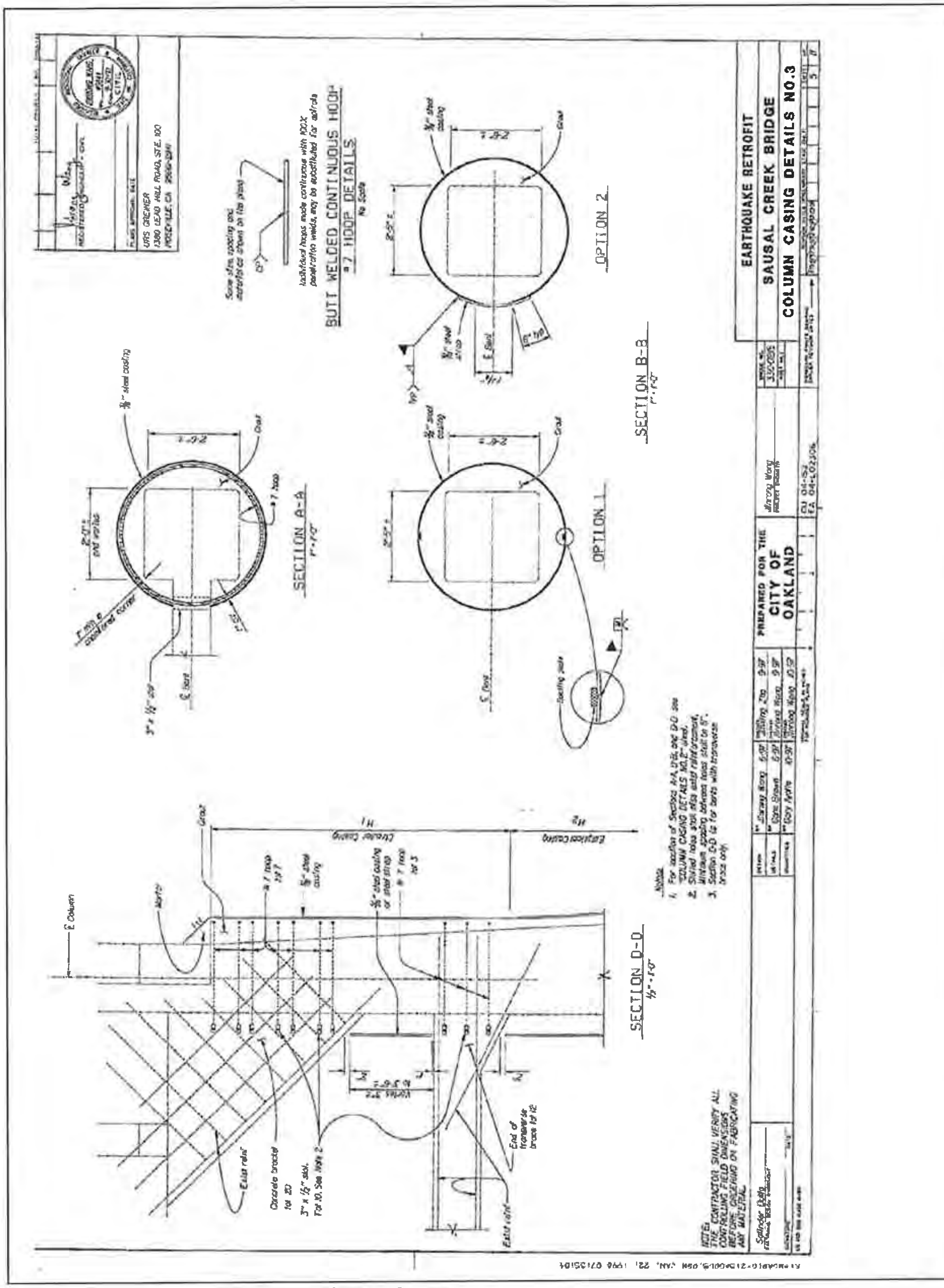


Figure 5: Column Casing Details No. 3

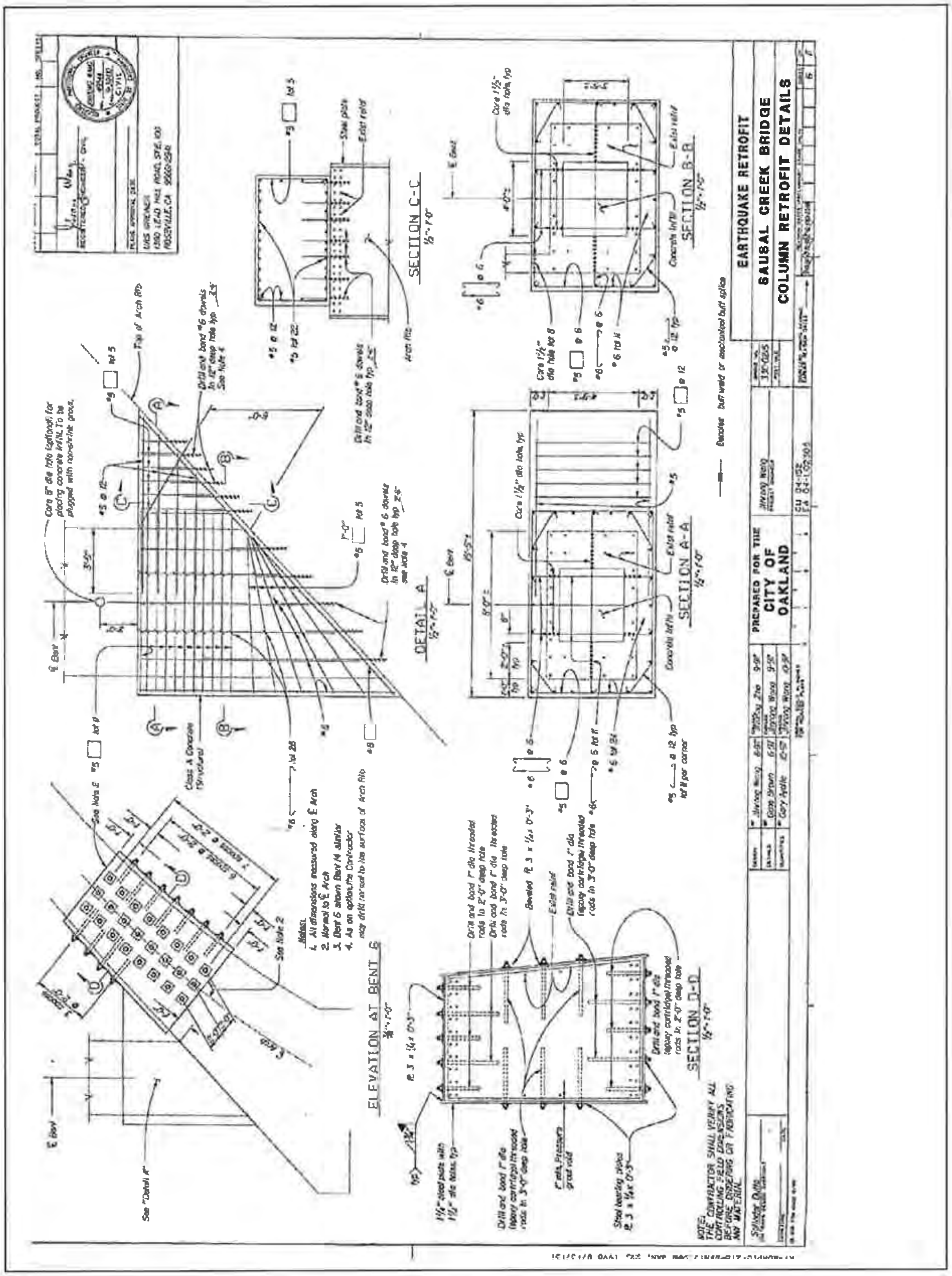


Figure 6: Column Retrofit Details

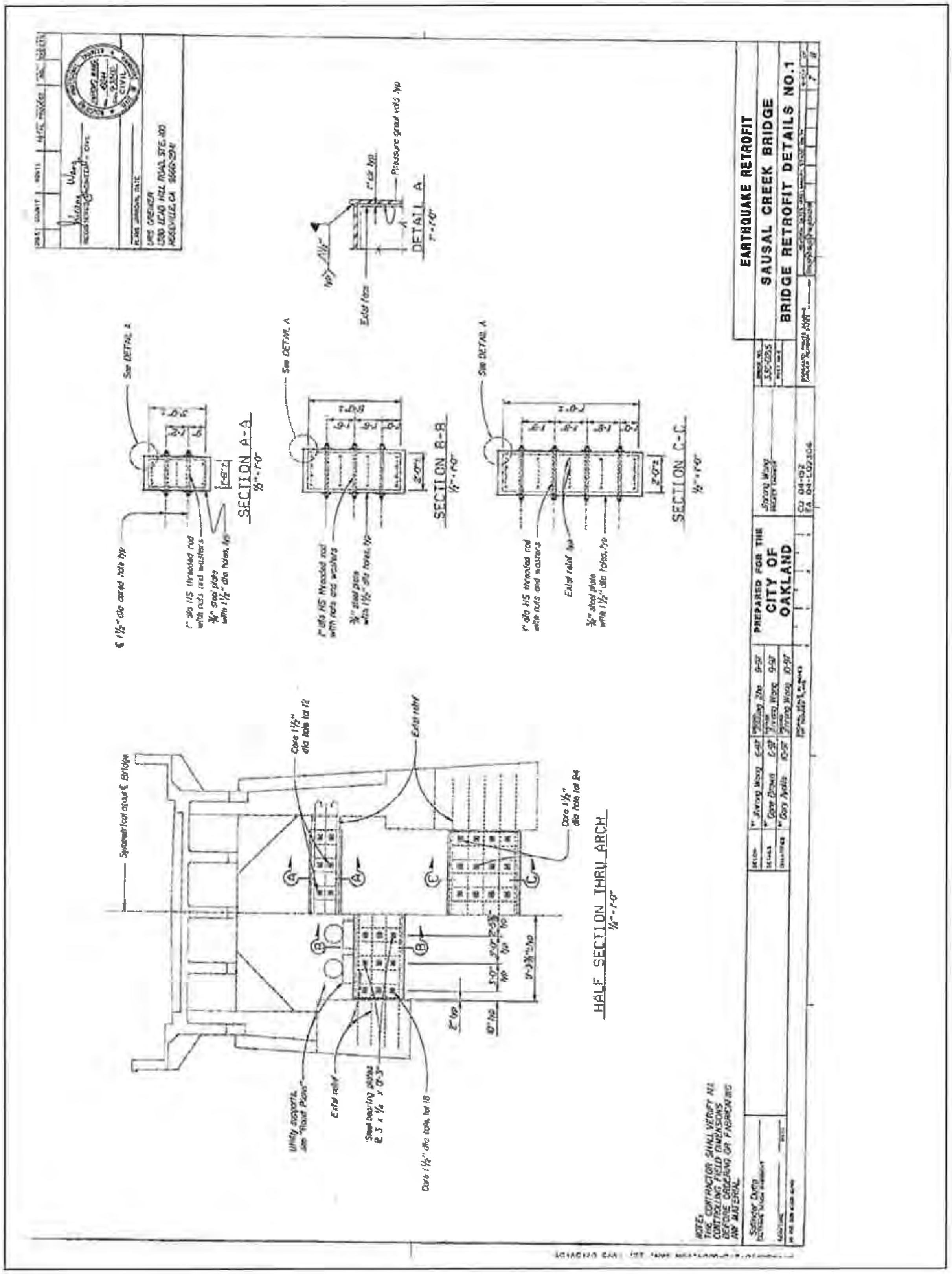


Figure 7: Bridge Retrofit Details No. 1

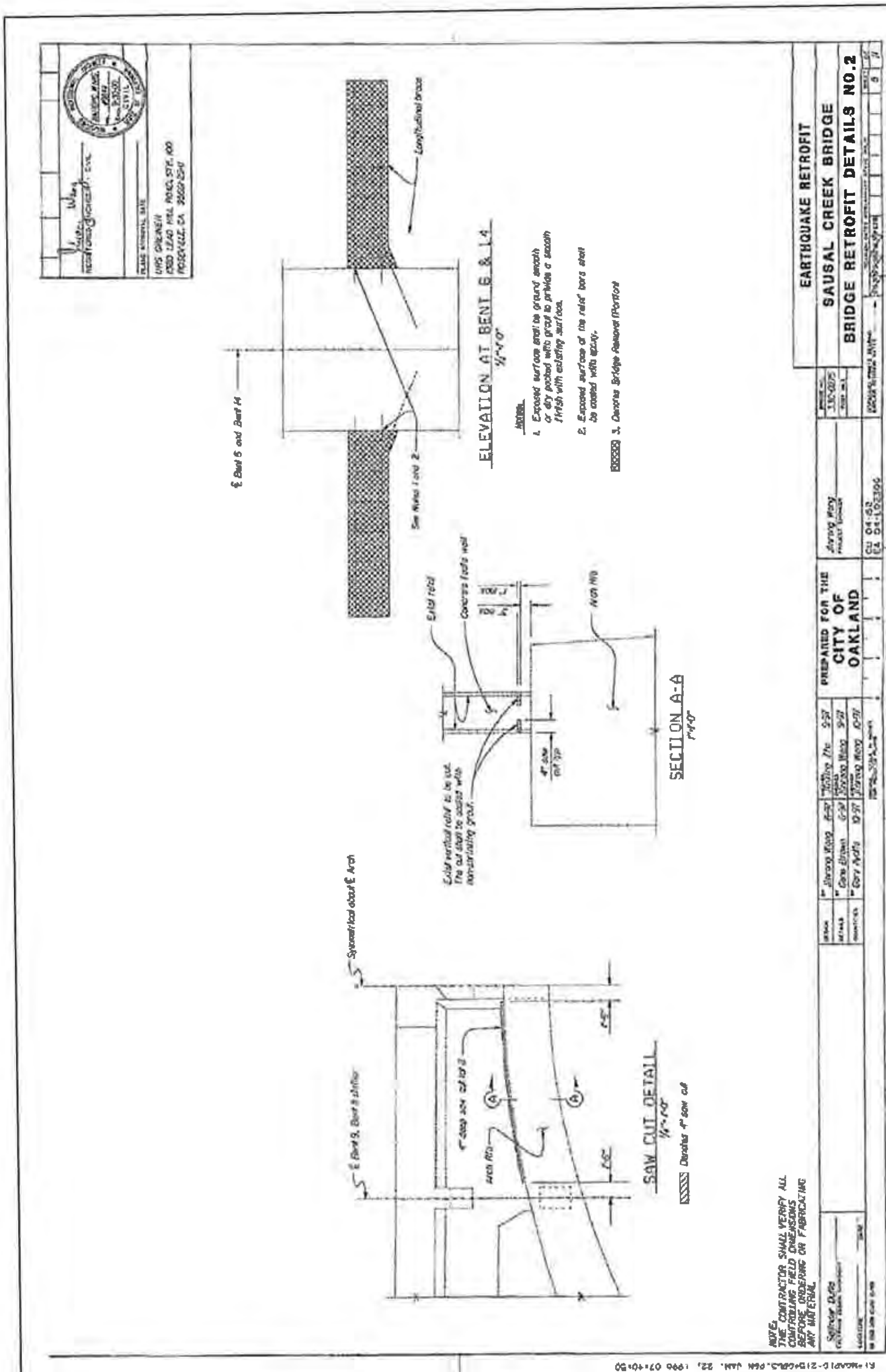


Figure 8: Bridge Retrofit Details No. 2

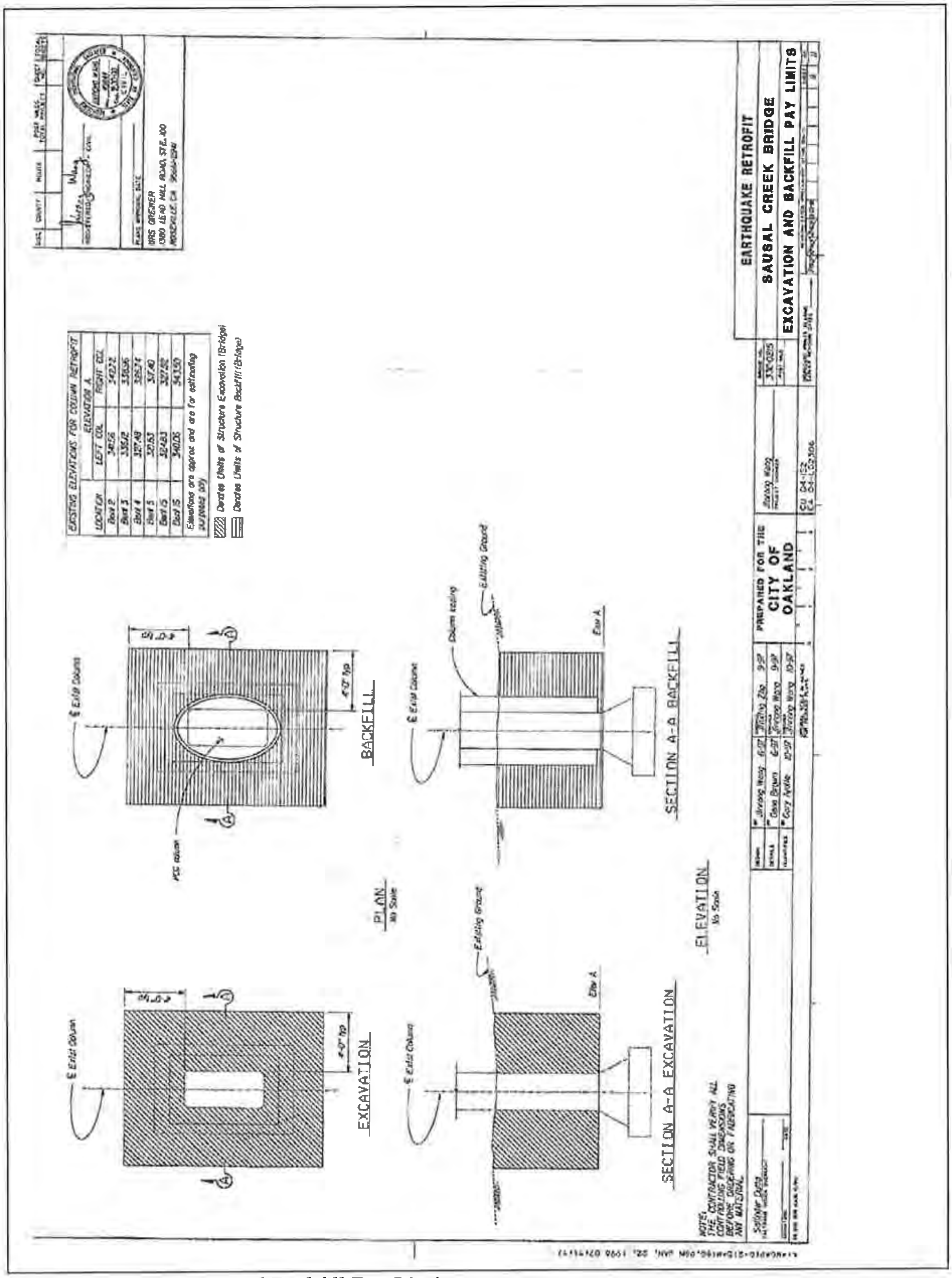


Figure 9: Excavation and Backfill Pay Limits

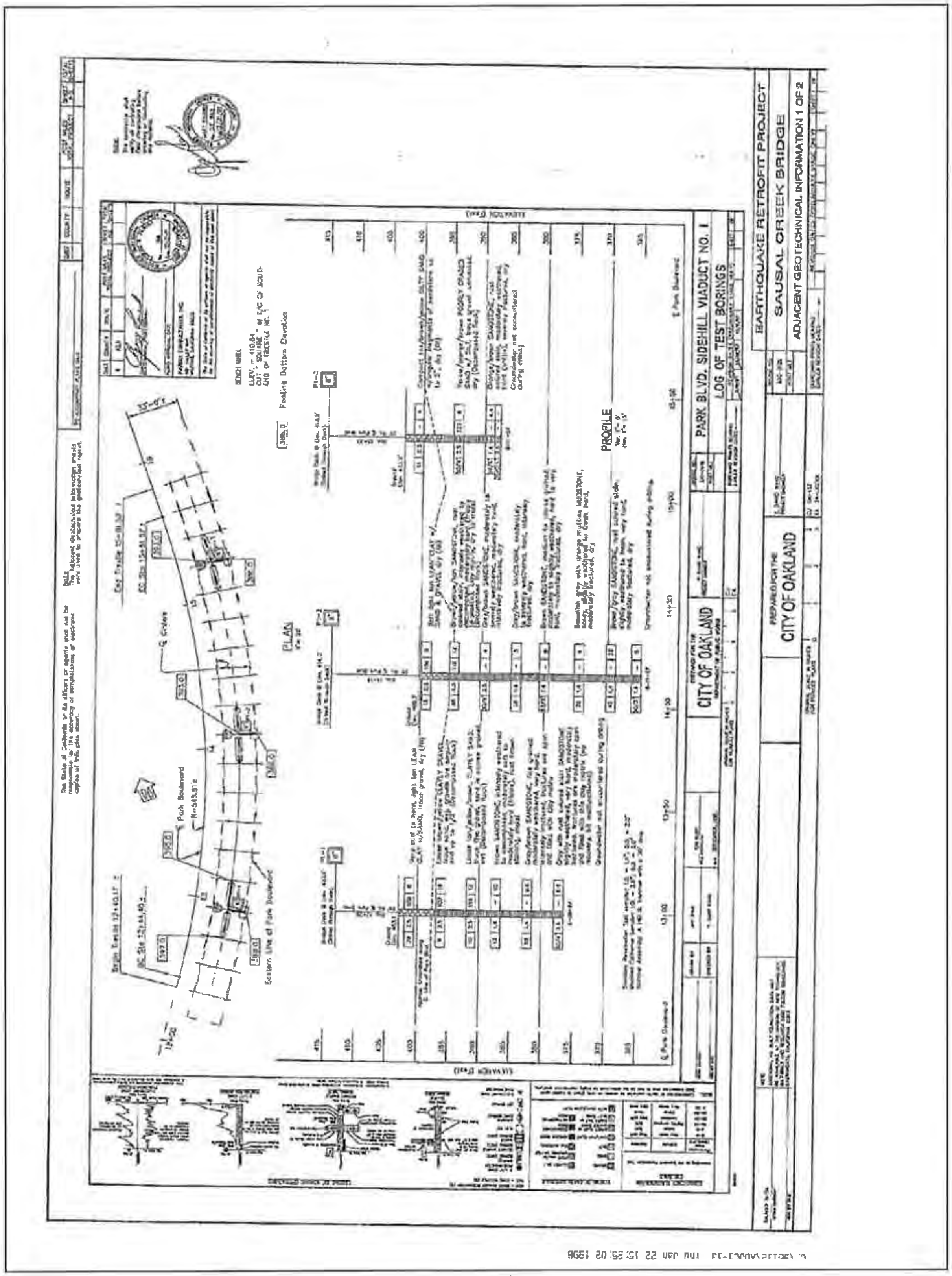


Figure 10: Adjacent Geotechnical Information 1 of 2

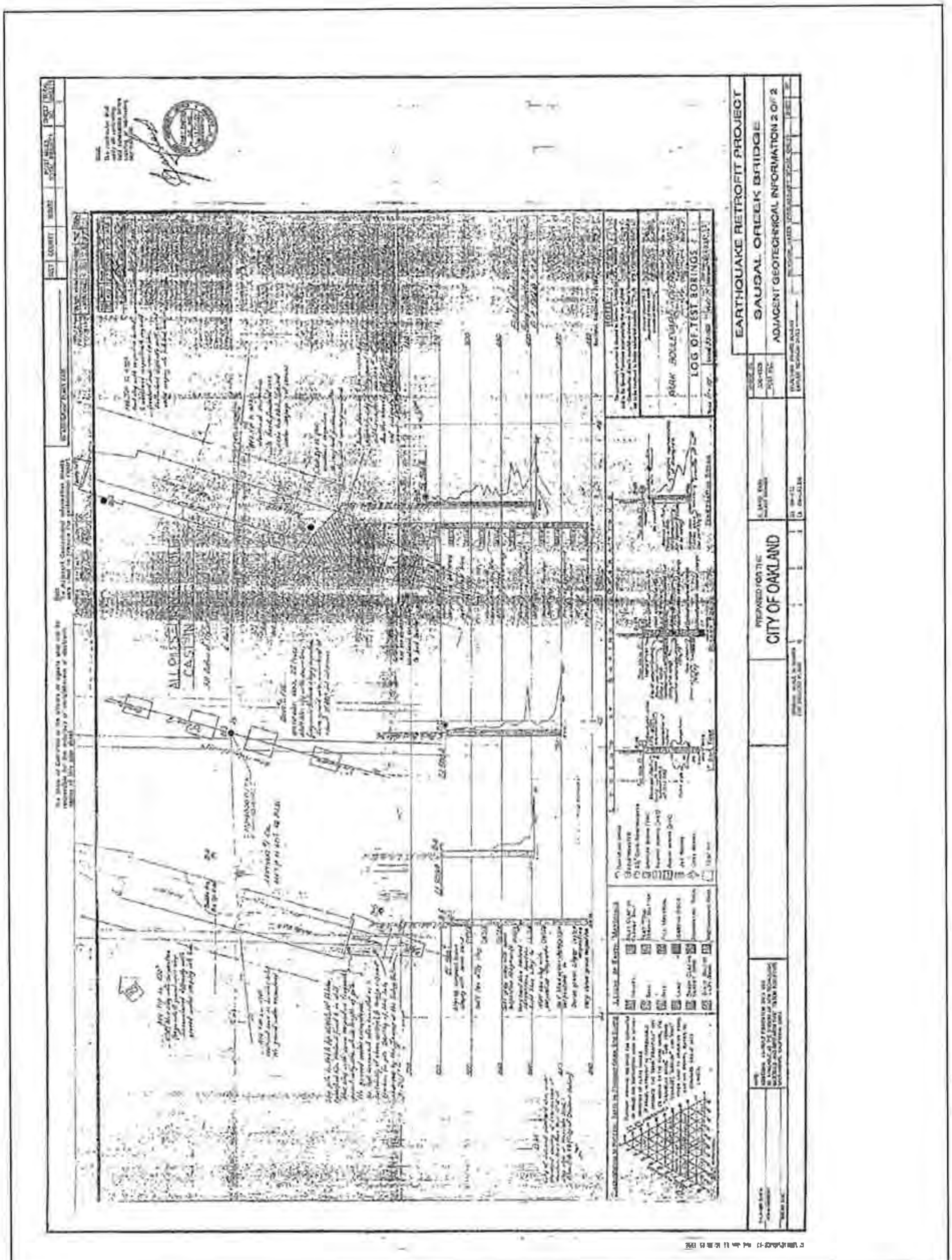


Figure 11: Adjacent Geotechnical Information 2 of 2

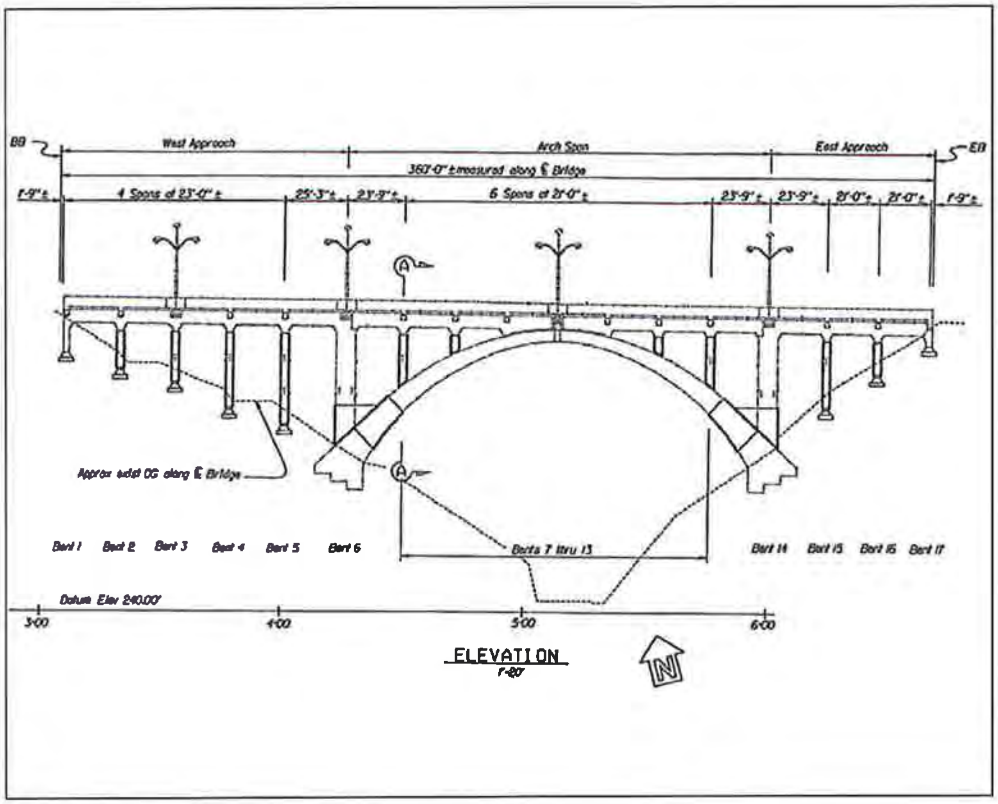


Figure 12: Post Project View.

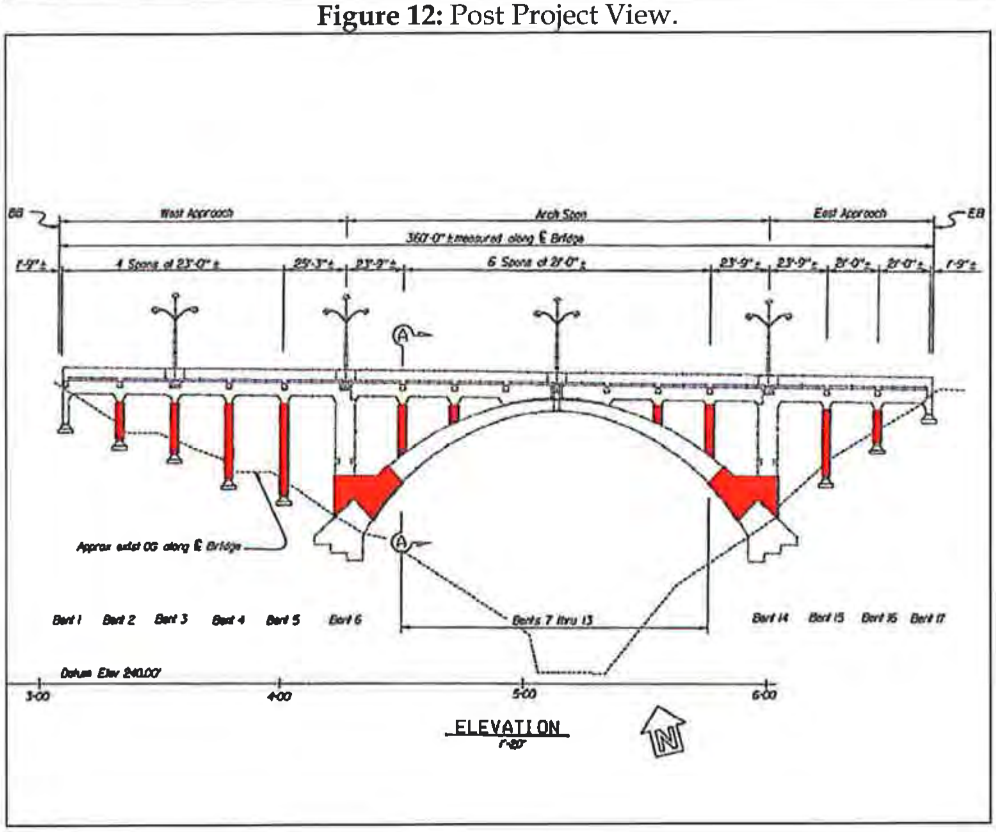


Figure 13: Post Project View with Steel Casings Highlighted in Red.

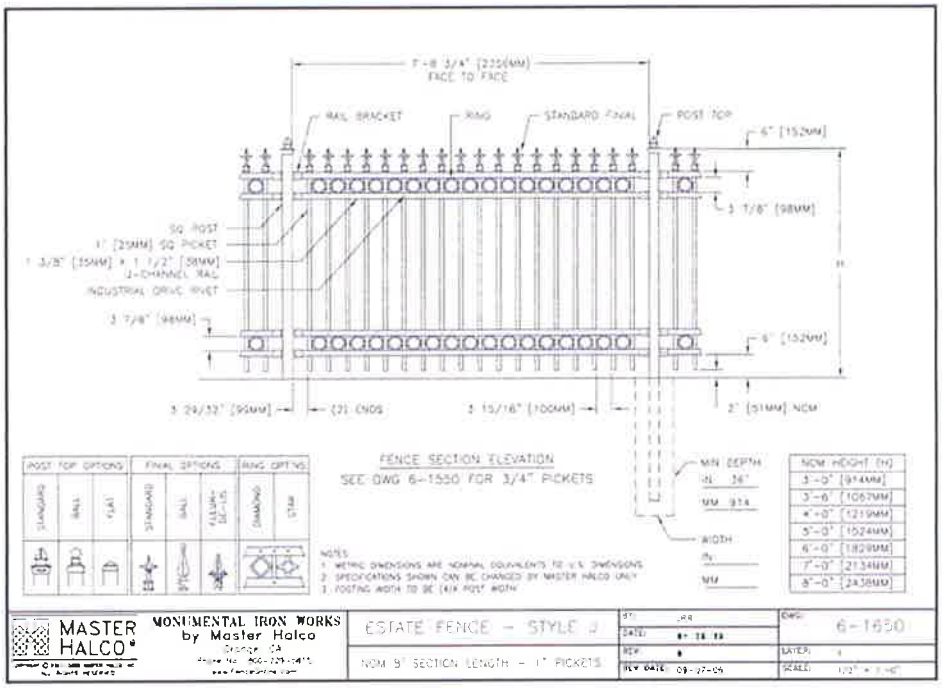


Figure 14: Example of New Fence.

Figure 15: Photosimulation of Example Fence.

List of Preparers

This text was prepared by Rand F. Herbert, a principal at JRP Historical Consulting, LLC, with over 25 years of qualifying experience working in Cultural Resources Management. He was assisted by Shawn Riem, a Research Assistant III with JRP.

Mr. Herbert received his Bachelor of Arts in History from the University of California, Berkeley, in 1973, and his Masters of Arts in History from the University of California, Davis, in 1977. Since that time he has been active in private consulting on cultural resources management projects for federal, state and local agencies and private companies and individuals. Mr. Herbert qualifies as a historian/architectural historian under United States Secretary of Interior's Professional Standards (as defined in 36 CFR Part 61).

Mr. Herbert has prepared finding of effect documents for a variety of projects. Among these are:

- Four finding of effects analyses for projects at Cahill (Diridon) Station, Caltrain, the San Francisco Peninsula commuter rail system. These finding of effect documents addressed improvements related to ADA facilities, conversion of warehouse to office space, installation of additional passenger platforms and shelters, and installation of track electrification equipment, all at the National Register-listed Diridon (Cahill) Station in San Jose.
- Commodore Schuyler F. Heim Memorial Bridge, (a vertical lift bridge in the Port of Long Beach) for CH2M Hill for submittal to Caltrans and FHWA.
- Lower Owens River Intake (a portion of the Los Angeles Aqueduct System) for the Los Angeles Department of Water and Power.
- Historic Bridges and Railroad Stations for Caltrain, the San Francisco Peninsula commuter rail system. This finding of effect document addressed over 30 resources, including installation of catenaries amid the umbrella sheds at the National Register-listed Diridon (Cahill) Station in San Jose.
- Historic Buildings in Sacramento, as a part of Sacramento Regional Transit's Light Rail expansion project from downtown Sacramento to Folsom. Among the impacts to resources this report addressed were those to the National Register-listed and eligible properties that were part of the historic Sacramento Depot complex.
- Historic Buildings and Structures in Sacramento, as a part of Sacramento Regional Transit's Light Rail expansion project from downtown Sacramento to Meadowview.

This project included two significant houses and Hughes Stadium, on the campus of Sacramento City College.

- First Street Bridge Widening, City of Los Angeles.

Mrs. Riem assisted in the preparation of this Finding of Effect. She has a Master of Arts degree in Public History from the California State University at Sacramento and qualifies as a historian under United States Secretary of Interior's Professional Standards (as defined in 36 CFR Part 61).

Appendix A:

National Register of Historic Places Evaluation Form for Leimert Boulevard Bridge (Sausal Creek Bridge), 33C-0215

Bridge #: 33C0215 **District:** 4

Road: LEIMERT BLVD **Route:** **PM:**

Feature Intersected: SAUSAL CREEK

City: Oakland **County:** Alameda

Other Location Info: 0.1 Mile East of Park Blvd.

Year Built: 1926

Year Altered:

Owner: County

Designer: George A. Posey, Alameda County Survey

Contractor: Park Boulevard Company

Evaluation Summary (NRHP Eligibility

Previous: 5 Not eligible

Update: 2 Eligible

Description: A reinforced concrete, open spandrel, fixed, parabolic bridge with a single arch span measuring 173 feet long. Total bridge length is 357 feet and includes two reinforced concrete T-Beam approach spans supported by reinfoced concrete columns. This two lane bridge is 34.3 feet wide and has a cantilevered walkway. Alterations include addition of concrete barrier railings topped with a chain link barrier.

Surveyor: CDM / JMC **Survey Date:** 3/27/2003

Points	1986		2003	
Date of Construction	8	1926 - 1930 period	8	1926-1930 period
Designer Significance	0	Not significant or not known	0	Not significant or not known
Length:				
Max. Span Length	4	150-174	4	150-174
Total Length	2	250-499	2	250-499
Technical Merit	5	Fair	5	Fair
Special Features:				
Lanterns	0	None	0	None
Railings	0	None	0	None
Pylons	0	None	0	None
Spandrel Treatment	0	None	0	None
Distinctive Texture	0	None	0	None
Pedestrian Amenities	0	None	0	None
Aesthetics				
Site	3	Good	3	Good
Structural	3	Good	3	Good
Integrity:				
Location/Setting	0	Excellent	0	Excellent
Design/Material	-3	Good	-3	Good
Feeling/Association	0	Excellent	0	Excellent
Transport. / Hist.Assoc.	0	None / unknown	N/A	
Totals	22		22	

Criterion A Evaluation:
See Historic Evaluation.

Notes:
Year built changed from 1930 to 1926 per plaque.

This bridge is designated as an Oakland City Landmark.

Bridge 33C0215 on Leimert Boulevard over Sausal Creek in the City of Oakland, appears to meet the criteria for listing in the National Register because it is significant under both Criterion A and C and it retains historic integrity.

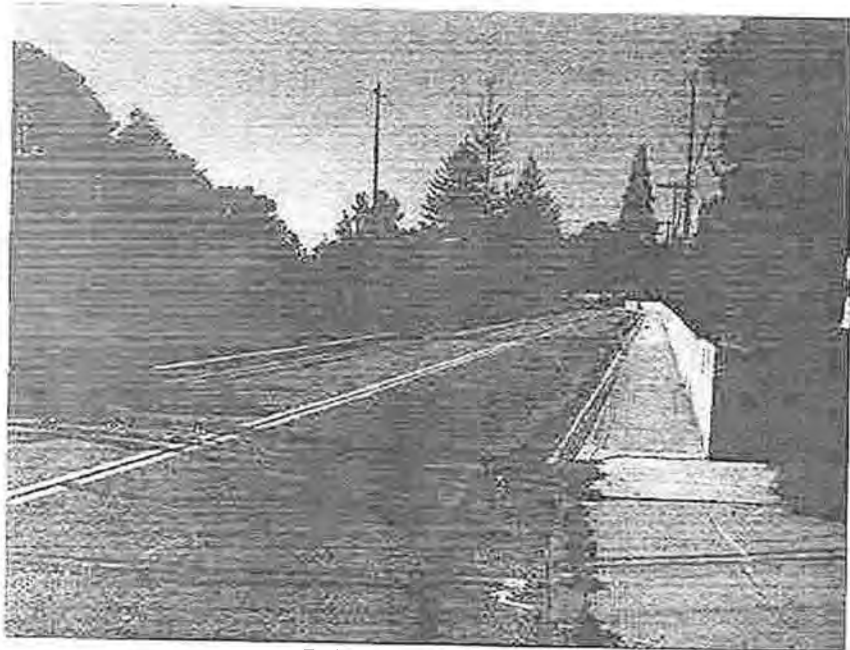
In the 1920s there was increasing demand for residential development in the outlying areas of Oakland. Developers at the time designed subdivisions and built various structural or street features, such as neighborhood entry gates and landscaped traffic islands, as a way to encourage parcel sales and successful development. Demand for new housing was sufficient that the Park Boulevard Company, an association of land developers headed by realtor Henry Leimert, set out to develop the area that became Oakmore, which until that time had been undeveloped and where redwoods were cleared and floated down creeks to Lake Merritt. The plans for the subdivision, which the developers called Oakmore Highlands, required a bridge to be built over Sausal Creek in order for future residents to reach the area. Without a bridge, the relatively deep 325 foot canyon served as a natural barrier to residential development. The Park Boulevard Company hired Alameda County Surveyor, George A. Posey to design the fixed arch span that was to carry Park Boulevard (currently Leimert Boulevard) over the Creek and into the planned residential areas and small commercial area. The bridge was constructed to carry both an extension of the Park Boulevard streetcar line as well as automobile traffic. Immediately following the completion of the bridge in 1926, the company advertised for the sale of lots in Oakmore Highlands, specifically advertising the accessibility of the new subdivision due to the construction of the Leimert Bridge. The subdivision was made up of four tracts totaling 440 lots. Most of the lots were zoned for single family residences with some, especially in the central area, being zoned for multi-family and commercial use. Beginning with the grand opening of the subdivision in 1926, it was developed in sections with new sections being offered for sale only after adjoining sections were sold. By the mid 1930s, Oakmore Highlands was called „ one of the bright spots in metropolitan Oakland _ s real estate activity, ‚ as lots continued to sell and the subdivision saw continued construction activity. The majority of the homes in the subdivision were constructed in the late 1920s through the late 1930s in a range of architectural styles including Mediterranean, Tudor, Monterey, Rustic, and Moderne.

Bridge 33C0215 is significant under Criterion A, at the local level, for its association with residential development of the Oakland Hills. The bridge is important within this context because it was constructed specifically to permit development of the Oakmore subdivision. It is one of the few bridges in the state that exhibits this importance. It was built in response to specific demand of residential development and its construction led directly to the successive development of a previously inaccessible area.

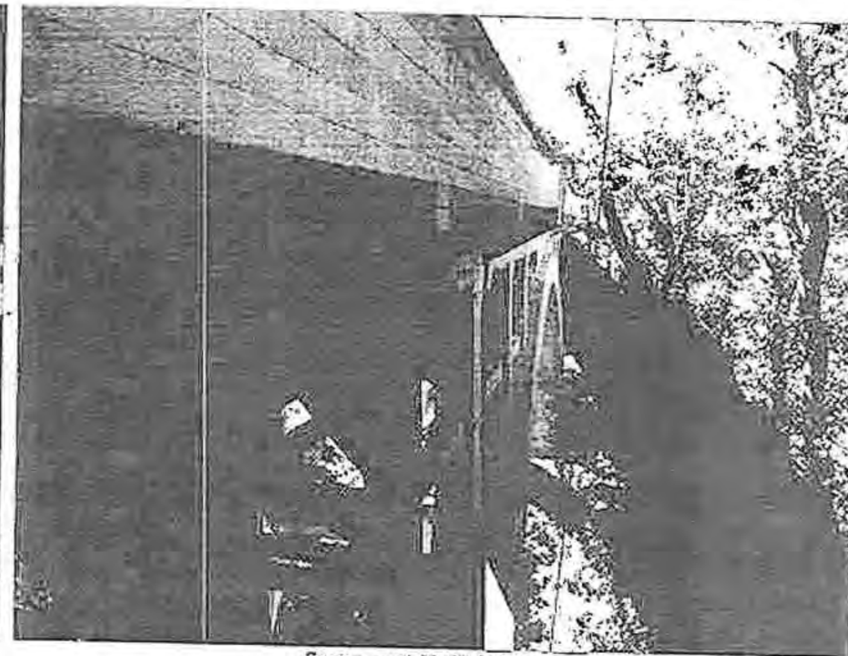
Bridge 33C0215 is significant under Criterion C because it embodies distinctive characteristics of type, period, and method of construction. Its significance is not for its structural engineering achievement, rather, this significance lies in the aesthetic design of the structure and its successful integration with the Oakmore subdivision development. Since this bridge was constructed to be the entrance to the new Oakmore Highlands subdivision, the design was carefully crafted to create the image of the community that the developers were trying to sell to would be home buyers. The sturdy yet graceful structure provided an attractive access to the hills, which had formerly been isolated by Dimond Canyon on the northwest and the bed of the former Palo Seco Creek (currently State Route 13) to the east. The single span open spandrel reinforced concrete arch bridge was designed to create both a literal and figurative gateway to the Oakmore Highlands area, and it corresponds to the period architectural designs used throughout the subdivision.

In addition to its significance, bridge 33C0215 also retains historic integrity that conveys its design significance. The structure is in its original location with it original design, materials, and workmanship intact. One can still ascertain the structure _ s integrity (feeling and association.

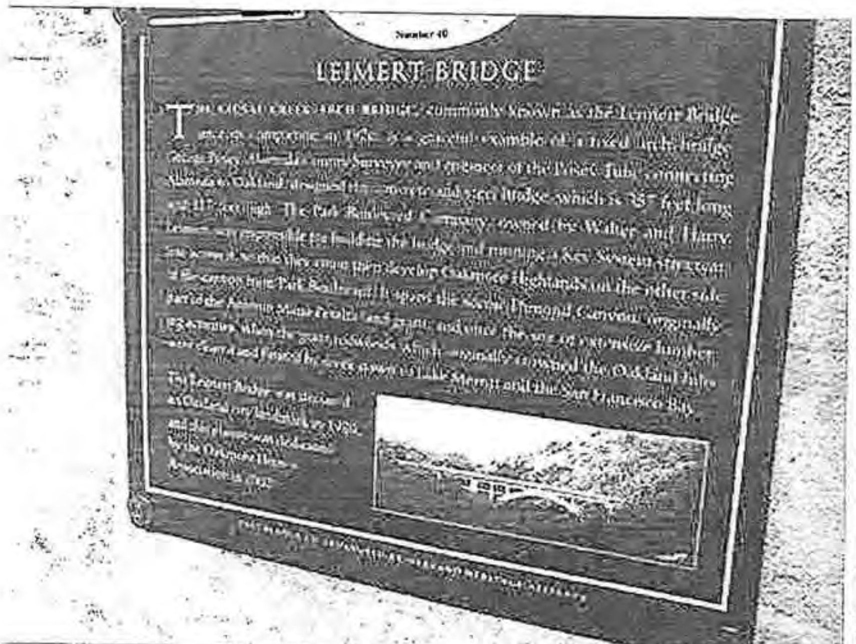
References: Oakmore History Booklet accessed online on March 23, 2004 at http://www.oakmorehomes.org/Value/ValueHistoryBook.htm; Oakland Historic Landmark documents for the Leimert Bridge, 1980; Map of the County of Alameda, CA., 1927, compiled from Official County and City Records and other Original Sources by American Surveys, 401 Wakefield Bldg., Oakland, CA.



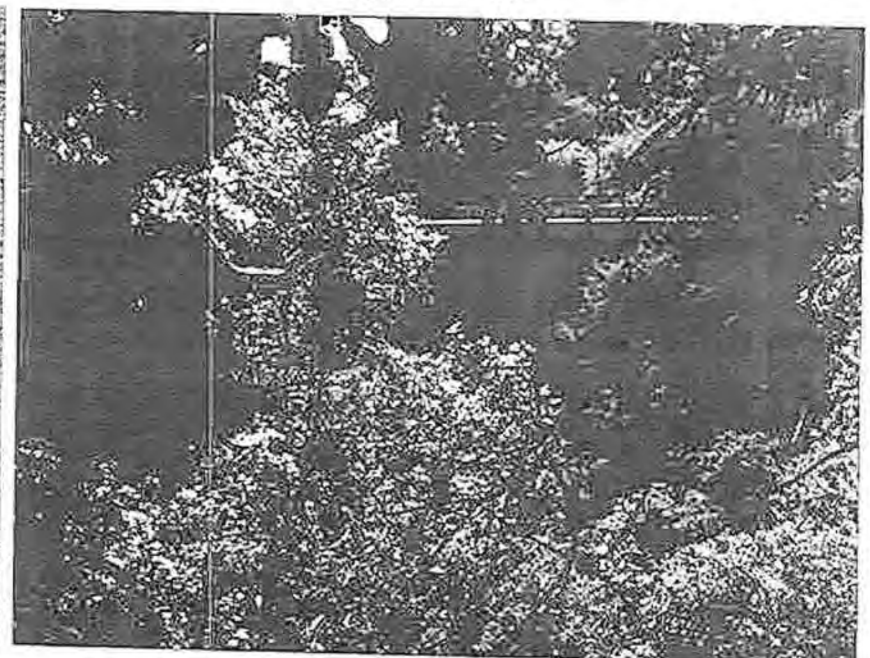
Facing west 03-27-2003



Facing west 03-27-2003



Facing north 03-27-2003



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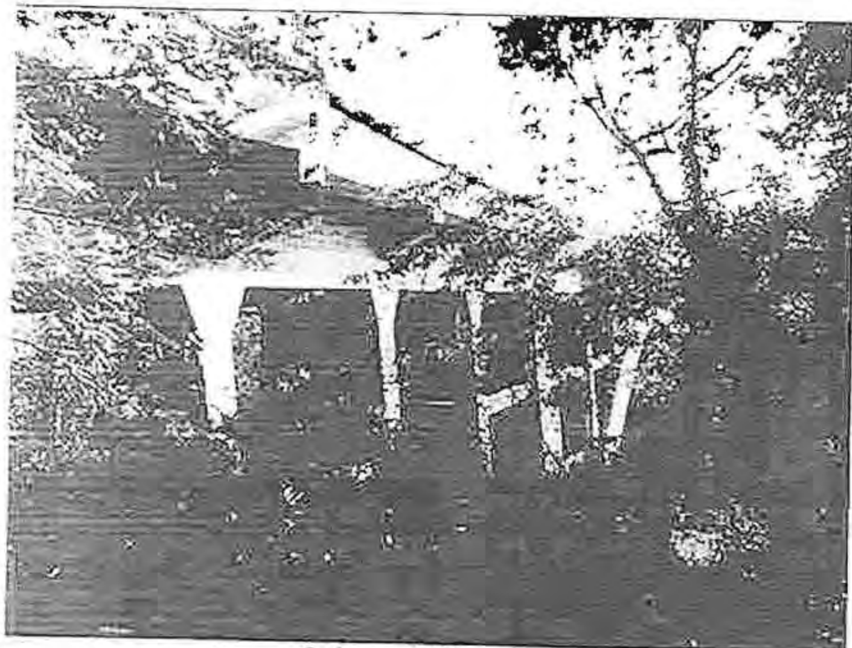
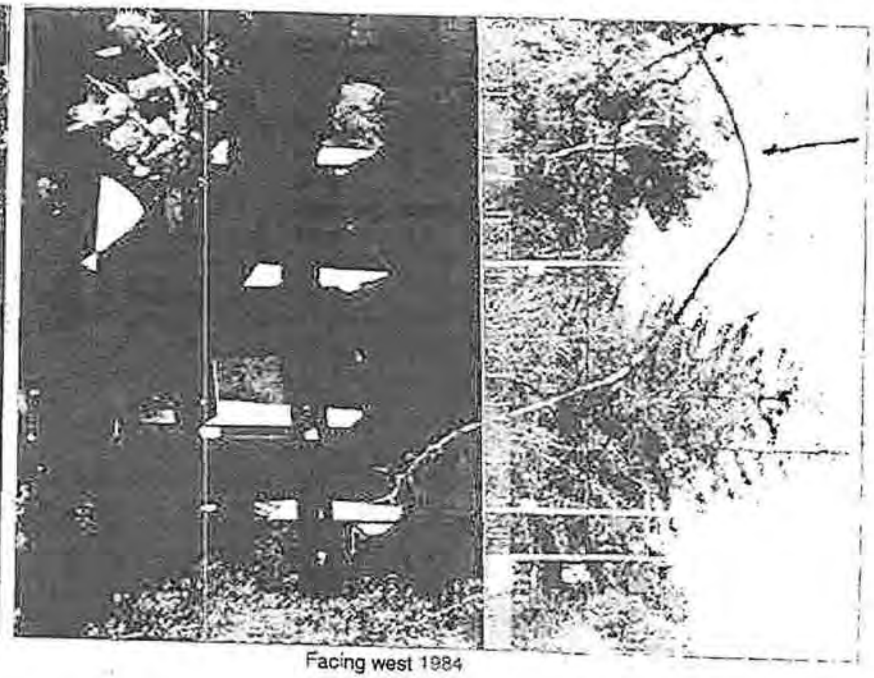
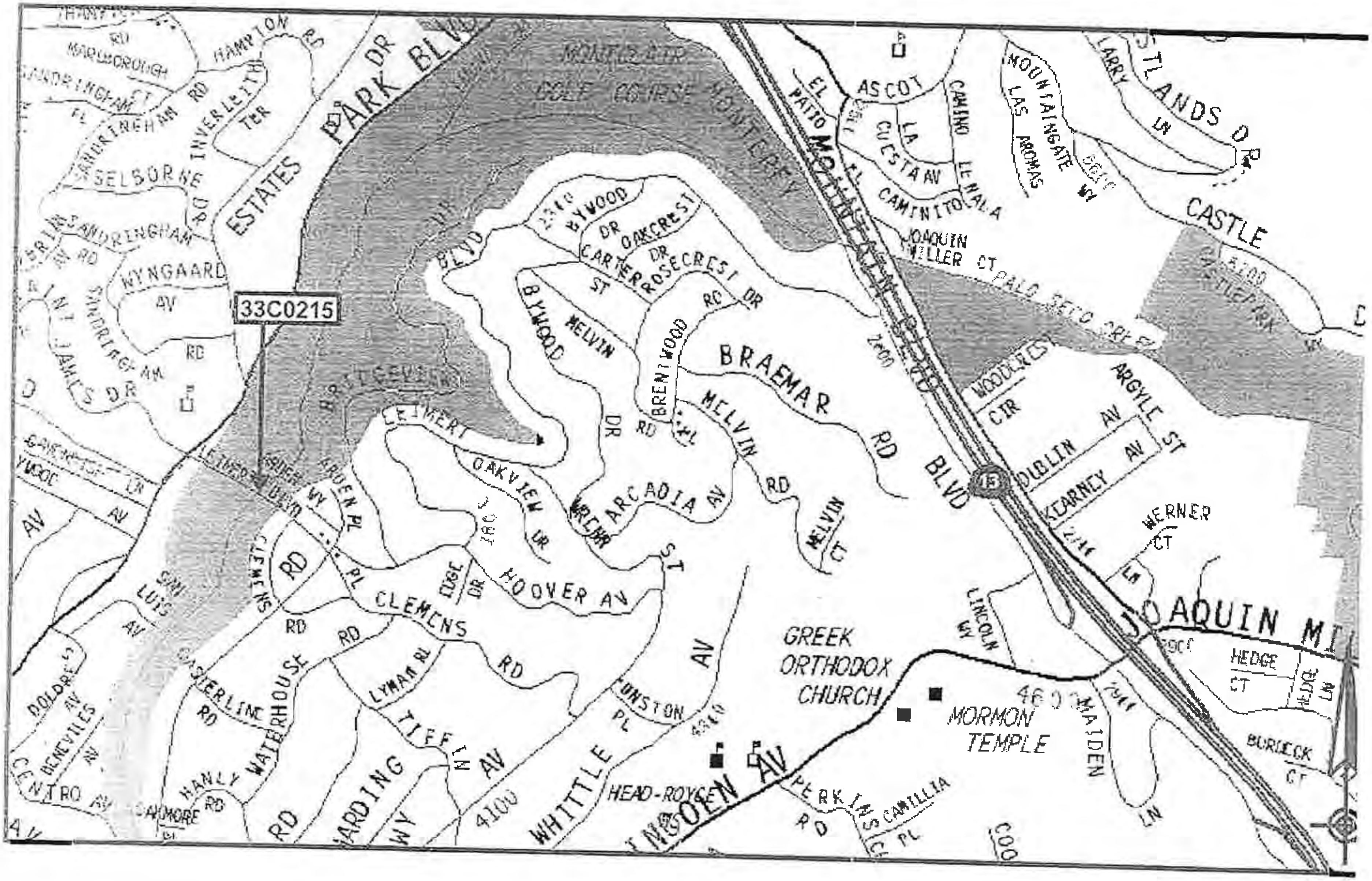


Facing west 1984



Facing west 1984

Location Map



Attachment E:
Memorandum from Jennifer Darcangelo (Chief, Office of Cultural Resource Studies) to Sylvia Fung (Office Chief, Local Assistance), regarding “Section 106 compliance for the Leimert Boulevard Bridge seismic retrofit project in the City of Oakland, Alameda County,” April 14, 2009

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: SYLVIA FUNG
Office Chief, Local Assistance

Date: April 14, 2009

Attn: BORIS DEUNERT, Senior Environmental Planner

File: 04-Ala-0
STPLZ-5012 (025)
Leimert Boulevard Bridge
City of Oakland

From: JENNIFER DARCANGELO EAM
Chief, Office of Cultural Resource Studies

Subject: Section 106 compliance for the Leimert Boulevard Bridge seismic retrofit project in the City of Oakland, Alameda County

On April 13, 2009, Caltrans District 4 staff from the Office of Cultural Resource Studies (OCRS) and Caltrans Headquarters staff from the Office of Cultural and Community Studies met with the State Historic Preservation Officer (SHPO), Mr. Wayne Donaldson, and staff from his office. The purpose of the meeting was to discuss several projects involving the seismic retrofit or replacement of historic bridges in District 4, including the Leimert Boulevard Bridge.

In discussing the Leimert Boulevard Bridge at the April 13 meeting, Mr. Donaldson requested consideration of some changes to the project, in keeping with the intent of Section 106 of the National Historic Preservation Act, which is to avoid or minimize adverse effects to historic properties. The horizontal bracing between the bent columns is an important part of the visual character of the historic bridge. Mr. Donaldson questioned whether the project can be modified to retain the horizontal bracing, or whether the horizontal bracing could be reinstalled after installation of the column casing, either as structural members or as non-structural elements that would retain more of the historic appearance of the bridge. Mr. Donaldson also recommended that the new fence proposed to replace the existing chain-link fence adjacent to the sidewalks be a simple design, without ornamental finials, rings, or other decorative features. A simple design would be consistent with the Secretary of the Interior's Standards for Historic Preservation, which call for clearly distinguishing new additions from historic features. Similarly, a relatively simple and unornamented design is preferred for the new light standards, or a design that is consistent with the light standards currently in use in the neighborhoods on either side of the bridge. We request that the City of Oakland respond to these concerns and provide a written response, revised drawings, and/or images as appropriate to describe the seismic retrofit work and proposed railing and light standards. Caltrans will forward the city's response to the SHPO. We would be happy to meet with the City of Oakland to discuss this project, if the city requests such a meeting.

In order to complete the Section 106 compliance process for this project, we will need to execute a mitigation agreement between the SHPO and Caltrans District 4, with the City of Oakland as a concurring party. A copy of the draft mitigation agreement is attached. We request that the City of Oakland provide the name and title of its signatory, for inclusion on the signature page of the final mitigation agreement.

If you have any questions or concerns, please contact Elizabeth McKee at (510) 622-5458 or lissa_mckee@dot.ca.gov.

CC: OCRS files

Standard Mitigation Measures Agreement
Between the California Department of Transportation (Caltrans)
and the California State Historic Preservation Officer
For the Seismic Retrofit of the Leimert Boulevard Bridge
in Oakland, Alameda County

WHEREAS, the Federal Highway Administration (FHWA) has assigned and Caltrans has assumed FHWA responsibility for environmental review, consultation, and coordination under the provisions of the *Memorandum of Understanding between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's participation in the Surface Transportation Project Delivery Pilot Program*, which became effective on July 1, 2007 and applies to the project; and

WHEREAS, Caltrans, in consultation with the California State Historic Preservation Officer (SHPO), has determined that the Leimert Boulevard Bridge is eligible for listing on the National Register of Historic Places and will be affected by the project; and

WHEREAS, Caltrans and the SHPO have consulted in accordance with the 1995 *Programmatic Agreement Regarding the Seismic Retrofit of Bridge Structures in California* (PA), and have agreed that the implementation of the Standard Mitigation Measures below will satisfactorily take into account the effects of the Undertaking on the historic bridge;

NOW, THEREFORE, Caltrans and the SHPO agree that the Undertaking will be implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on the historic bridge.

STIPULATIONS

In accordance with sections VII.A.1.a and VII.A.4 of the PA, Caltrans shall ensure that the following stipulations are carried out:

1. Recordation

The Leimert Boulevard Bridge shall be photographically recorded using a large format (4"x5") or digital camera. Photographs shall include overall views of the bridge in its setting, major structural components, and significant details. All prints shall be 4"x5" or larger black and white on archival paper.

A written description and statement of the bridge's significance, based on the 2003 National Register evaluation, shall accompany each set of prints.

One set of the prints and written material shall be provided to the Oakland History Room of the Oakland Public Library and to Caltrans' Library and History Center in Sacramento.

The requirements of this stipulation shall be completed prior to beginning the Undertaking.

2. Reevaluation

Within ninety (90) days after the completion of the Undertaking, the Leimert Boulevard Bridge shall be reevaluated for eligibility for listing on the National Register of Historic Places. Caltrans shall seek the concurrence of the SHPO on the continued eligibility of the bridge.

SIGNATORY PARTIES

California Department of Transportation

By: ______________________________ ________________

Bijan Sartipi, Director — Date
Caltrans District 4, Oakland

California State Historic Preservation Officer

By: ______________________________ ________________

Milford Wayne Donaldson, FAIA — Date

CONCURRING PARTY

City of Oakland

By: ______________________________ ________________

Date

Attachment F:
Updated NAHC Correspondence conducted by Brenna Wheelis,
William Self Associates, Inc., December 2017-January 2018

Additional Information

California Native Americans

Cultural Resources

Strategic Plan

Commissioners

Federal Laws and Codes

State Laws and Codes

Local Ordinances and Codes

Additional Information

Return to CNAHC Home Page

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 – Fax
nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: GPA Consulting - Leimert Bridge

County: Alameda

USGS Quadrangle

Name: 7.5' Oakland East 1959

Township: 1S Range: 3W Section(s): N/A

Company/Firm/Agency:
William Self Associates, Inc.

Contact Person: Brenna Wheelis

Street Address: 61d Avenida de Orinda

City: Orinda, CA Zip: 94563

Phone: (925) 253-9070

Fax: (925) 254-3553

Email: bwheelis@williamself.com

Project Description:

Caltrans contracted with GPA to work on the seismic retrofits for the bridge.

Consultants in Archaeology and Historic Preservation

December 20, 2017

Irene Zwierlein, Chairperson
Amah Mutsun Tribal Band of Mission San Juan Bautista
789 Canada Rd
Woodside, CA, 94062

RE: GPA Consulting, Leimert Bridge Seismic Retrofit, Oakland, Alameda County

Dear Ms. Zwierlein,

WSA has been contracted by GPA Consulting to prepare an updated HPSR for the Leimert Bridge Seismic Retrofit Project, located in the City of Oakland, Alameda County. GPA has been contracted by Caltrans to assist in seismically retrofitting some of the bents used to support the Leimert bridge. The project is located in in Township 1 South, Range 3 West, in an unknown section of the Oakland 7.5' Topographic Map (1959). As per the contract, WSA has also contacted the Native American Heritage Commission with a request that they search their Sacred Lands Database files and send a list of local, interested Native American representatives.

We would appreciate receiving any comments you may have regarding cultural resources or sacred sites issues within the immediate project area. If you could provide your comments in writing, at your earliest convenience, to the address below, we will make sure the comments are provided to our client as part of this project. Should you have any questions, I can be reached at (925) 253-9070.

Thank you again for your assistance.

Sincerely,

Christina Alonso
Project Manager
Attachment: Map

WSA | A PaleoWest Archaeology Company

Consultants in Archaeology and Historic Preservation

December 20, 2017

Ann Marie Sayers, Chairperson
Indian Canyon Mutsun Band of Costanoan
P.O. Box 28
Hollister, CA 95024

RE: GPA Consulting, Leimert Bridge Seismic Retrofit, Oakland, Alameda County

Dear Ms. Sayers,

WSA has been contracted by GPA Consulting to prepare an updated HPSR for the Leimert Bridge Seismic Retrofit Project, located in the City of Oakland, Alameda County. GPA has been contracted by Caltrans to assist in seismically retrofitting some of the bents used to support the Leimert Bridge. The project is located in in Township 1 South, Range 3 West, in an unknown section of the Oakland 7.5' Topographic Map (1959). As per the contract, WSA has also contacted the Native American Heritage Commission with a request that they search their Sacred Lands Database files and send a list of local, interested Native American representatives.

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Thank you again for your assistance.

Sincerely,

Christina Alonso
Project Manager
Attachment: Map

P.O. Box 2192 | WSA, Inc. | Phone: 925-253-9070
61d Avenida de Orinda | Fax: 925-254-3553
Orinda CA 94563 | Email:jallan@williamself.com

Consultants in Archaeology and Historic Preservation

December 20, 2017

Rosemary Cambra, Chairperson
Muwekma Ohlone Indian Tribe of the SF Bay Area
P.O. Box 360791
Milpitas, CA 95036

RE: GPA Consulting, Leimert Bridge Seismic Retrofit, Oakland, Alameda County

Dear Ms. Cambra,

WSA has been contracted by GPA Consulting to prepare an updated HPSR for the Leimert Bridge Seismic Retrofit Project, located in the City of Oakland, Alameda County. GPA has been contracted by Caltrans to assist in seismically retrofitting some of the bents used to support the Leimert Bridge. The project is located in in Township 1 South, Range 3 West, in an unknown section of the Oakland 7.5' Topographic Map (1959). As per the contract, WSA has also contacted the Native American Heritage Commission with a request that they search their Sacred Lands Database files and send a list of local, interested Native American representatives.

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Thank you again for your assistance.

Sincerely,

Christina Alonso
Project Manager
Attachment: Map

P.O. Box 2192 | WSA, Inc. | Phone: 925-253-9070
61d Avenida de Orinda | Fax: 925-254-3553
Orinda CA 94563 | Email:jallan@williamself.com

A PaleoWest Archaeology Company

Consultants in Archaeology and Historic Preservation

December 20, 2017

Katherine Erolinda Perez, Chairperson
North Valley Yokuts Tribe
P.O. Box 717
Linden, CA 95236

RE: GPA Consulting, Leimert Bridge Seismic Retrofit, Oakland, Alameda County

Dear Ms. Perez,

WSA has been contracted by GPA Consulting to prepare an updated HPSR for the Leimert Bridge Seismic Retrofit Project, located in the City of Oakland, Alameda County. GPA has been contracted by Caltrans to assist in seismically retrofitting some of the bents used to support the Leimert Bridge. The project is located in in Township 1 South, Range 3 West, in an unknown section of the Oakland 7.5' Topographic Map (1959). As per the contract, WSA has also contacted the Native American Heritage Commission with a request that they search their Sacred Lands Database files and send a list of local, interested Native American representatives.

We would appreciate receiving any comments you may have regarding cultural resources or sacred sites issues within the immediate project area. If you could provide your comments in writing, at your earliest convenience, to the address below, we will make sure the comments are provided to our client as part of this project. Should you have any questions, I can be reached at (925) 253-9070.

Thank you again for your assistance.

Sincerely,

Christina Alonso
Project Manager
Attachment: Map

P.O. Box 2192 WSA, Inc. Phone: 925-253-9070
61d Avenida de Orinda Fax: 925-254-3553
Orinda CA 94563 Email:jallan@williamself.com

December 20, 2017

Andrew Galvan
The Ohlone Indian Tribe
P.O. Box 3152
Fremont, CA 94539

RE: GPA Consulting, Leimert Bridge Seismic Retrofit, Oakland, Alameda County

Dear Mr. Galvan,

WSA has been contracted by GPA Consulting to prepare an updated HPSR for the Leimert Bridge Seismic Retrofit Project, located in the City of Oakland, Alameda County. GPA has been contracted by Caltrans to assist in seismically retrofitting some of the bents used to support the Leimert Bridge. The project is located in in Township 1 South, Range 3 West, in an unknown section of the Oakland 7.5' Topographic Map (1959). As per the contract, WSA has also contacted the Native American Heritage Commission with a request that they search their Sacred Lands Database files and send a list of local, interested Native American representatives.

We would appreciate receiving any comments you may have regarding cultural resources or sacred sites issues within the immediate project area. If you could provide your comments in writing, at your earliest convenience, to the address below, we will make sure the comments are provided to our client as part of this project. Should you have any questions, I can be reached at (925) 253-9070.

Thank you again for your assistance.

Sincerely,

Christina Alonso
Project Manager
Attachment: Map

P.O. Box 2192 | WSA, Inc. | Phone: 925-253-9070
61d Avenida de Orinda | Fax: 925-254-3553
Orinda CA 94563 | Email:jallan@williamself.com

December 20, 2017

Tony Cerda
Coastanoan Rumsen Carmel Tribe
244 E. 1st. Street
Pomona CA, 91766

RE: GPA Consulting, Leimert Bridge Seismic Retrofit, Oakland, Alameda County

Dear Mr. Cerda,

WSA has been contracted by GPA Consulting to prepare an updated HPSR for the Leimert Bridge Seismic Retrofit Project, located in the City of Oakland, Alameda County. GPA has been contracted by Caltrans to assist in seismically retrofitting some of the bents used to support the Leimert Bridge. The project is located in in Township 1 South, Range 3 West, in an unknown section of the Oakland 7.5' Topographic Map (1959). As per the contract, WSA has also contacted the Native American Heritage Commission with a request that they search their Sacred Lands Database files and send a list of local, interested Native American representatives.

We would appreciate receiving any comments you may have regarding cultural resources or sacred sites issues within the immediate project area. If you could provide your comments in writing, at your earliest convenience, to the address below, we will make sure the comments are provided to our client as part of this project. Should you have any questions, I can be reached at (925) 253-9070.

Thank you again for your assistance.

Sincerely,

Christina Alonso
Project Manager
Attachment: Map

Table 1 Record of Native American Contacts and Comments

Native American Contact	Date of Notification Letter (certified)	Date of Phone Contact	Comments	Date of Follow-Up Phone Contact	Comments
Tony Cerda Coastanoan Rumsen Carmel Tribe 244 E. 1st. Street Pomona CA, 91766 909-524-8041 cell 909-629-6081	12/20/17	1/11/17	Spoke with Tony, if it is less than 48 inches he has no concerns, if ground disturbing activities are more than 48 inches he wants to be kept involved if anything is found.	-----------	----------------------
Katherine Erolinda Perez, Chairperson North Valley Yokuts Tribe P.O. Box 717 Linden, CA 95236 canutes@verizon.net 209-887-3415	12/20/17	1/11/17	No answer, no voicemail, sent follow up email. Kathy responded back that she had no concerns.	--------------	--------------------
Irene Zwierlein, Chairperson Amah Mutsun Tribal Band of Mission San Juan Bautista 789 Canada Road Woodside, CA 94062 650-851-7489 (cell) 650-851-7747 (office) 650-332-1526 (fax) amahmutsuntribal@gmail.com	12/20/17	1/11/17	No answer, left message	1/17/2018	Sent follow up email
				5/11/2018	Irene would like cultural sensitivity training for all crews involved in ground disturbing activities.

Native American Contact	Date of Notification Letter (certified)	Date of Phone Contact	Comments	Date of Follow-Up Phone Contact	Comments
Ann Marie Sayers, Chairperson Indian Canyon Mutsun Band of Costanoan P.O. Box 28 Hollister, CA 95024 831-637-4238 ams@indiancanyon.org	12/20/17	1/11/17	Spoke with Ann Marie she recommends a Native American monitor and an archaeological monitor for all earth movement	-----------	---------------------
Rosemary Cambra, Chairperson Muwekma Ohlone Indian Tribe of the SF Bay Area P.O. Box 360791 Milpitas, CA 95036 408-314-1898 510-581-5194 muwekma@muwekma.org	12/20/17	1/11/17	No answer, mailbox is full. Sent follow up email	1/17/2018	Sent follow up email
				5/11/2018	Rosemary recommends that if discoveries are made and she's appointed MLD that Muwekma Tribe will monitor and recover.
Andrew Galvan The Ohlone Indian Tribe P.O. Box 3152 Fremont, CA 94539 510-882-0527 cell 510-687-9393 fax chochenyo@aol.com	12/20/17	1/11/17	Sent follow up email, Andy replied that he would like a copy of the records search and of the response from the NAHC.	----------	1/11/17 Andy emailed back, he would like a copy of the final report. 1/19/18 Passed Andy's requests on to Melissa at GPA and asked her to pass them on to the Caltrans PQS in charge of consultation. A copy of the final report will be provided to him.

Attachment G:
Updated NWIC Records Search Results prepared by Nazih Fino, William Self Associates, Inc., December 2017

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

12/18/2017

NWIC File No.: 17-1495

Nazih Fino
William Self Associates, Inc.
61d Avenida de Orinda Orinda,
CA 94563

re: Leimert Bridge Project

The Northwest Information Center received your record search request for the project area referenced above, located on the Oakland East USGS 7.5' quad. The following reflects the results of the records search for the project area and a 0.5 mile radius:

Resources within project area:	P-01-11119, 11120, 11121, & 11122.
Resources within 0.5 mile radius:	See enclosed database printouts.
Reports within project area:	S-5629, 30906, & 36735.
Reports within 0.5 mile radius:	See enclosed database printouts.
Other Reports within records search radius:	S-848, 2458, 2903, 9462, 9583, 9795, 14621, 15529, 16660, 17773, 17835, 18217, 20395, 30204, 32596, 33239, 33600, 35209, 39349, & 48927. These reports are classified as Other Reports; reports with little or no field work or missing maps. The electronic maps do not depict study areas for these reports, however a list of these reports has been provided. In addition, you have not been charged any fees associated with these studies.

Resource Database Printout (list):	☒enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☒enclosed	☐ not requested	☐ nothing listed
Resource Digital Database Records:	☒enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☒enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☒enclosed	☐ not requested	☐ nothing listed
Report Digital Database Records:	☒enclosed	☐ not requested	☐ nothing listed

California Historical Resources Information System

Resource Record Copies:	☒enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☐ not requested	☐ nothing listed
OHP Historic Properties Directory:	☒enclosed	☐ not requested	☐ nothing listed

P.O. Box 2192

WSA, Inc.

Phone: 925-253-9070

61d Avenida de Orinda

Fax: 925-254-3553

Orinda CA 94563

Email:jallan@williamself.com

Archaeological Determinations of Eligibility:	☐ enclosed ☐ not requested ☒ nothing listed
CA Inventory of Historic Resources (1976):	☒ enclosed ☐ not requested ☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed ☒ not requested ☐ nothing listed
Ethnographic Information:	☐ enclosed ☒ not requested ☐ nothing listed
Historical Literature:	☐ enclosed ☒ not requested ☐ nothing listed
Historical Maps:	☐ enclosed ☒ not requested ☐ nothing listed
Local Inventories:	☐ enclosed ☒ not requested ☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed ☒ not requested ☐ nothing listed
Shipwreck Inventory:	☐ enclosed ☒ not requested ☐ nothing listed

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Soil Survey:

http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA Let us know if you need any copies of reports. The invoice will be kept open until 1/2/18.

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,
Lisa C. Hagel
Researcher

Table 2: Cultural Resource Studies within Project Area

Report Number	Year	Title	Publisher
S-005629	1982	An Archaeological Reconnaissance of Sausal Creek between Leimert and Hyde Streets in the City of Oakland.	Institute of Cultural Resources, California State University, Hayward
S-014677	1992	Archaeological Survey Report, "Park and Ride" lot at intersection of Park Boulevard and Monterey Boulevard, City of Oakland, Alameda County, 04-ALA-13 P.M. 7.4, EA 124060	California Department of Transportation
S-020511	1998	Cultural Resources Assessment, Pacific Bell Mobile Services Facility PL-066-01, Oakland, Alameda County, California (letter report)	Applied EarthWorks
S-022815	2000	Archaeological Resources Investigations for the City of Piedmont, East Bay Infiltration/Inflow Correction Program, Piedmont, California	David Chavez & Associates
S-023681	2001	Proposed Cellular Facility (Nextel Site Number: CA-2127D - " Park Avenue") in Oakland, California	Earth Touch, Inc.
S-023681	2001	Re: Nextel Wireless Communications CA-2127D, 4230 Park Boulevard, Oakland, CA	Office of Historic Preservation; City of Oakland
S-029550	2001	Nextel Communications CA-2317A / Highway 13-Lincoln Avenue, 2860 Mountain Boulevard, Oakland, California	EarthTouch Inc
S-030906	2004	Caltrans Historic Bridge Inventory Update: Concrete Arch Bridges, Contract: 43A0089, Task Order: 01, EA: 43-984433, Volume I: Report and Figures	JRP Historical Consulting
S-032580	2006	Collocation ("CO") Submission Packet, FCC Form 621, Park Place, SF-18790A	EarthTouch, Inc.
S-032580	2006	Cultural Resources Study of the Park Place Project Metro PCS Site No. SF-18790A 3760 Park Boulavard, Oakland Alameda County, California 94610	Historic Resource Associates

Report Number	Year	Title	Publisher
S-032790	2001	Phase I Cultural Resources Assessment of Proposed Cell Tower Communication Site known as Montclair, Sigma Engineering Project Number 094910, Located at 2220 Mountain Boulevard, City of Oakland, Alameda County, California (Site number--SFA-C11-210A)	Archeo-Tec
S-034925	2008	Collocation ("CO") Submission Packet, FCC Form 621, Park Boulevard Presbyterian Church, BA-22903	EarthTouch, Inc.
S-034925	2008	Cultural Resources Study of the Park Boulevard Presbyterian Church Project T-Mobile Sote No. BA22903 4101 Park Boulevard, Oakland, Alameda County, California 94602	Historic Resource Associates
S-035645	2009	Cultural Resources Assessment Report, Estates Reservoir Replacement Project, Oakland, Alameda County, California	William Self Associates, Inc.
S-035645	2009	Estates Reservoir Roof: Historic Resource Evaluation	Garavaglia Architecture, Inc.
S-035671	2008	Collocation ("CO") Submission, FCC Form 621, Radio Shack, BA-22903E	EarthTouch, Inc.
S-035671	2008	Cultural Resources Study of the Radio Shack Project T-Mobile Site No. BA22903E 4230 Park Boulevard, Oakland, Alameda County, California 94602	Historic Resource Associates
S-035892	2009	Cultural Resources Investigation for Verizon Site #190645 "Glenview", 601 Glendome Circle, Oakland, Alameda County, California 94602 (letter report)	Archaeological Resources Technology
S-035892	2009	FCC090831B: Verizon 190645 "Glenview" 601 Glendome Circle, Oakland CA 94602	Office of Historic Preservation, EBI Consulting
S-036735	2008	Historic Property Survey Report, Leimert Boulevard Bridge (33C-0215) Seismic Retrofit Project, STPLZ-5012 (025), Leimert Boulevard, Oakland, California	URS Corporation

Report Number	Year	Title	Publisher
S-036735	2008	Historical Resources Evaluation Report, Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPL-5012(025)	JRP Historical Consulting, LLC
S-036735	2008	Archaeological Survey Report, Leimert Boulevard Bridge (33C-0215) Retrofit Project, Alameda County, California, STPLZ-5012(025) Leimert Boulevard, Oakland, California	URS Corporation
S-036999	2010	Cultural Resources Investigation for Clearwire #CA-SFO0137D "5025 Woodminster Lane", 5025 Woodminster Lane, Oakland, Alameda County, California 94602 (letter report)	Archaeological Resources Technology
S-037047	2010	Cultural Resources Investigation for Clearwire #CA-SFO0140A "Trestle Glen", 1305 Everett Avenue, Oakland, Alameda County, California 94602	Archaeological Resources Technology
S-038929	2012	Cultural Resources Investigation for AT&T Mobility CC1237 "Midcrest Road & Sunnyhills" 4101 Park Boulevard, Oakland, Alameda County, California 94602 (letter report)	Archaeological Resources Technology
S-039859	2012	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC, Candidate BA02062A (Mountain Blvd.), 2810 Mountain Boulevard, Oakland, Alameda County, California (letter report)	Michael Brandman Associates
S-039986	2013	Cultural Resources Survey for the Sausal Creek Restoration Project, Oakland, Alameda County (letter report)	Environmental Science Associates
S-040260	2012	Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate BA02062A (Mountain Blvd.), 2810 Mountain Boulevard, Oakland, Alameda County, California (letter report)	Michael Brandman Associates
S-041169	2013	Archaeological Resources Report for the Fred Finch Youth Center Rising Oaks Project, Oakland, Alameda County, California	Archeo-Tec

Report Number	Year	Title	Publisher
S-043284	2013	Cultural Resources Investigation for AT&T Mobility CCU0317 "Hampton Park" 20 La Salle Avenue, Piedmont, Alameda County, California 94611 (letter report)	Archaeological Resources Technology
S-044943	2013	Collocation Review, Oakland Hills South Outdoor Distributed Antenna System (ODAS) Network, Node: OAKS-070A, 75 Castle Park Way Oakland, California, Alameda County; MartinEnviro Project Number: 2013-EXN-0034	Martin Environmental Solutions Inc.
S-048124	2002	Cultural Resources Study for the Proposed Bechtel Corporation Project, Site No. 960006203A-Coolidge, 3800 Coolidge Avenue, Fred Finch Youth Center, Oakland, California 94602	Historic Resource Associates
S-048124	2002	FCC021112G; Bechtel Telecommunications/AT&T Wireless Services Wireless Communications Facility, Coolidge, 3800 Coolidge Avenue, Oakland, CA	Office of Historic Preservation

Attachment H:
Caltrans Local Historic Bridge Inventory

Structure Maintenance & Investigations

Historical Significance - Local Agency Bridges

SM&I

October 2017

District 04

Alameda County

Bridge Number	Bridge Name	Location	Historical Significance	Year Built	Year Wid/Ext
33C0201	SEMINARY AVE UP (BARTD AERIAL)	JUST NE/O SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0202	HEGENBERGER ROAD OH	0.4 MI SOUTH OF 66TH AVE	2. Bridge is eligible for NRHP	1966	2014
33C0203	SAN LORENZO CREEK	0.01 MI S OF I-880	5. Bridge not eligible for NRHP	1974	
33C0205	SAN LORENZO CREEK	0.02 MI NE OF MISSION BL	2. Bridge is eligible for NRHP	1915	
33C0206	SAN LORENZO CREEK	0.05 MI S OF LEWELLING BL	5. Bridge not eligible for NRHP	1927	
33C0207	ESTUDILLO CANAL DITCH	0.15 MI S MANOR BLVD	5. Bridge not eligible for NRHP	1972	
33C0208	ESTUDILLO CANAL	N OF BURKHART AVE	5. Bridge not eligible for NRHP	1955	
33C0209	LAGUNA CREEK (FLOOD CONTROL LINE E)	W OF FREMONT BLVD	5. Bridge not eligible for NRHP	1964	
33C0210	TENNYSON FLOOD CONTROL CHANNEL	E OF THACKERAY AVE	5. Bridge not eligible for NRHP	1960	
33C0211	WHITMAN STREET SEPARATION	ORCHARD AVE	5. Bridge not eligible for NRHP	1970	
33C0212	ORCHARD AVENUE UP	0.15 MI SW/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0213	ORCHARD AVE UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0214	NO NAME CREEK	DONALD AVE	5. Bridge not eligible for NRHP	1955	
33C0215	SAUSAL CREEK	0.1 MI E OF PARK BLVD	2. Bridge is eligible for NRHP	1926	
33C0216	LION CREEK	NEAR 69TH AVE	5. Bridge not eligible for NRHP	1940	1965
33C0217	105TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0218	SAN LEANDRO CREEK	0.3 MI W OF I 880	5. Bridge not eligible for NRHP	1939	2002
33C0219	WHITMAN STREET OVERCROSSING	HARDER RD	5. Bridge not eligible for NRHP	1970	
33C0220	HARDER ROAD UP	0.2 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0221	HARDER RD UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0222	ALAMEDA CREEK	0.2 MI E UNION CITY BLVD	5. Bridge not eligible for NRHP	1977	
33C0223	WHIPPLE ROAD OH (BARTD)	0.75 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0224	LAGUNA CREEK	FREMONT BLVD (0.1M E/O)	5. Bridge not eligible for NRHP	1955	
33C0225	PASEO PADRE PARKWAY UP	0.2 MI N/O PERALTA BLVD	5. Bridge not eligible for NRHP	1975	
33C0229	ALAMEDA LAKE	0.1 MI N/E OF OTIS DR	5. Bridge not eligible for NRHP	1958	
33C0230	BALLENA BAY	0.1 MI S OF CENTRAL AVE	5. Bridge not eligible for NRHP	1966	
33C0231	SAN LORENZO CREEK	JUST NE OF MAIN ST	5. Bridge not eligible for NRHP	1925	
33C0235	ASHLAND AVENUE UP	N/O SR 238	5. Bridge not eligible for NRHP	1960	
33C0236	ASHLAND AVE UP (BARTD AERIAL)	0.2 MI N/O 238	5. Bridge not eligible for NRHP	1960	1994
33C0237	ELGIN STREET OC	ELGIN ST & ASHLAND AVE	5. Bridge not eligible for NRHP	1960	1994
33C0238	LION CREEK TRIBUTARY	ABOUT 0.5 MI SE REDWOD RD	5. Bridge not eligible for NRHP	1970	
33C0239L	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	1983	
33C0239R	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	2009	
33C0240	ARROYO SECO	0.2 MI N TESLA RD	5. Bridge not eligible for NRHP	1962	
33C0241	SOUTH BAY AQUEDUCT	2.1 MI SOUTH OF I-580	5. Bridge not eligible for NRHP	1962	
33C0242	LAGUNA CREEK	FREMONT BLVD	5. Bridge not eligible for NRHP	1954	
33C0243	SOUTH BAY AQUEDUCT	1.0 MI E GREENVILLE RD	5. Bridge not eligible for NRHP	1962	
33C0244	ALAMEDA CREEK BRANCH	JUST S/E INDSTRL PKWY W	5. Bridge not eligible for NRHP	1971	
33C0245	STONY BROOK (PALOMARES CREEK)	7.57 MI SE PALO VERDE RD	5. Bridge not eligible for NRHP	1925	1962
33C0246	STONY BROOK	1.7 MILES NORTH OF SR 84	5. Bridge not eligible for NRHP	1925	1970
33C0248	CROW CREEK	0.1 MI W/O CROW CANYON RD	5. Bridge not eligible for NRHP	1970	
33C0249	75TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0250	ESTUDILLO CANAL	100' N BURKHART AVE	5. Bridge not eligible for NRHP	1955	

Attachment I:
Updated Interested Parties Correspondence

CITY OF OAKLAND

DALZIEL BUILDING 250 FRANK H. OGAWA PLAZA, SUITE 4314 OAKLAND, CALIFORNIA 94612

Department of Transportation
Great Street Delivery, Complete Street Planning & Design

Phone: (510) 238-6659
FAX: (510) 238-6412
TTY: (510) 238-7644

Date: May 30, 2018

Oakland Heritage Alliance
446 17th Street, Suite 301
Oakland, CA 94612

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

Dear Interested Party,

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Leimert Boulevard Bridge (bridge) over Sausal Creek in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail. The Regional Location, Project Location, Project Footprint, and Area of Potential Effects (APE) maps are attached to this letter. The change to the project since the previous correspondence mailed to you (January 23, 2008) includes the redesign of the seismic retrofit project. The previous project description called for: adding steel casings around bents; adding steel jackets around arch ribs; and removing bracing between bent columns. The City has decided to change the project plans to conform with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The current project description now identifies the following improvements: carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge; a mortared finish would be applied over the CFRP to resemble the existing board-formed finish and maintain the aesthetics of the structure; localized shotcrete would be applied to the base of one bent to stabilize the slope surface to prevent further weathering and undermining of the footing; the existing asphaltic concrete would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck; graffiti paint would be removed and spalled concrete would be patched; and the chain link fence would be repaired or replaced. The changes to the project description now requires temporary construction staging in the following areas: a scaffold that spans over the Sausal Creek; a platform suspended from Leimert Boulevard Bridge; and a staging area in the vacant parcel (APN 029A133001301) north of the bridge.

Because the project will be federally funded, the City and Caltrans must comply with Section 106 of the National Historic Preservation Act (36 CFR §800) on the Federal Highway Administration's (FHWA) behalf. As part of the environmental process associated with compliance, the City is soliciting comments on the proposed project from potentially interested

parties, such as your organization. In particular, the City is seeking information regarding the potential of the proposed project to impact historic properties in the vicinity and for your organization's concerns regarding potential effects to the bridge. Your response allows us to identify concerns relating to the proposed project and to gather valuable information on local historic resources. We are already aware that the Leimert Boulevard Bridge is a historic property and we will be analyzing the proposed project for its potential to impact the bridge. In addition, the location of sensitive archaeological resources will remain confidential but the potential project impacts to these resources will be addressed in our environmental analysis.

Your response allows us to identify potential concerns relating to the proposed project and to gather information on any historic resources that may be located near the project areas. We would greatly appreciate any responses by June 25, 2018. To respond, please contact the City's consultant, Christine Cruiess, at GPA Consulting. She can be reached via phone at (310) 792-2690, email at christine@gpaconsulting-us.com, or mail at: GPA Consulting, 617 S. Olive Street, Suite 910, Los Angeles, CA 90014.

Thank you very much for your time. We look forward to any comments you might have.

Sincerely,

M.N. Barati

Mohammad Najib Barati
City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
Oakland, CA 94612

CITY OF OAKLAND

DALZIEL BUILDING 250 FRANK H. OGAWA PLAZA, SUITE 4314 OAKLAND, CALIFORNIA 94612

Department of Transportation
Great Street Delivery, Complete Street Planning & Design

Phone: (510) 238-6659
FAX: (510) 238-6412
TTY: (510) 238-7644

Date: May 30, 2018

Alameda County Historical Society
P.O. Box 13145
Oakland, CA 94661
info@AlamedaCountyHistory.org

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

Dear Interested Party,

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Thank you very much for your time. We look forward to any comments you might have.

Sincerely,

Mohammad Najib Barati
City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
Oakland, CA 94612

CITY OF OAKLAND

DALZIEL BUILDING 250 FRANK H. OGAWA PLAZA, SUITE 4314 OAKLAND, CALIFORNIA 94612

Department of Transportation
Great Street Delivery, Complete Street Planning & Design

Phone: (510) 238-6659
FAX: (510) 238-6412
TTY: (510) 238-7644

Date: May 30, 2018

Historic Bridge Foundation
P.O. BOX 66245
Austin, Texas 78766

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

Dear Interested Party,

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City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
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CITY OF OAKLAND

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Department of Transportation
Great Street Delivery, Complete Street Planning & Design

Phone: (510) 238-6659
FAX: (510) 238-6412
TTY: (510) 238-7644

Date: May 30, 2018

City of Oakland Landmarks Preservation Advisory Board
City of Oakland
250 Frank H. Ogawa Plaza Ste. 3315
Oakland, CA 94612

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

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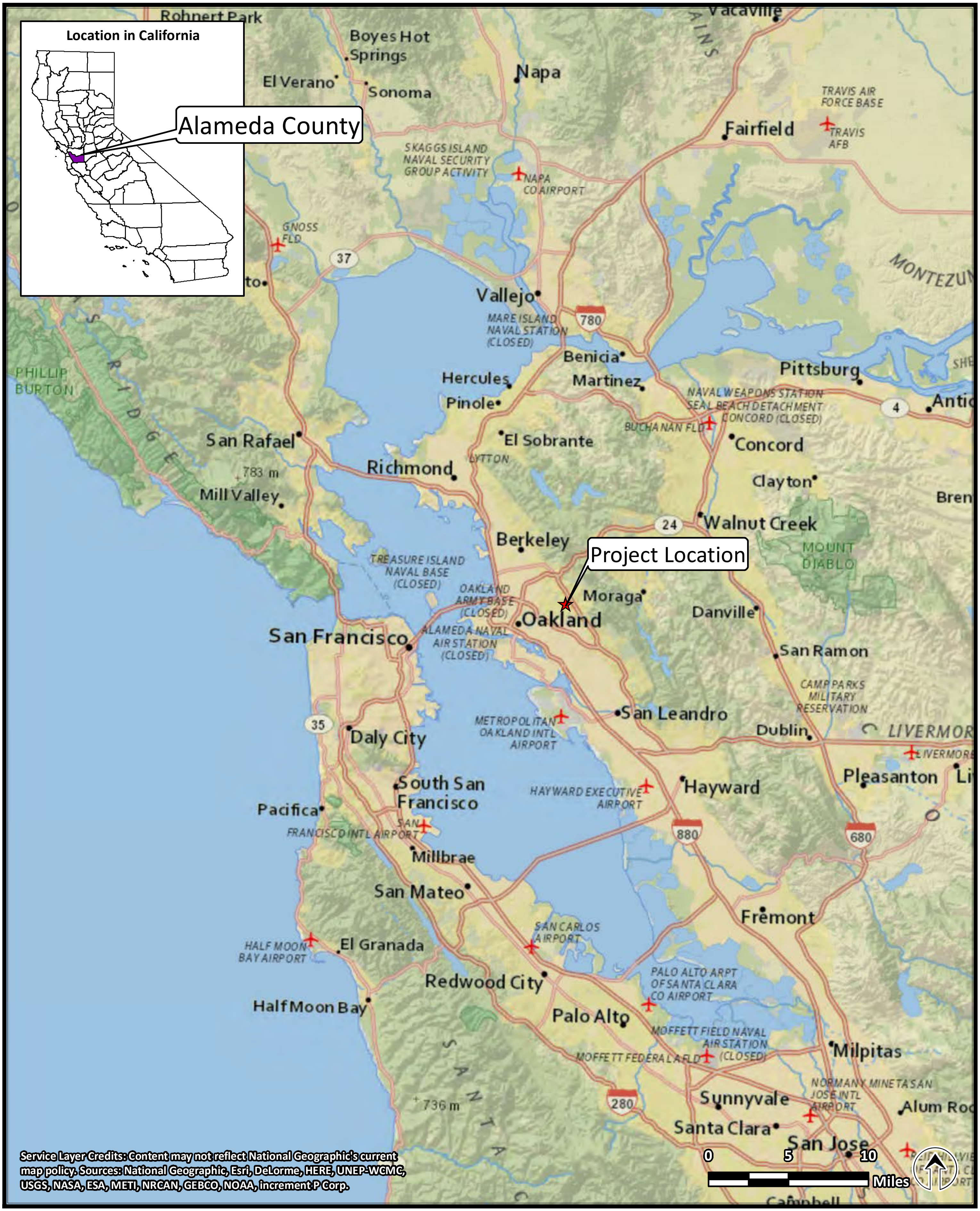
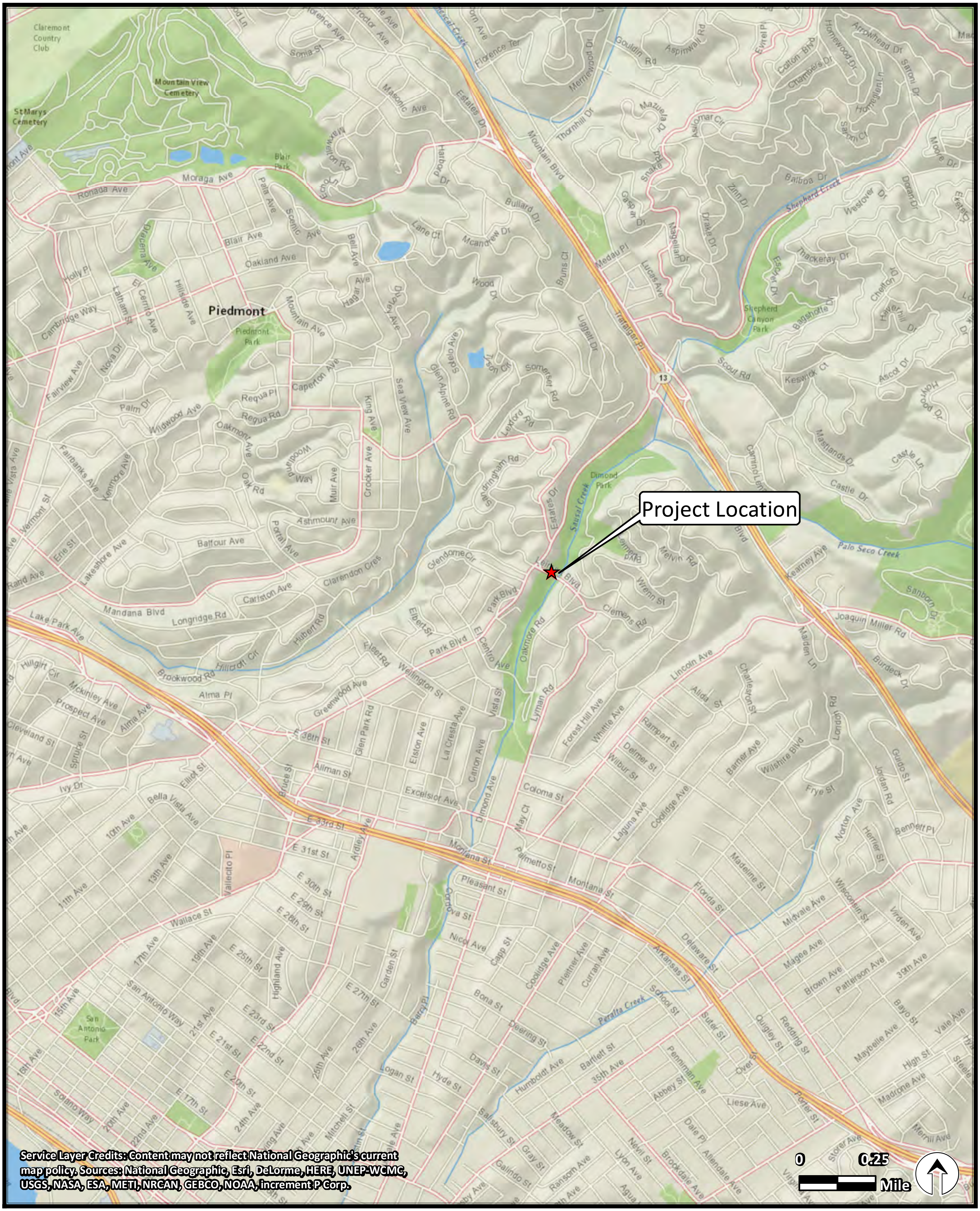
M.N. Barati

Mohammad Najib Barati
City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
Oakland, CA 94612



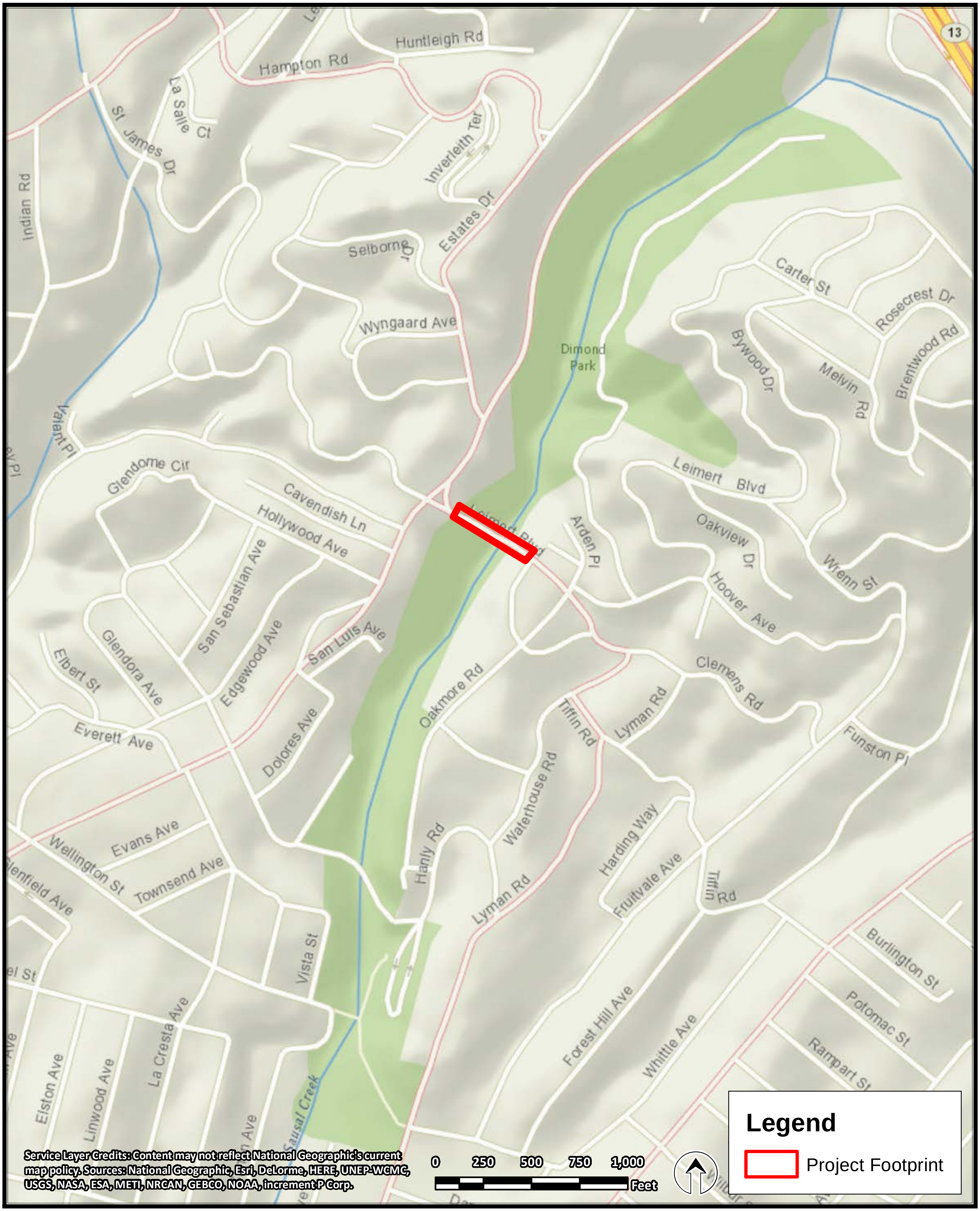
CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Road Bridge Rehabilitation



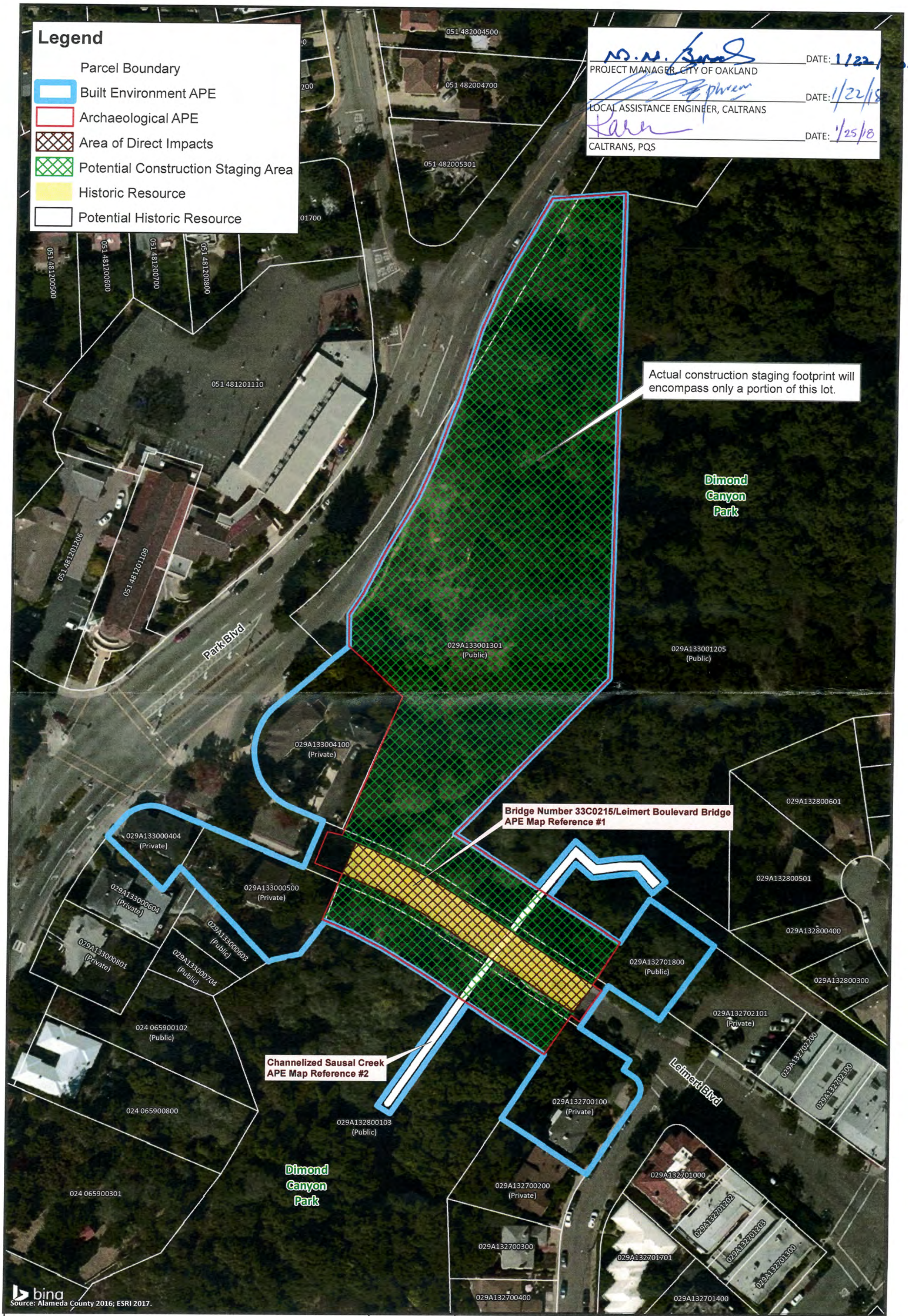
CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

FIGURE 3. PROJECT FOOTPRINT
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

Seismic Retrofit of Leimert Blvd Bridge (Bridge Number 33C-0215) District 4, Alameda County Federal ID No. STPLZ-5012 (124)

Area of Potential Effects

FINDING OF NO ADVERSE EFFECT WITH STANDARD CONDITIONS - SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

FOR THE

LEIMERT BOULEVARD BRIDGE SEISMIC RETROFIT PROJECT
CITY OF OAKLAND, CALIFORNIA

STPLZ-5012(124)

Prepared by: C. Cruiess

Christine Cruiess
Senior Architectural Historian
GPA Consulting
2600 Capitol Avenue, Suite 100
Sacramento, CA 95816

Reviewed by: C. Palmer

Charles Palmer
PQS Principal Architectural Historian
District 4 Caltrans
111 Grand Avenue
Oakland, CA 94612

Approved by: Karen for January 7, 2019

Tom Holstein
Environmental Branch Chief
Caltrans District 4
111 Grand Avenue
Oakland, CA 94612

October 2018

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 326 and the Memorandum of Understanding dated December 30, 2016, and executed by FHWA and Caltrans.

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1. INTRODUCTION

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Leimert Boulevard Bridge (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge Number 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon Trail (project area). The Regional Location, Project Location, and Project Footprint maps are located in Attachment A, Figures 1 through 3.

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

The Section 106 process for the project began in 2008 with the submission of an Historic Property Survey Report (HPSR) in March 2008. An Area of Potential Effects (APE) map, a Historical Resources Evaluation Report (HRER), and Archaeological Survey Report (ASR) appended the HPSR. Since the 2008 Section 106 activities, the project has been redesigned.

The project was redesigned with the goal of retrofitting the Leimert Boulevard Bridge in conformance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (SOIS, Standards), following the Standards and Guidelines for Rehabilitation (Standards for Rehabilitation) (refer to Attachment B for preliminary project engineering). The revised project description and APE Map was submitted to Caltrans District 4 in December 2017 and the revised APE Map was signed in January 2018. A Supplemental Historic Property Survey Report (SHPSR) for the redesigned project was completed July 2018. The State Historic Preservation Officer (SHPO) concurred with determinations of eligibility in the SHPSR on August 28, 2018.

One historic property was identified in the APE as a result of the previous Section 106 studies for the project:

- Bridge Number 33C0215/Leimert Boulevard Bridge (Map Reference No. 1), located in Oakland, is significant under National Register of Historic Places (NRHP) Criteria A (for its association with the residential development of the Oakland Hills) and NRHP Criteria C (for the bridge's aesthetic design and successful integration with the Oakmore subdivision development), with a period of significance of 1926. It was determined eligible for the NRHP in March 2003 (Attachment C).

This Finding of No Adverse Effect was prepared in accordance with the January 1, 2014 *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Caltrans Section 106 PA).

Caltrans has applied the Criteria of Adverse Effect to historic properties within the APE as per 36 CFR 800.5(a) (Table 1). Caltrans has reviewed the project and concludes that the project will not adversely affect one historic property: Bridge Number 33C0215/Leimert Boulevard Bridge.

Table 1: Summary of Evaluation of Effects	
Historic Property Name	Effect Evaluation
Bridge Number 33C0215/Leimert Boulevard Bridge	No Adverse Effect with Standard Conditions: SOIS

For the project as a whole, Caltrans District 4, in applying the Criteria of Adverse Effect, determined that a Finding of No Adverse Effect with Standard Conditions: SOIS (FNAE-SC: SOIS) is appropriate and is notifying Headquarters Cultural Study Office (CSO) and any consulting parties of this finding, pursuant to 36 SFR 800.14(b) and the Section 106 PA Stipulation X.B.1.

To ensure that the project continues to comply with the Standards for Rehabilitation as the design and construction progress, Caltrans has developed a SOIS Action Plan (Action Plan). The Action Plan is in Attachment D.

2. DESCRIPTION OF THE PROJECT

The City, in cooperation with Caltrans, proposes to seismically retrofit Bridge Number 33C0215/Leimert Boulevard Bridge, which carries Leimert Boulevard over Dimond Canyon and Sausal Creek, in Oakland, Alameda County, California. The bridge connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (see Attachment A, Figure 4, APE Map).

The bridge is a 357-foot long open-spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock. The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, are primarily residential, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge. The bridge was designed by George Posey, who designed several notable structures in Oakland. The bridge was constructed in 1926. It was designated locally as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB).

Seismic retrofit of the bridge was previously proposed with a design by URS Greiner, Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements; process the environmental CEQA and NEPA clearances; certify the required right of way; and issue the project for bid. However, during the environmental review, a Finding of Effect Report was prepared in August 2008. The SHPO and the LPAB concluded that the proposed bridge retrofit would have an adverse effect under Section 106 and a significant impact under CEQA on the historic status of the bridge; therefore, the proposed retrofit plans were rejected. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge's historic integrity and landmark status; thus, a redesign of the project was initiated in 2017.

Since the previous 2008 submittal, the seismic retrofit project has been redesigned. The previous project description called for: adding steel casings around bents; adding steel jackets around arch ribs; and removing bracing between bent columns, which did not conform with the Standards for Rehabilitation and would have resulted in a Finding of Adverse Effect. The City has decided to change the project plans to conform with the Standards for Rehabilitation. The current project now identifies the following improvements: carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge; in the areas to be wrapped with CFRP, the graffiti/paint would first be removed to ensure a bond with the substrate; a mortared finish would be applied over the CFRP to resemble the existing board-formed finish and maintain the aesthetics of the structure; localized shotcrete would be applied to the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing; the existing asphaltic concrete would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck; graffiti/paint would be removed in the vicinity of spalled concrete and spalled concrete would be patched; graffiti/paint would be removed from the barrier railings; an anti-graffiti coating applied to the barrier railings; utility mains would be modified; and the chain link fence would be repaired or replaced. The project now requires temporary construction staging in the following areas: a scaffold that spans over the Sausal Creek; a platform suspended from Leimert Boulevard Bridge; and a staging area in the vacant parcel (APN 029A-1330-013-01) north of the bridge.

2.1 PURPOSE AND NEED

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Leimert Boulevard Bridge to the extent feasible.

The project area is in a region of relatively high seismicity and is less than a mile southwest of the Hayward Fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event. Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete overlay, which shows heavy cracking in both longitudinal and transverse directions. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the metal reinforcement inside the concrete.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or objects from falling off the bridge.

2.2 CONSTRUCTION ACTIVITIES

The following improvements are proposed (see Attachment B, Preliminary Project Engineering):

- *Localized Shotcrete:*
  Localized shotcrete would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete. The shotcrete will be at grade level, on the steep slope, but not visible from the bridge nor from the Dimond Canyon Trail.

- *Replace Paving Materials:*
  The existing asphalt concrete overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.

- *Alteration of Utility Mains:*
  The existing water and gas mains that are currently within the substructure of the bridge, located above the transverse cross bracing, require alteration (see the Developed Elevation and Typical Section on page S-1 in Attachment B). The need for this action is two-fold. First, the existing mains do not meet current code and seismic requirements. Second, because the mains are supported by wood cradles directly resting on the transverse bracing members, the mains may need to be raised to allow clearance for the installation of the CFRP. The mains will likely be modified with new hangers to provide additional points of support for the utilities between the cradles. The proposed hangers will consist of a pair of vertical steel rods drilled and epoxied into the underside of the bridge deck and will be painted black to make less visible. The existing timber cradles will be replaced with cast-in-place concrete cradles that will be connected to the tops of the transverse cross braces. Flex joints would possibly be added to the lines. Should additional clearance be needed, requiring replacement of the mains, the lines would be replaced in kind, still above the transverse cross bracing, on an offset alignment.

- *Chain Link Fence:*
  The chain link fence would be repaired or replaced in-kind.

- *Graffiti Removal and Concrete Repair:*
  Graffiti/paint on the concrete barriers, in areas identified for the repair of spalled concrete, and areas to be wrapped in CFRP would be removed. The use of sandblasting would be prohibited in order to preserve the existing board-formed-finish and concrete surfaces. Graffiti/paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A low-pressure water wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations. After the graffiti/paint has been removed, the spalled concrete will be repaired in-kind.

- *Anti-Graffiti Coating:*
  After graffiti/paint removal and concrete repair has been completed, an anti-graffiti coating would be applied to the concrete barrier railings.

- *Carbon Fiber Reinforced Polymer:*
  CFRP would be wrapped around certain concrete members to increase the structural capacity of the bridge (refer to Attachment B for the preliminary locations). The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is required to maintain the historic integrity of the structure.

- *CFRP Mortared Board-Formed Finish:*
  A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.

- *Temporary Scaffolding and Platforms:*
  Although not permanent, in order to be built, the proposed project will require extensive temporary scaffolding and/or platforms for the activities noted above.

2.3 APE DELINEATION

In accordance with Section 106 Programmatic Agreement Stipulation VIII.A, the revised APE for the project was established in consultation with Noah Stewart, Branch Chief, Built Resources/Architectural History, and Tom Holstein, Environmental Branch Chief. The APE map was signed by Karen Reichardt, PQS Principal Investigator-Historical Archaeology and Ephrem Meharena, Caltrans District Local Assistance Engineer on January 25, 2018. The APE map is located in Attachment A, Figure 4.

The current project plans require additional staging areas, resulting in an expanded APE inclusive of a portion of the Sausal Creek that was channelized by the Works Progress Administration (WPA).[1] The built environment and archaeological APE were expanded to include the staging area and access road on the parcel northwest of the bridge along Park Boulevard (APN 029A-1330-013-01). The staging areas for the project will be outside of and above the Sausal Creek waterway.

The vertical disturbance within the expanded APE will be limited to Bents 2, 3, 4, 5, 15, and 16, with a maximum disturbance depth of 5 feet. The excavation around each

[1] The Channelized Sausal Creek was determined not eligible for listing in the NRHP on August 28, 2018.

column base will occur only for the contractor to install the CFRP wrap around the base of the column. This limited excavation will occur in soil previously disturbed from initial construction. Potential negative impacts to archaeological historic properties are low based on the limited ground disturbing activities.

3. PUBLIC PARTICIPATION

Several groups and organizations were identified as having an interest in the project. Each was consulted by letter on May 30, 2018. The letter requested comments on the proposed project and information regarding known historic properties within the project's vicinity. Following is a list of groups and organizations consulted:

Oakland Heritage Alliance
Chris Buckley, Member
446 17th Street, Suite 301
Oakland, CA 94612
cbuckleyaicp@att.net
510-523-0411

Alameda County Historical Society
P.O. Box 13145
Oakland, CA 94661
info@AlamedaCountyHistory.org
510-238-3234

Historic Bridge Foundation
Kitty Henderson
Executive Director
P.O. BOX 66245
Austin, Texas 78766
kitty@historicbridgefoundation.com
512-407-8898

City of Oakland Landmarks Preservation Advisory Board
City of Oakland
Pete Vollmann
250 Frank H. Ogawa Plaza Ste. 3315
Oakland, CA 94612
510-238-6167

On July 2, 2018, Christine Cruiess from GPA followed up to the initial correspondence by calling the organizations identified above. Please refer to Attachment E for copies of the initial correspondence. Follow-up correspondence is described below.

Voicemails were left for the Alameda County Historical Society and the Historic Bridge Foundation, and as of the writing of this report, no response was received.

Ms. Cruiess spoke with Betty Marvin, the former secretary of the Oakland Landmarks Preservation Advisory Board, and Ms. Marvin noted that she was replaced as secretary by Pete Vollmann. Ms. Cruiess left a voicemail for Mr. Vollmann. As of the writing of this report, no response was received.

Ms. Cruiess spoke with Amelia Cass of the Oakland Heritage Alliance. Ms. Cass requested an electronic copy of the letter, which Ms. Cruiess emailed on July 2, 2018. Chris Buckley, a member of the Oakland Heritage Alliance responded to the email and requested information on the proposed project design and requested that his organization see samples of the proposed finishes and more detailed project drawings and specifications when they are available. He also had a follow-up question regarding the SHPSR, which was answered. Finally, Mr. Buckley indicated that he would request additional information on potential cultural resources in the project APE and would forward any additional information. As of the writing of this report, no additional response was received.

4. DESCRIPTION OF HISTORIC PROPERTY: BRIDGE NUMBER 33C0215/LEIMERT BOULEVARD BRIDGE

Location: Bridge Number 33C0215/Leimert Boulevard Bridge carries Leimert Boulevard over Dimond Canyon and Sausal Creek in Oakland, Alameda County.

Date Determined Eligible/Listed: Bridge Number 33C0215/Leimert Boulevard Bridge was resurveyed on March 27, 2003 as part of the Caltrans Historic Bridge Inventory. In 2003, the bridge was determined eligible for listing in the NRHP with a status code of 2S (individual property determined eligible for NRHP by the Keeper, listed in the California Register of Historical Resources).

NRHP Criteria and Significance Level: A and C at the local level.

Boundary: The NRHP Boundary for the bridge follows the footprint of the bridge and includes the substructure and superstructure, as indicated on Image 1.

Period of Significance: 1926, which is also its date of construction.

Summary of Significance: Bridge Number 33C0215/Leimert Boulevard Bridge over Dimond Canyon and Sausal Creek is significant under National Register Criteria A, at the local level, for its association with the residential development of the Oakland Hills neighborhood (Image 4). The bridge is particularly important within this context because it was purpose-built to allow access to and for the subsequent development of the Oakmore Highlands neighborhood. It is one of only a few bridges in California that was built intentionally to allow access to previously inaccessible land for real estate development. The bridge was built in response to specific demand for residential development and its construction met its intended goal, leading directly to the development of the Oakmore area, which was otherwise inaccessible.

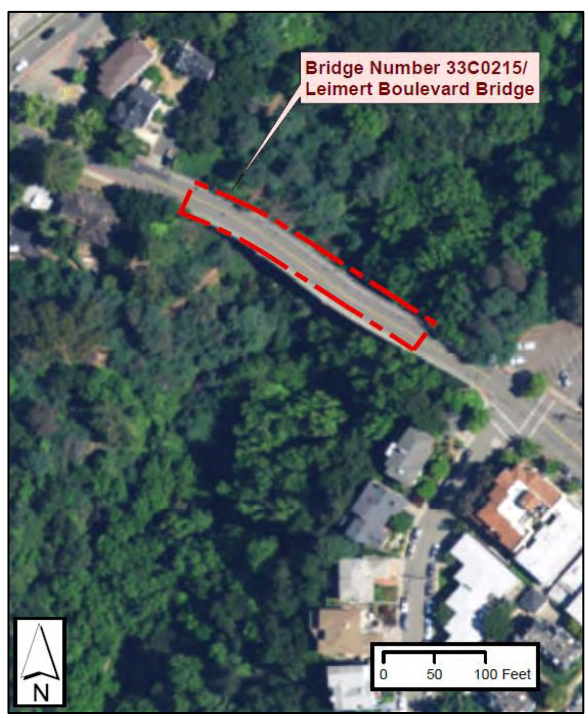


Image1: Approximate NRHP Boundary for Bridge Number 33C0215/Leimert Boulevard Bridge.

Bridge Number 33C0215/Leimert Boulevard Bridge is also significant under Criterion C because it embodies distinctive characteristics of a type, period, and method of construction. Its significance is not for its structural engineering achievement. Rather, its significance lies in the aesthetic design of the structure as a gateway to the new Oakmore Highlands development and for that design's integration with the aesthetics of the new subdivision. Since the bridge was built to be the gateway to the new Oakmore Highlands, the bridge was designed to convey permanence, grace, and strength – traits that would attract potential homebuyers.

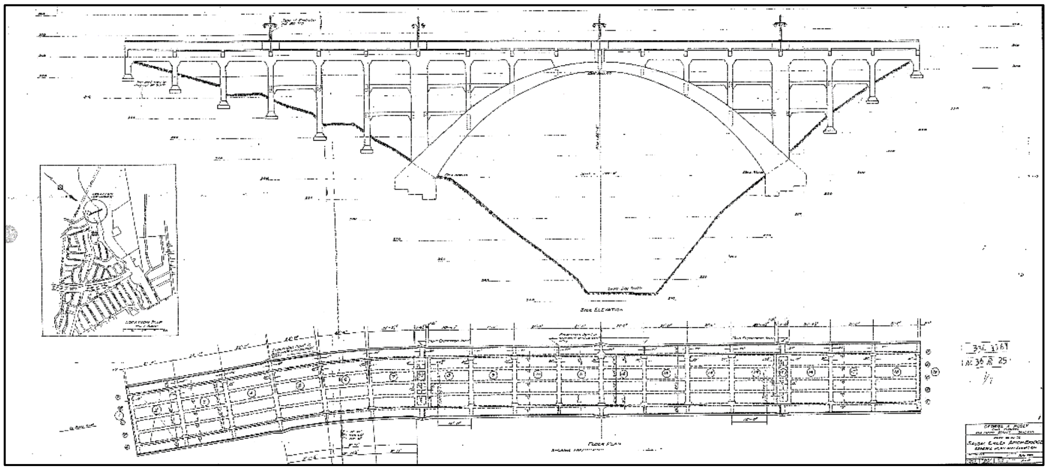


Image 2: As-built drawings from for Bridge Number 33C0215/Leimert Boulevard Bridge. Source: Oakland City Archives.

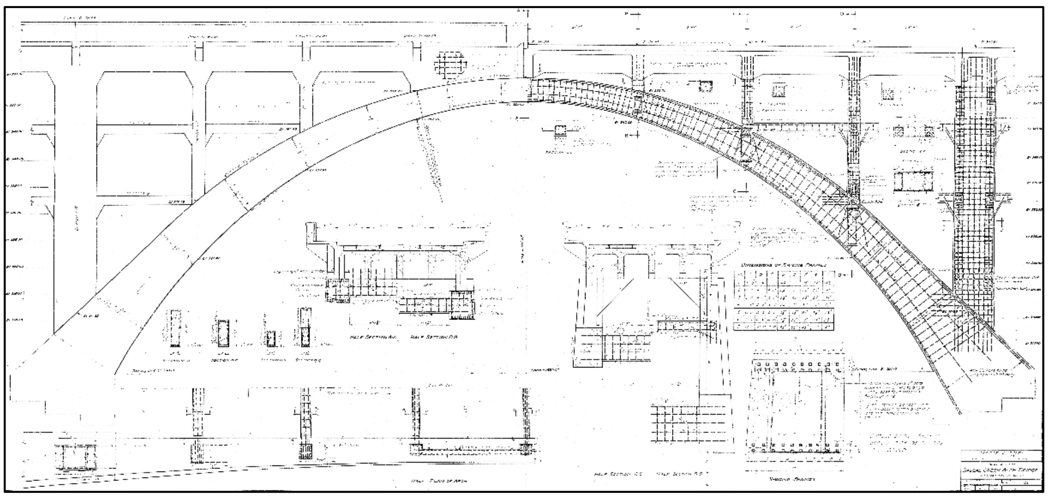


Image 3: As-built drawings from for Bridge Number 33C0215/Leimert Boulevard Bridge. Source: Oakland City Archives.

Integrity: Bridge Number 33C0215/Leimert Boulevard Bridge is largely unaltered from 1926, with the exception of new road paving materials, paint, and a chain link fence on the top of the concrete barrier railings (dates of alterations are unknown). The bridge conveys its significance because it retains integrity of location, design, setting, materials, workmanship, feeling, and association.

Character-Defining Features: The character-defining features (CDF) of Bridge Number 33C0215/Leimert Boulevard Bridge were not explicitly identified in the 2003 survey that determined the bridge was eligible for the NRHP (Attachment C). The bridge is 357 feet long, 34.3 feet wide, and carries two lanes of traffic and a cantilevered walkway. The assumed character-defining features and the ranking criteria (which was developed based on guidance in Exhibit 7.1 of *Caltrans Standard Environmental Reference, Volume 2*) are included in Table 2. Non-character-defining alterations include the addition of a chain-link fence on top of the concrete barrier railings and a new road bed (dates of alterations are unknown). Based on Table 2, all of the character-defining features fall into the most significant or significant categories, based on the rankings criteria (summarized in Table 3).

Table 2: Character-Defining Features and Point Ranking Criteria High = 3 points, Medium = 2 points, Low = 1 point						
Character-Defining Feature (CDF)	Craftsmanship	Conveying Significance	Public Benefit	Visibility and Transparency	Integrity	Total Points
CDF 1: Form of the open spandrel, fixed, parabolic bridge with a 173-foot-long, single, arch span (Images 4 through 7)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed / original	15
	3	3	3	3	3	
CDF 2: Two reinforced concrete, T-beam approach spans supported by reinforced concrete columns (Images 9 and 10)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed / original	15
	3	3	3	3	3	
CDF 3: 17 bents supporting the roadway, nine of which are directly located over the concrete arch (Images 2 and 3)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed / original	15
	3	3	3	3	3	
CDF 4: Spread footings on bedrock that support the arch and the bents (Image 10, 11, and 12)	Standard historic fabric (commonly found during period of significance)	Quintessential and Indispensable (without it the significance is lost)	Medium	Secondary	Intact as designed / original	12
	2	3	2	2	3	
CDF 5: Concrete barrier railings (Image 8)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed / original	15
	3	3	3	3	3	
CDF 6: Reinforced, board-formed concrete (Images 9 through 12)	Standard historic fabric (commonly found during period of significance)	Important	Medium	Primary, salient feature	Intact as designed / original	12
	2	2	2	3	3	
CDF 7: Light posts (Image 8)	Standard historic fabric (commonly found during period of significance)	Important	High	Primary, salient feature	Somewhat altered but still conveys significance	12
	2	2	3	3	2	
CDF 8: Original sidewalk and curbing (Image 8)	Standard historic fabric (commonly found during period of significance)	Low	High	Primary, salient feature	Intact as designed / original	12
	2	1	3	3	3	

Table 3: Rankings		
Points Range	Ranking	Description
13 - 15 points	Most Significant	Strongly conveys sense of time and place
9 - 12 points	Significant	Conveys sense of time and place
5 - 8 points	Less significant	Still conveys sense of time and place, but to lesser degree
< 5 points	N/A	Historic fabric, but not character-defining feature

Image 4: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing northeast. Source: BCA, Inc., July 2016.

Image 5: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-northeast. Source: BCA, Inc., May 2015.

Image 6: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-southeast. Source: BCA, Inc., May 2015.

Image 7: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-southeast. Source: BCA, Inc., May 2015.

Image 8: View of Leimert Boulevard over Sausal Creek from Clemens Road, view facing west. Source: BCA, Inc., July 2016.

Image 9: View of the Bridge Number 33C0215/Leimert Boulevard Bridge bents on the western embankment of Dimond Canyon, view facing south. Source: BCA, Inc., July 2016.

Image 10: Detail view of the bridge arch from below, showing the cross bracing and the board finish. Source: BCA, Inc., July 2016.

Image 11: Detail view of the bridge arch from below, showing the cross bracing and the board finish, view facing east. Source: GPA, May 2017.

Image 12: Image showing soil erosion and footings at Bents 14 (right of frame), 15, and 16 (left of frame), view facing southwest. Source: BCA, Inc. July 2016.

Image 13: View of the utility lines, cross bracing, and bottom of the deck, view facing northwest Source: BCA, Inc. July 2016.

5. APPLICATION OF THE CRITERIA OF ADVERSE EFFECT

Caltrans has applied the Criteria of Adverse Effect to historic properties within the APE. Caltrans has considered all views concerning such effects which have been provided by consulting parties and the public, as per 36 CFR 800.5(a).

According to 36 CFR 800.5(a)(1), an Adverse Effect is found when a project may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

The project includes the seismic retrofit and rehabilitation of Bridge Number 33C0215/Leimert Boulevard Bridge, located within an urban setting. Based upon the project description and examples of adverse effects, Caltrans has completed the following analysis:

i. *Physical destruction of or damage to all or part of the property;*

> The bridge will not be damaged or destroyed as part of this project. Although the project calls for the alteration of the bridge, the proposed work is not characterized as destruction or damage to the historic property. The proposed work is better addressed under adverse effect criteria ii, as the work will conform with the Standards (a detailed analysis follows).

ii. *Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;*

> The project will be consistent with the Secretary's Standards for the Treatment of Historic Properties. A complete analysis follows below in this section.

iii. *Removal of property from its historic location;*

> The bridge will not be moved as part of the project.

iv. *Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;*

> The character of the property's use or physical features within the property's setting that contribute to its historic significance will not be changed as part of the project. The bridge will maintain its historic use and no changes to the setting are proposed.

v. *Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;*

The proposed project will not introduce new visual, atmospheric, or audible elements to the setting.

vi. *Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and*

The proposed project will not cause neglect to the property.

vii. *Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.*[2]

The proposed project does not call for the transfer, lease, or sale of property.

The criteria of adverse effects for the project will primarily be analyzed against a potential direct effect under example ii only. To avoid an adverse effect, all proposed work will comply with the Standards for Rehabilitation. This section addresses each proposed construction activity and assesses the potential for adverse effects as described in example ii. Section 5.1 of this report describes how the project will comply with each of the Rehabilitation Standards and appropriate Guidelines.

Two Guidelines for Rehabilitation were identified as being key to the analysis of the project. First, because the project is required for life-safety improvements (seismic improvements), it is important to note that the Standards for Rehabilitation include guidelines to ensure that projects meet the Standards while complying with life-safety codes, including: "Complying with life-safety codes (including requirements for impact-resistant glazing, security, and seismic retrofit) in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible." Second, because the project requires improvements to structural systems, the Standards for Rehabilitation identify recommended guidelines for increasing structural capacity, including: "Installing seismic or structural reinforcement, when necessary, in a manner that minimizes its impact on the historic fabric and character of the building."[3]

Construction Activity: Localized Shotcrete

The project calls for localized shotcrete on the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about 3 feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete. The shotcrete would be at grade level, but the soil would not be replaced. Although the shotcrete would be slightly visible, it would not adversely affect the historic property because the new concrete would be a minor element, grade level, on a steep,

[2] 36 CFR 800.5(a)(2)(i through vii).

[3] *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. US Department of the Interior, National Park Service, Technical Preservation Services, accessed May 24, 2017, https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf

inaccessible slope, and therefore not visible by bridge or Dimond Canyon Trail users. The installation of localized shotcrete would not cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

Construction Activity: Replace Paving Materials
The project calls for the removal of the existing asphaltic concrete paving materials and its replacement with a polyester concrete overlay. The existing paving materials are non-character-defining features. This construction activity has no potential to cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

Construction Activity: Alteration of Utility Mains
The proposed project calls for the alteration of a non-contributing utility mains, either with the installation of new hangers, cradles, and flex joints, or with the installation of new lines, above the transverse cross bracing on an offset alignment (see Images 15 and 16, or the Developed Elevation and Typical Section on page S-1 in Attachment B). The mains are non-contributing to the bridge and were in place when the bridge was determined eligible for listing in the NRHP. As such, this activity has little potential to cause an effect on the bridge. Minor loss of materials would occur with the installation of hangers, but not such that it would diminish the property's integrity of materials to a degree that it would no longer qualify for inclusion in the NRHP. This construction activity would not cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

Construction Activity: Chain Link Fence Repair or Replacement
The project calls for the repair or replacement of the existing, non-character-defining chain link fence. This construction activity has no potential to cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

Construction Activity: Graffiti Removal and Concrete Repair
The primary goal for the paint/graffiti removal plan is to restore the appearance of the primary viewshed of the public and to prepare the concrete substrate for subsequent repairs.

Graffiti and inappropriate paint would be removed from the concrete barriers, in areas identified for the repair of spalled concrete (Image 14), and areas to be wrapped in CFRP, to restore the original, bare, board-formed concrete finish and/or to prepare the concrete substrate for subsequent repairs. The paint and graffiti would be removed using the gentlest means possible, based on a testing program utilizing the products included in the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. Mockups of the testing program shall be tested on the bridge and shall be reviewed and approved by a qualified architectural historian or architectural conservator. According to the Standards for Rehabilitation, masonry should only be cleaned when necessary to halt deterioration or remove heavy soiling. The accumulated graffiti/paint on the barriers will be removed to restore the public's primary viewshed of the bridge (please see Images 18 and 19 for a visual simulation comparison). In other areas, the removal of the graffiti/paint is a critical first step that must be completed before the concrete spalls can be repaired and will ensure a clean and sound substrate. Because graffiti/paint removal would follow the Standards for Rehabilitation, this construction activity would not cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

After the inappropriate paint has been removed, the deteriorated concrete will be repaired by removing damaged material and patching with new concrete that duplicates the old in strength, composition, color, and texture. A series of mockups will be prepared on the bridge to ensure that the method of patching the spalls ensures satisfactory bonding. The mockup is also critical to test the materials to be utilized in the repair, so the new materials match the old in both appearance as well as material properties. A qualified architectural historian or architectural conservator shall inspect and approve the mockups prior to full-scale implementation. Because the spall repairs would follow the Standards for Rehabilitation, the construction activity would not cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

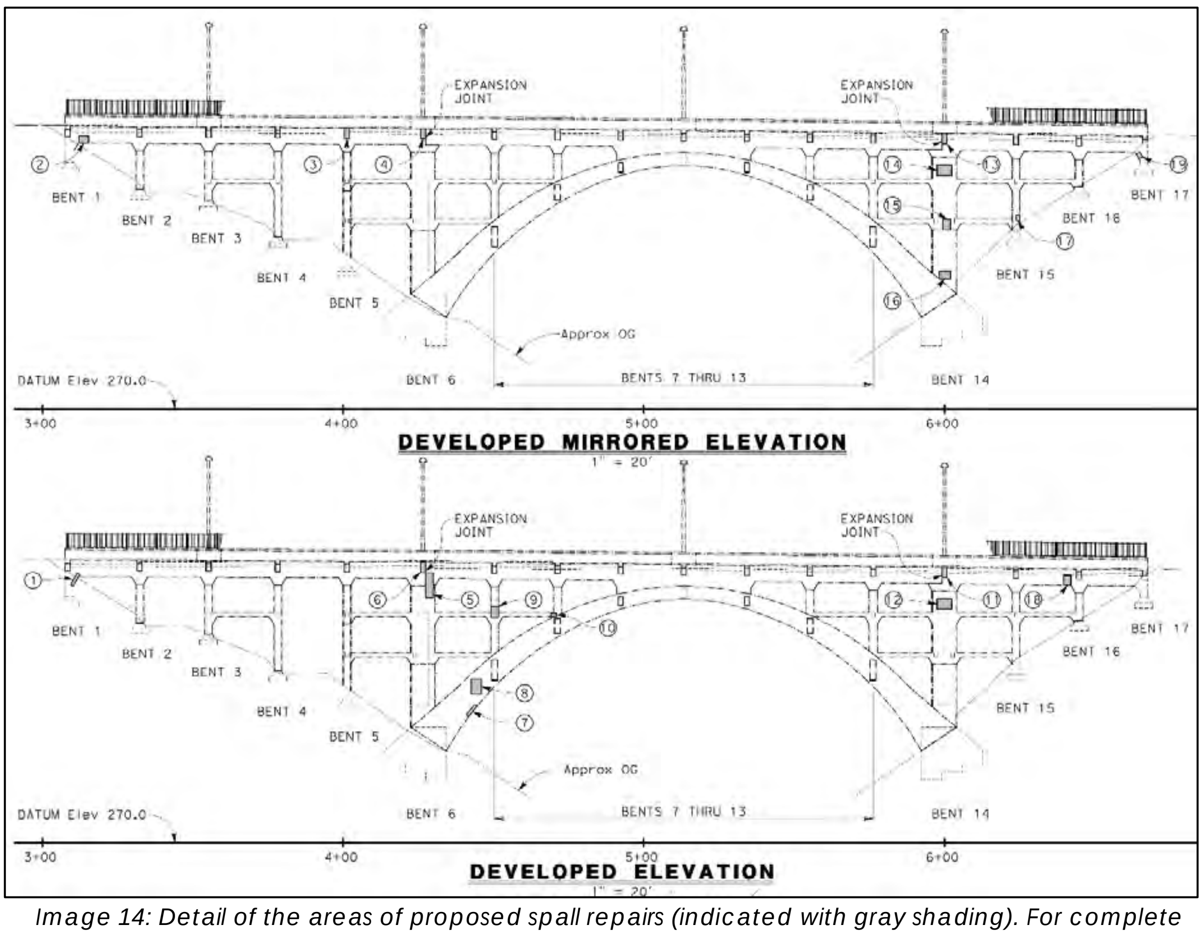


Image 14: Detail of the areas of proposed spall repairs (indicated with gray shading). For complete drawing, please refer to Appendix B.

Construction Activity: Anti-Graffiti Coating

Because the bridge has been a target for graffiti, it is necessary to apply an anti-graffiti coating to ensure the easy and safe removal of graffiti on the concrete barrier railings. A series of mockups will be tested based upon the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A qualified architectural historian or architectural conservator shall inspect and approve the mockups prior to full-scale implementation. The anti-graffiti coating will be moisture permeable and minimally change the historic appearance of the masonry. Because the anti-graffiti coating would conform with the Standards for Rehabilitation, the construction activity would not cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

Construction Activity: Install CFRP and Board-Formed Finish
To increase the structural capacity of the bridge, CFRP will be wrapped around concrete members to increase the structural capacity of the bridge, in locations shown on Images 15 and 16 as well as in Attachment B. The CFRP wrapping meets the project need of increasing the structural capacity of the bridge, but it would not noticeably change the dimensions and shape of the bents and cross bracing members (please see Images 20 and 21 for a visual simulation comparison). The dimensions of the bridge and its structural members is a quintessential and indispensable feature for the bridge to convey its significance (Table 2).

A mortared finish will be applied over the CFRP to resemble the existing board-formed finish and maintain the finish of the structure, as shown in the mockup in Image 19. The board-formed finish is a character-defining feature of the bridge because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). Although the original board-formed finish is an important character-defining feature, it is not quintessential, and reproducible in conformance with the Standards for Rehabilitation. A series of mockups will be prepared to ensure that the method and materials used in the mortared board-formed finish matches the existing, paint- and graffiti-free masonry. A qualified architectural historian shall inspect and approve the mockups prior to full-scale implementation. Because the CFRP and board-formed mortar finish would follow the Standards for Rehabilitation, the construction activity would not cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge.

Construction Activity: Temporary Scaffolding and Platforms
Due to the bridge's elevation and the steep topography of Dimond Canyon, in order to access the necessary areas of the bridge, platforms from the bridge and scaffolding from the canyon floor will be temporarily installed to complete the project. A qualified architectural historian shall inspect and approve the contractor's methodology for installing temporary scaffolding and platforms to ensure that it will not damage the bridge. The temporary scaffolding and platforms would not cause an adverse direct effect on Bridge Number 33C0215/Leimert Boulevard Bridge

Summary:
With the proposed conditions (Section 6) to ensure that the Leimert Boulevard Bridge Seismic Retrofit Project follows the Standards for Rehabilitation, the project would have a conditional no adverse effect on NRHP-eligible Bridge Number 33C0215/Leimert Boulevard Bridge. The project would also not cause a substantial adverse change to the characteristics that qualify Bridge Number 33C0215/Leimert Boulevard Bridge for the California Register of Historical Resources.

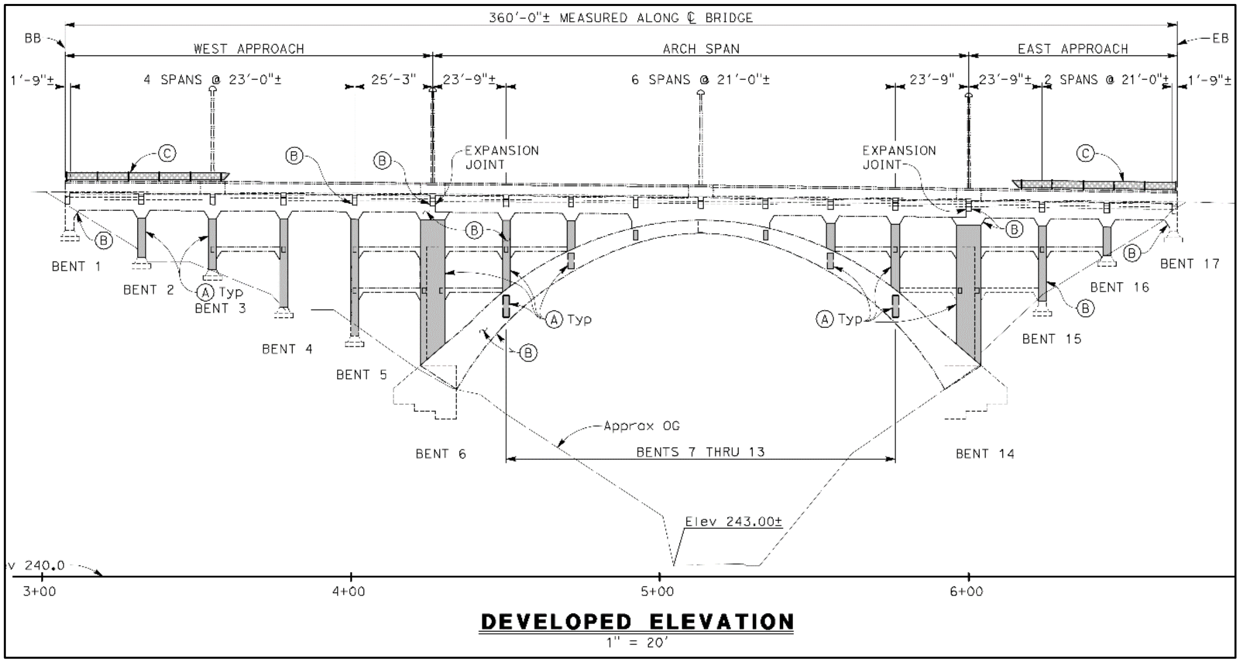


Image 15: Detail of the areas of proposed CFRP composite casing system (indicated with gray shading). For complete drawing, please refer to Appendix B. Source: BCA, Inc.

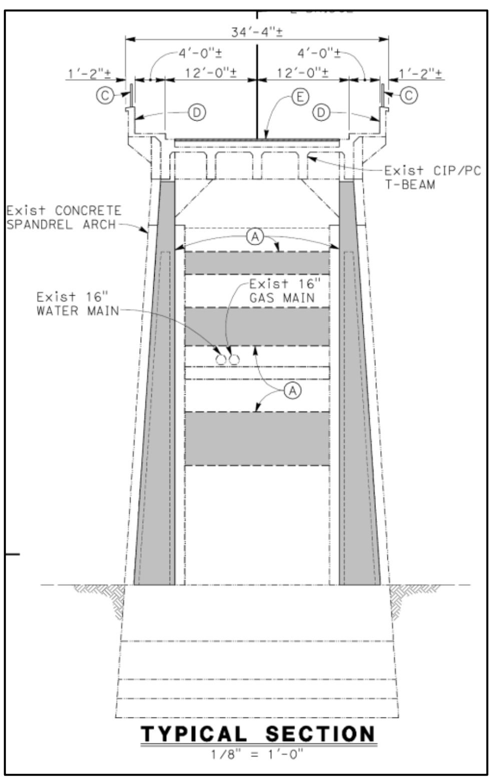


Image 16: Detail of the areas of proposed CFRP composite casing system (indicated with gray shading). For complete drawing, please refer to Appendix B. Source: BCA, Inc.

Image 17: View of the mockup of the mortared finish that would be applied over the CFRP wrap to resemble the existing board-formed-finish. Source: BCA, Inc. January 2017.

5.1 **PROJECT COMPLIANCE WITH SECRETARY OF THE INTERIOR'S STANDARDS FOR THE** TREATMENT OF HISTORIC PROPERTIES: STANDARDS AND GUIDELINES FOR REHABILITATION

1. *A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.*

   The current and historic use of the Bridge Number 33C0215/Leimert Boulevard Bridge will be maintained. The project complies with Standard 1.

2. *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.*

   The historic character of Bridge Number 33C0215/Leimert Boulevard Bridge will be retained and preserved. The removal of historic materials will be limited only to areas of active deterioration (spalls) and will be repaired according to the SOIS. The project complies with Standard 2.

3. *Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*

   There is no proposed addition of conjectural features. Therefore, the project complies with Standard 3.

4. *Changes to a property that have acquired historic significance in their own right will be retained and preserved.*

   Alterations to the property occurred outside of the period of significance and have not acquired historic significance in their own right. These non-character-defining features include the chain-link fence, new paving materials, water and gas mains, and paint. As such, Standard 4 does not apply to the project.

5. *Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a historic property will be preserved.*

   As listed on Table 2, the character-defining features of the bridge include the form of the open spandrel, parabolic concrete arch bridge; the reinforced concrete approach spans; 17 bents supporting the roadway; concrete barrier railings; reinforced, board-formed concrete; and light posts.

   The design features of the bridge shall be preserved. CFRP would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would maintain the size and shape of the original bridge structural members, preserving the overall structural design features that convey the significance of the bridge (Images 20 and 21).

The project calls for the preservation and repair of the historic board-formed concrete in areas of spalling. The historic board-formed finish will be restored after the removal of existing paint and graffiti, as part of the spall repairs.

Where it is necessary to meet seismic requirements, the historic concrete finish will be obscured by the CFRP wrap. A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The mortared finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap. This approach will preserve the appearance of the historic construction techniques used in the bridge.

Controls will be put in place to ensure that the necessary scaffolding and platforms for construction will not damage the historic, board-formed concrete on the bridge.

Overall, the project complies with Standard 5.

6. *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.*

    Character-defining features, including the structural members and board-formed concrete finish, will be repaired rather than replaced. The project complies with Standard 6.

7. *Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*

    A testing program for all chemical or treatments will be implemented, to determine the gentlest cleaning method possible and to ensure that the historic finishes are not damaged. Anti-graffiti coatings will be tested to find the most appropriate finish that will not alter the permeability and porosity of the concrete. Furthermore, mockups will be completed in order to select a product that will minimally alter the appearance of the concrete, in terms of sheen, texture, and color.

    Graffiti and inappropriate paint would be removed only in areas necessary for restoring primary view sheds or where necessary for subsequent repairs (Images 18 and 19). The removal will utilize chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products (chosen because they are the gentlest means possible). A gentle water pressure wash would be conducted within a containment system and would not cause damage to historic materials. Therefore, the project complies with Standard 7.

8. *Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.*

   If archaeological resources are found during the construction of the project, work will be halted, and the resources will be handled according to the procedures set forth in the Caltrans Section 106 PA and Caltrans Standard Environmental Reference.

9. *New additions, exterior alterations or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.*

   In the Guidelines for Rehabilitation, it is recommended that compliance with life-safety codes (including requirements for impact-resistant glazing, security, and seismic retrofit) should be conducted in such a manner that the historic property's character-defining features are preserved or impacted as little as possible. To provide the necessary, increased structural capacity, the bents must be strengthened. The overall design, massing, proportions, and grace of the bridge were identified as significant in the NRHP evaluation of eligibility: "its significance lies in the aesthetic design of the structure as a gateway to the new Oakmore Highlands development and for that design's integration with the aesthetics of the new subdivision. Since the bridge was built to be the gateway to the new Oakmore Highlands, the design intentionally created to convey permanence, grace, strength to would-be homebuyers." Because altering the proportions of the key structural elements would constitute an adverse effect, the design team developed an approach that would maintain the proportions while increasing structural capacity. The best solution for increasing the structural capacity of the bridge, as described in sections 2.3 and 5.2 of this report, is the installation of CFRP and applied mortar finish. Although this approach will obscure the original materials, the board-formed concrete, it will preserve the more critical character-defining features of the massing and proportion of the structural members.

   The installation of new hangers for the utility mains would be obscured from view.

   Therefore, the project complies with Standard 9.

10. *New additions and adjacent or related new construction will be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

    The project does not call for new additions or adjacent new construction. Standard 10 does not apply to the project.

Image 18: View of the bridge deck before the project, facing east. Source: GPA Consulting, 2017.

Image 19: Simulated view of the bridge deck after the project, facing east. Source: Matt Pegler, 2018.

Image 20: View of the bridge from below the bridge before the project. Source: GPA Consulting, 2017.

Image 21: View of the bridge from below the bridge after the project. Source: Matt Pegler, 2018.

6. CONDITIONS PROPOSED

The plans for the project were in the early design stages when this FNAE-SC: SOIS was prepared. To ensure that it continues to comply with the Standards for Rehabilitation as design and construction progress, an SOIS Action Plan (Action Plan) was developed and included as Attachment D. It identifies the specific tasks during each stage of the project that will be required to ensure the work complies with the Standards for Rehabilitation, as well as the responsible parties for ensuring that each task is completed. Table 4 provides a summary of the Action Plan. For details, see the complete Action Plan in Attachment D.

Table 4: Summary of Action Plan

Stage	Responsible Parties	Task	Date Complete[4]
Plan Development/ Construction Documents	CAH, CS, PM*, PE	PM, PE, and CS will provide Project plans for bridge at 65%, 95%, and 100% completion to CAH for review.	
Plan Development/ Construction Documents	CAH*, CS, PM, PE	CAH will review the plans for compliance with the Rehabilitation Standards and work with the PM, PE, and CS to resolve any outstanding issues.	
Plan Development/ Construction Documents	CAH*, CS	CAH will provide formal approval in the form of a memo.	
Plan Development/ Construction Documents	PM, PE, RE*	The SOIS Action Plan will be included in the Resident Engineer's Pending File.	
Plan Development/ Construction Documents	CAH*	CAH will ensure that the SOIS Action Plan will be included in the Environmental Commitments Record (ECR).	
Plan Development/ Construction Documents	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree to an on-site monitoring schedule in accordance with the construction schedule prior to the start of construction.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree on a methodology for installing the scaffolding and platforms, to ensure that the historic property is not damaged.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Graffiti/paint removal testing strategy	

[4] This column will be completed when each task is complete.

Table 4: Summary of Action Plan			
Stage	Responsible Parties	Task	Date Complete[4]
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Concrete spall repair mock-up inspection	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o CFRP mortared finish mock-up inspection	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Anti-graffiti coating mock-up inspection (on both types of masonry: original concrete and repaired spalls)	
Pre-Construction/ Construction	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	
During Construction	CAH, CS, PM*, RE	CS, PM, and RE will notify CAH in advance when events in the SOIS Action plan requiring monitoring will occur (including but not limited to those listed in the Pre-Construction/Construction Stage, above).	
During Construction	CAH*, CS, PM, RE	CAH will be present to monitor required construction events and will prepare monitoring reports summarizing activities, results, and next actions.	
Post-Construction	CAH, CS, PM*, RE	CS, PM, and PE will notify CAH when construction is complete.	
Post-Construction	CAH, CS, PM*, RE	CAH will investigate the finished bridge to ensure that all work was completed according to the plans and that it complies with the Standards for Rehabilitation.	
Post-Construction	CAH*, CS, PM, RE	All responsible parties will work together to resolve outstanding issues. CAH will provide formal approval in the form of a memo.	
Definition of Responsible Party acronyms are: CAH – Caltrans Architectural Historian[5]; CS – City Staff; PM – Caltrans Project Manager; PE – Project Engineer; RE – Resident Engineer. The primary responsible party in each task is noted with an *.			

[5] Caltrans may elect to have a qualified consultant conduct some of its monitoring responsibilities. In this case, Caltrans PQS would review and approve the consultant's work.

7. CONCLUSION

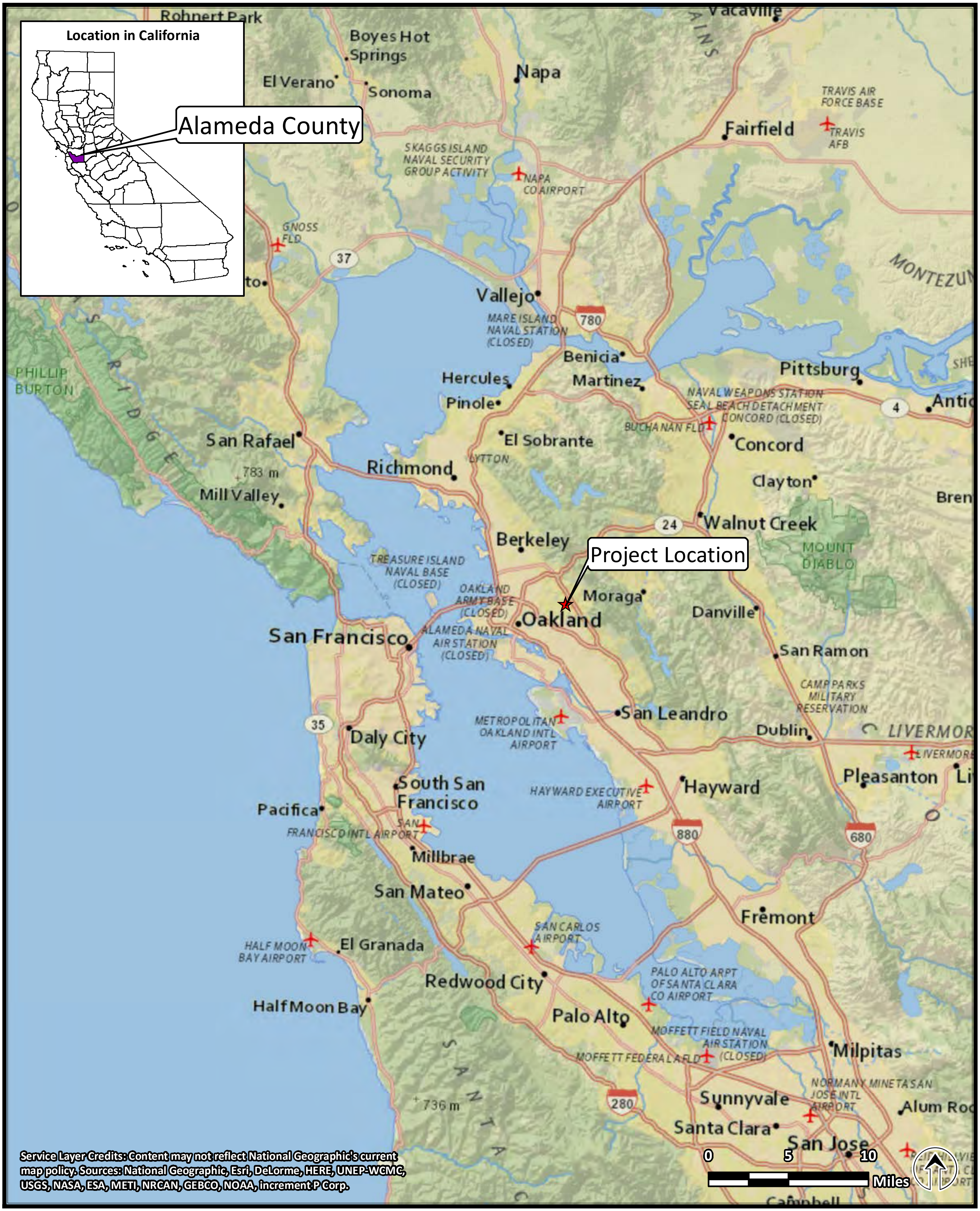
The City, in cooperation with Caltrans, proposes to seismically retrofit the Leimert Boulevard Bridge over Sausal Creek in Oakland, Alameda County, California as part of the Highway Bridge Program. The bridge (Bridge Number 33C0215/Leimert Boulevard Bridge) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail.

Caltrans has applied the Criteria of Adverse Effect to the one historic property within the APE, Bridge Number 33C0215/Leimert Boulevard Bridge. In its analysis of the project, Caltrans has considered any views concerning such effects which have been provided by consulting parties and the public, as per CFR 800.5(a).

The project complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Rehabilitation*. Therefore, Caltrans District 4 determined that a Finding of No Adverse Effect with Standard Conditions through the use of the *Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Rehabilitation* and *Guidelines for Rehabilitating Historic Buildings* (FNAE-SC: SOIS) is appropriate and is notifying Caltrans Headquarters Cultural Studies Office (CSO) and any consulting parties of this finding, pursuant to 36 CFR 800.14(b) and Section 106 PA Stipulation X.B.1.

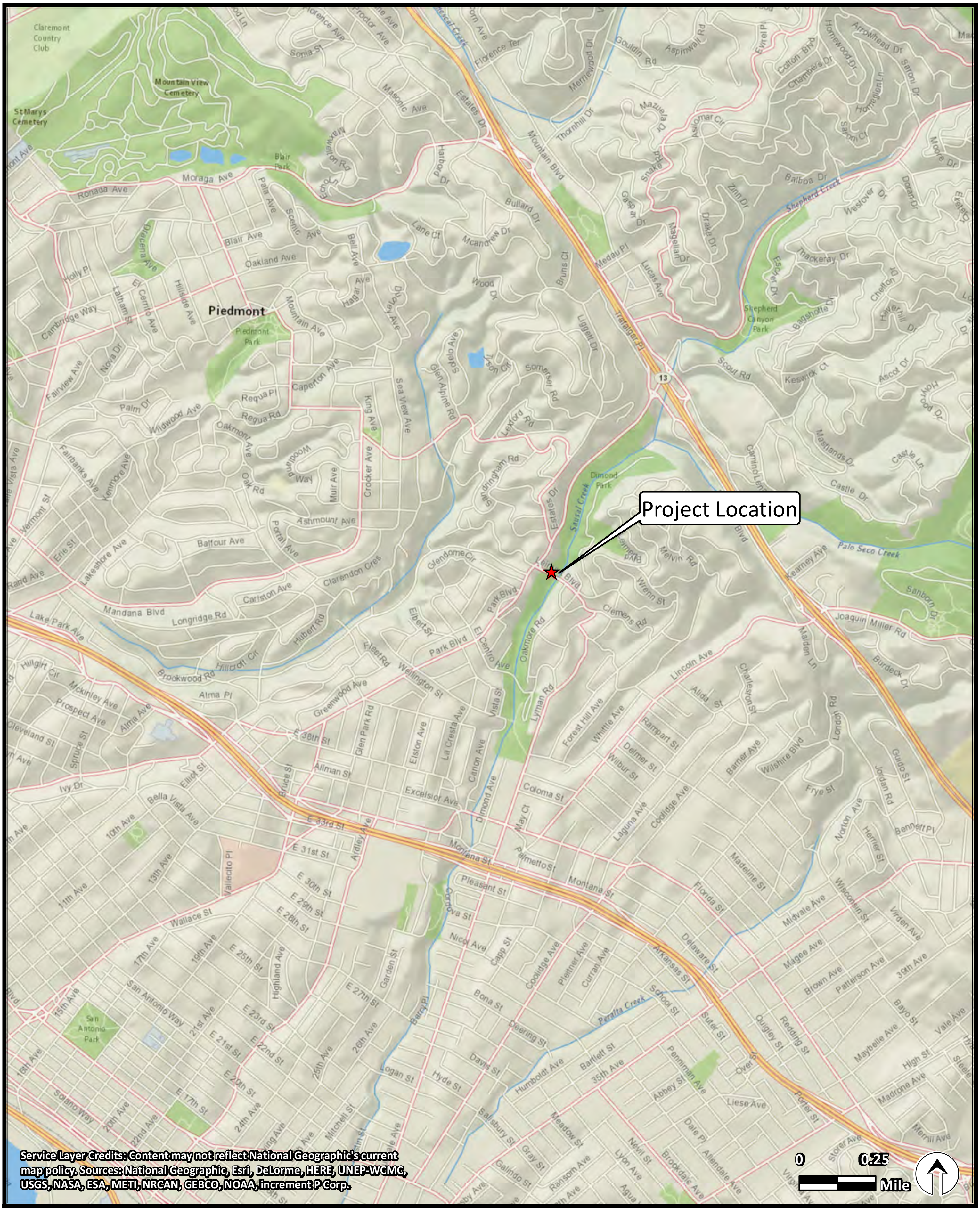
Table 5: Summary of Evaluation of Effects		
Historic Property Name	Effect Evaluation	Avoidance
Bridge Number 33C0215/Leimert Boulevard Bridge	No Adverse Effect with Standard Conditions	SOIS

Attachment A: Project Maps



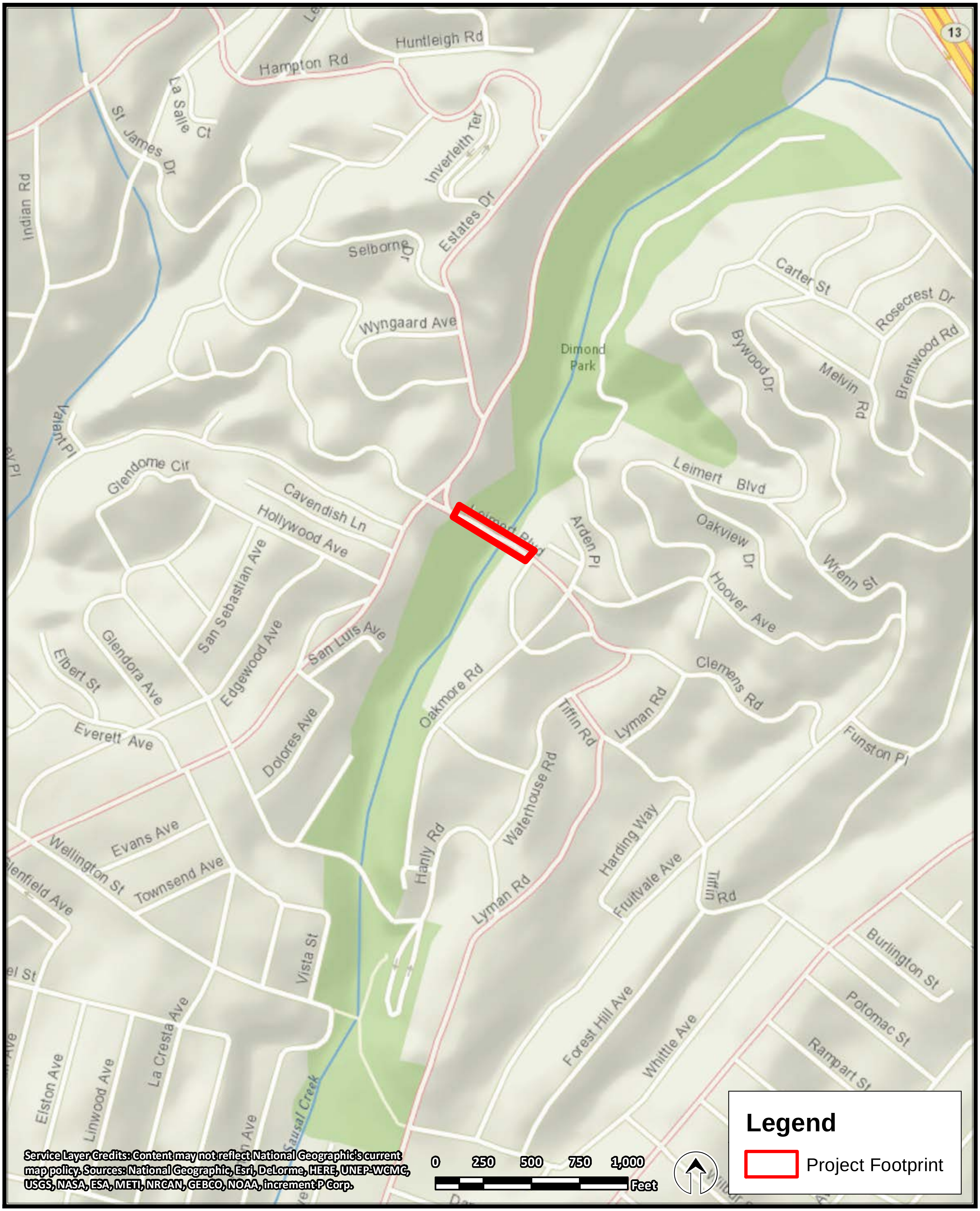
CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Road Bridge Rehabilitation



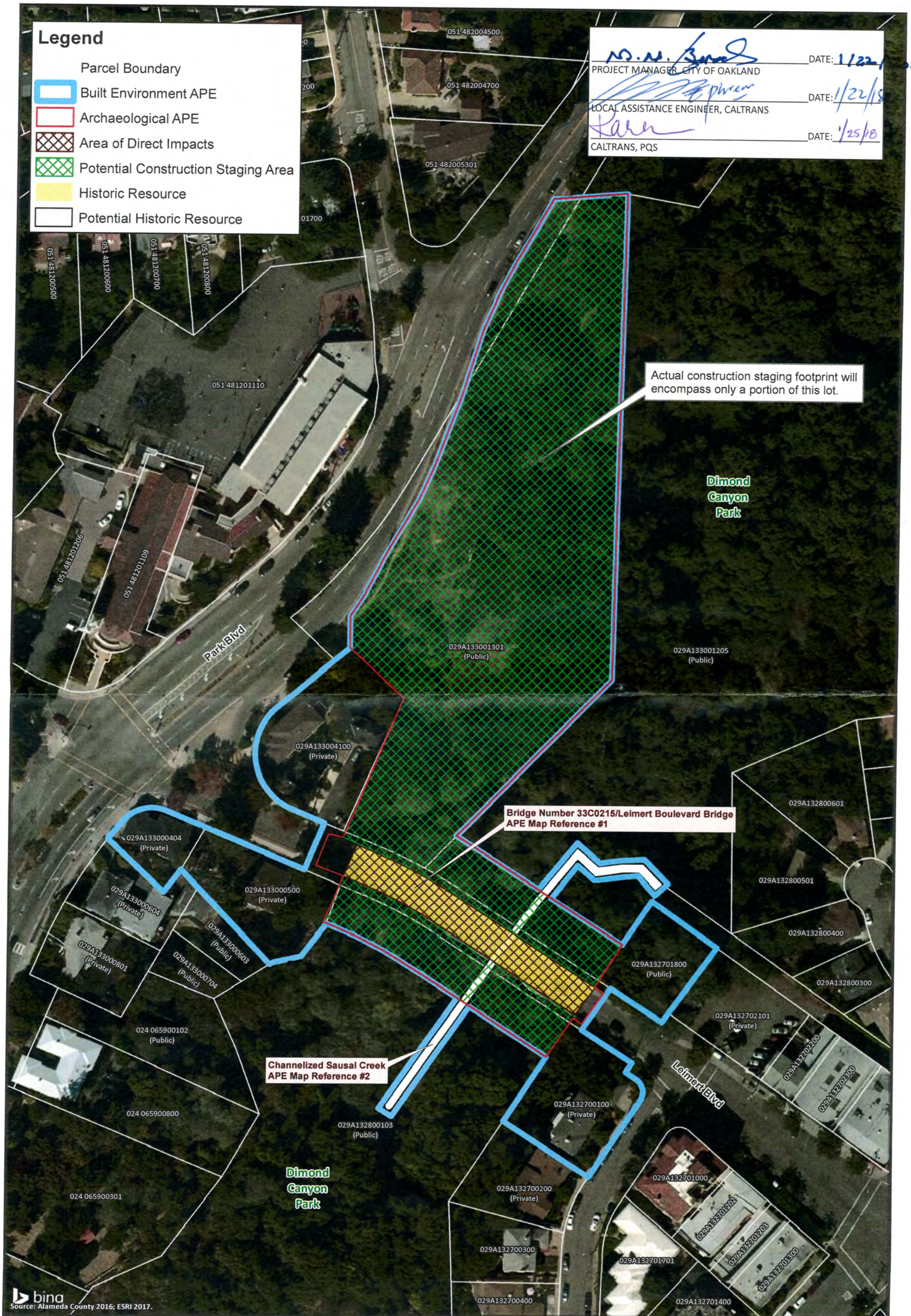
CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

FIGURE 3. PROJECT FOOTPRINT
Leimert Road Bridge Rehabilitation



PROJECT MANAGER, CITY OF OAKLAND DATE: 1/22/2018

LOCAL ASSISTANCE ENGINEER, CALTRANS DATE: 1/22/18

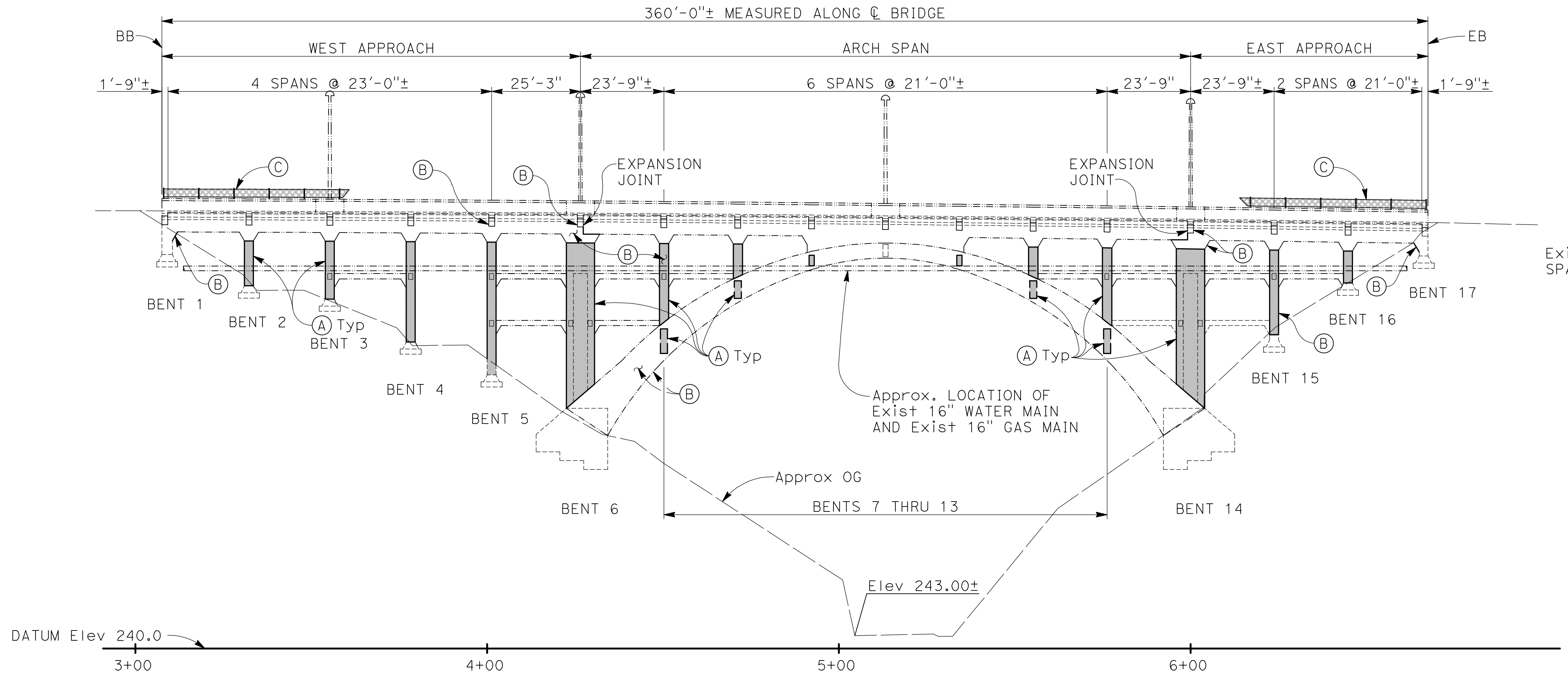
CALTRANS, PQS DATE: 1/25/18

CITY OF OAKLAND

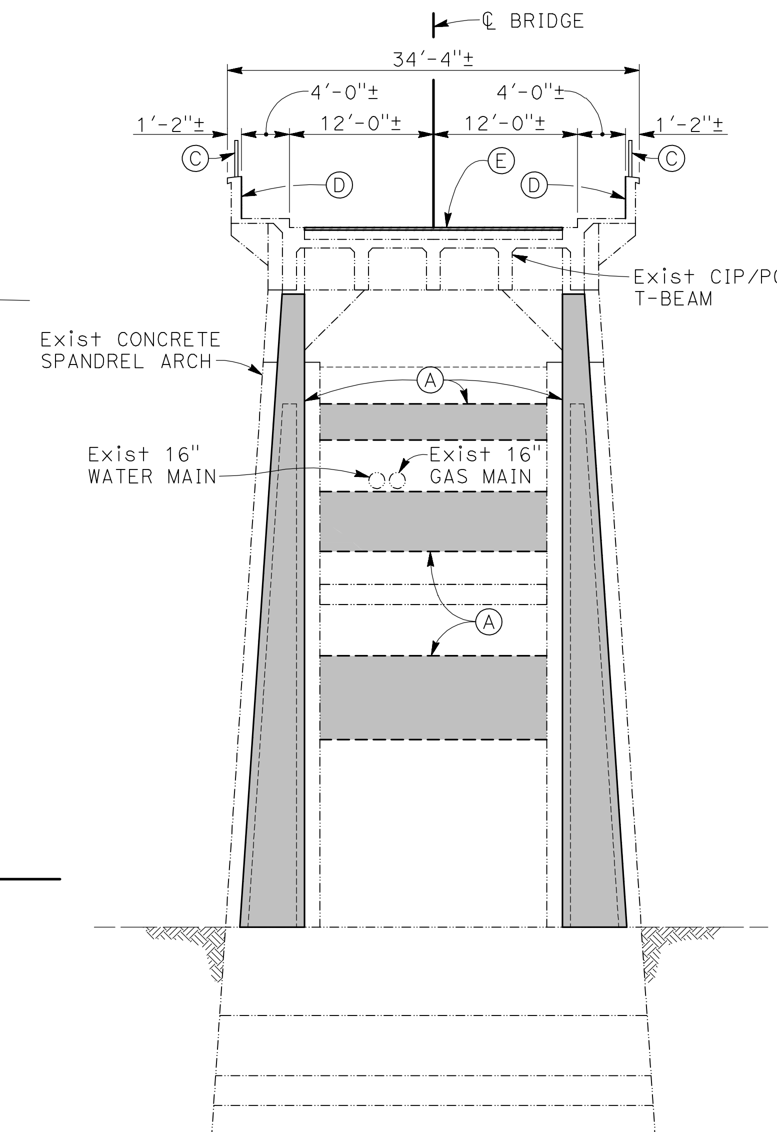
Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (124)

Area of Potential Effects

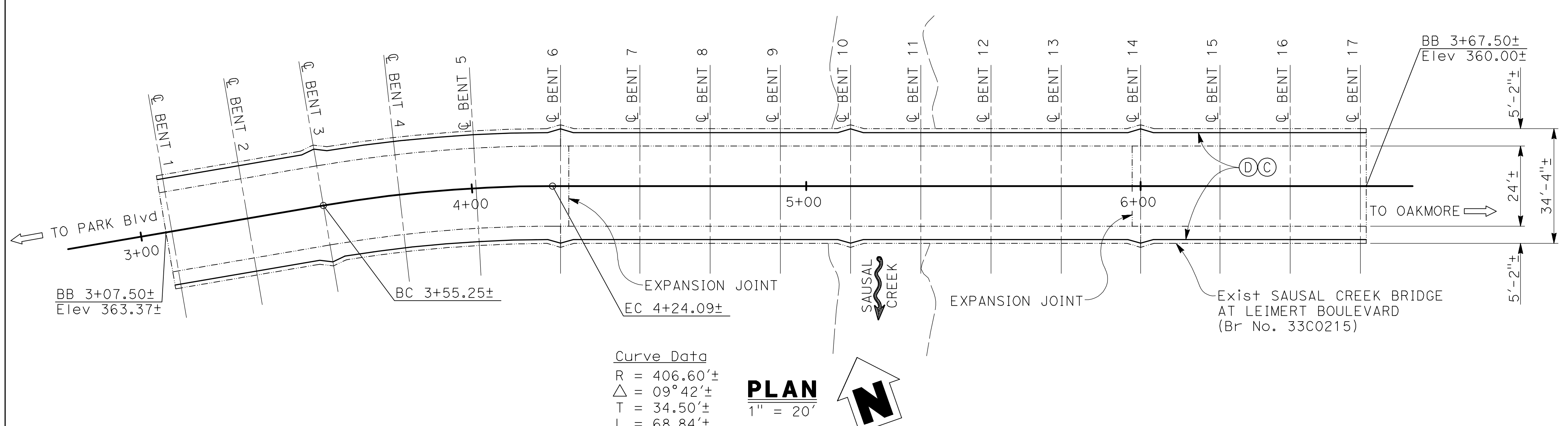
Attachment B: Preliminary Project Engineering



DEVELOPED ELEVATION
1" = 20'



TYPICAL SECTION
1/8" = 1'-0"



Curve Data
R = 406.60'±
Δ = 09°42'±
T = 34.50'±
L = 68.84'±

PLAN
1" = 20'

NOTES:
- (A) Indicates limits of carbon fiber reinforced polymer composite casing system
- (B) Repair spalled surface area
- (C) Repair exist chain link railing
- (D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating
- (E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:
- - - - Indicates Existing Structure
- ⇨ Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (6/14/18)

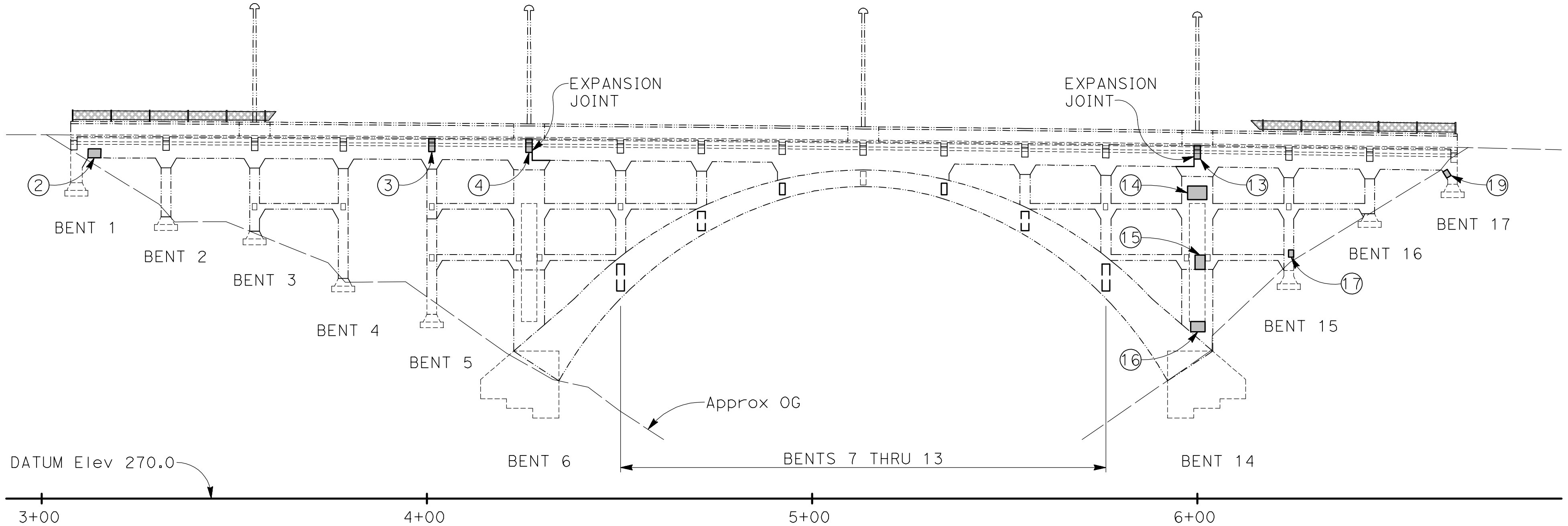
DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

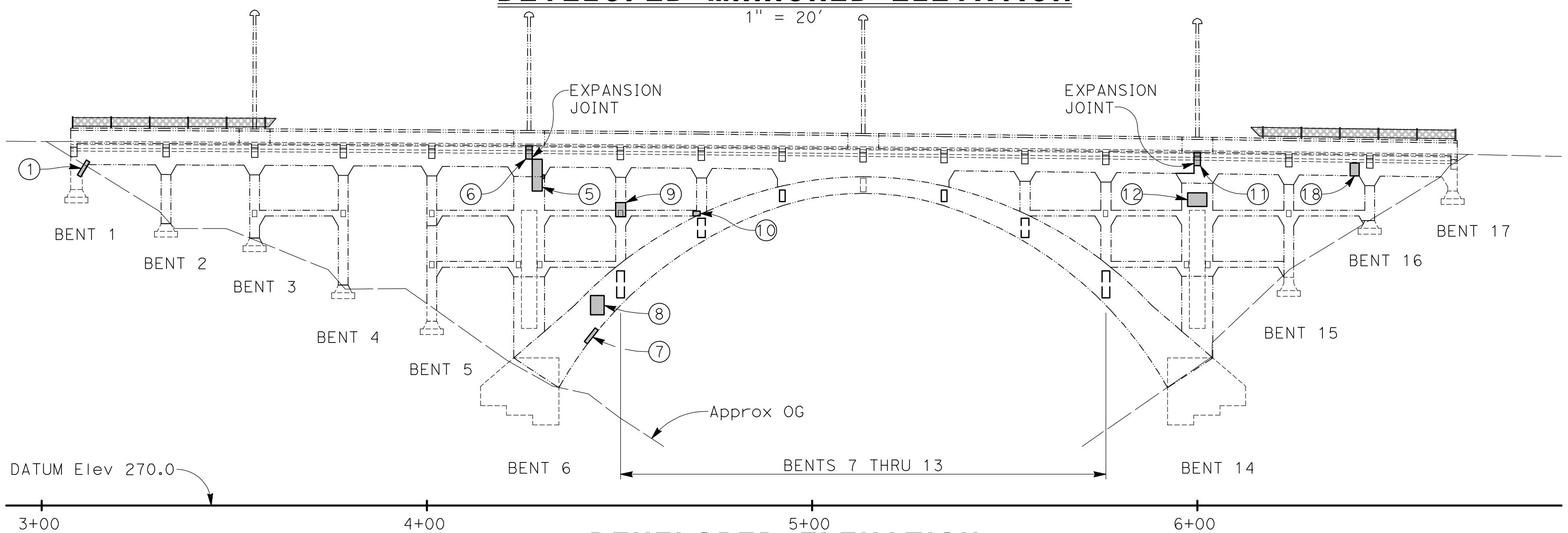
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

GENERAL PLAN
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

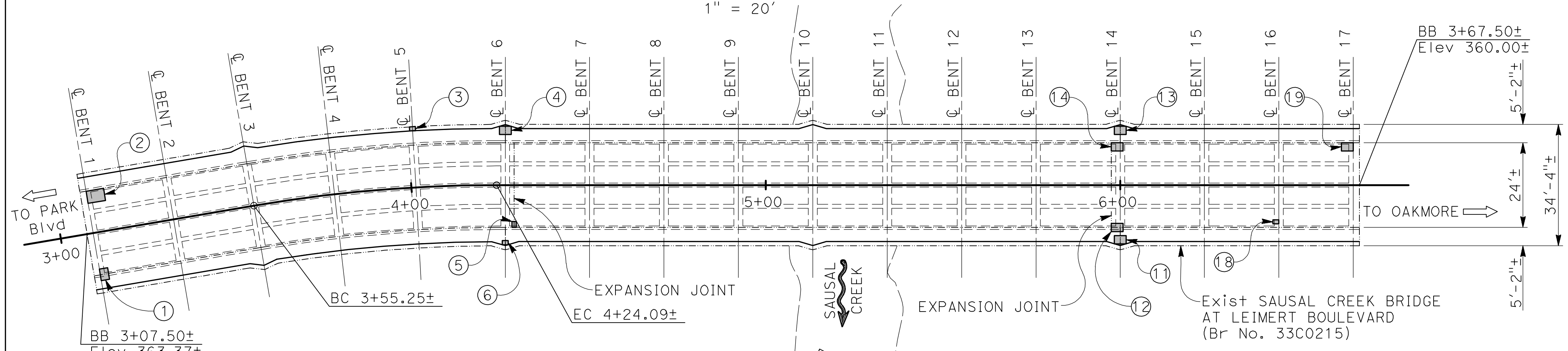
SHEET NUMBER
S-1
OF SHEETS
DRAWING NO. 2016051-1
2016051 (2016051S1)



DEVELOPED MIRRORED ELEVATION
1" = 20'



DEVELOPED ELEVATION
1" = 20'



PLAN
1" = 20'

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

SUMMARY OF SPALLED SURFACE AREAS

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (6/14/18)

DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BCA

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS

SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD

OAKLAND CALIFORNIA

(2016051S2)

SHEET NUMBER
S-2
OF SHEETS

DRAWING NO.
2016051-2

Attachment C: Caltrans Historic Bridge Inventory Excerpt

Structure Maintenance & Investigations

SM&I

Historical Significance - Local Agency Bridges

October 2017

District 04

Alameda County

Bridge Number	Bridge Name	Location	Historical Significance	Year Built	Year Wid/Ext
33C0201	SEMINARY AVE UP (BARTD AERIAL)	JUST NE/O SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0202	HEGENBERGER ROAD OH	0.4 MI SOUTH OF 66TH AVE	2. Bridge is eligible for NRHP	1966	2014
33C0203	SAN LORENZO CREEK	0.01 MI S OF I-880	5. Bridge not eligible for NRHP	1974	
33C0205	SAN LORENZO CREEK	0.02 MI NE OF MISSION BL	2. Bridge is eligible for NRHP	1915	
33C0206	SAN LORENZO CREEK	0.05 MI S OF LEWELLING BL	5. Bridge not eligible for NRHP	1927	
33C0207	ESTUDILLO CANAL DITCH	0.15 MI S MANOR BLVD	5. Bridge not eligible for NRHP	1972	
33C0208	ESTUDILLO CANAL	N OF BURKHART AVE	5. Bridge not eligible for NRHP	1955	
33C0209	LAGUNA CREEK (FLOOD CONTROL LINE E)	W OF FREMONT BLVD	5. Bridge not eligible for NRHP	1964	
33C0210	TENNYSON FLOOD CONTROL CHANNEL	E OF THACKERAY AVE	5. Bridge not eligible for NRHP	1960	
33C0211	WHITMAN STREET SEPARATION	ORCHARD AVE	5. Bridge not eligible for NRHP	1970	
33C0212	ORCHARD AVENUE UP	0.15 MI SW/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0213	ORCHARD AVE UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0214	NO NAME CREEK	DONALD AVE	5. Bridge not eligible for NRHP	1955	
33C0215	SAUSAL CREEK	0.1 MI E OF PARK BLVD	2. Bridge is eligible for NRHP	1926	
33C0216	LION CREEK	NEAR 69TH AVE	5. Bridge not eligible for NRHP	1940	1965
33C0217	105TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0218	SAN LEANDRO CREEK	0.3 MI W OF I 880	5. Bridge not eligible for NRHP	1939	2002
33C0219	WHITMAN STREET OVERCROSSING	HARDER RD	5. Bridge not eligible for NRHP	1970	
33C0220	HARDER ROAD UP	0.2 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0221	HARDER RD UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0222	ALAMEDA CREEK	0.2 MI E UNION CITY BLVD	5. Bridge not eligible for NRHP	1977	
33C0223	WHIPPLE ROAD OH (BARTD)	0.75 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0224	LAGUNA CREEK	FREMONT BLVD (0.1M E/O)	5. Bridge not eligible for NRHP	1955	
33C0225	PASEO PADRE PARKWAY UP	0.2 MI N/O PERALTA BLVD	5. Bridge not eligible for NRHP	1975	
33C0229	ALAMEDA LAKE	0.1 MI N/E OF OTIS DR	5. Bridge not eligible for NRHP	1958	
33C0230	BALLENA BAY	0.1 MI S OF CENTRAL AVE	5. Bridge not eligible for NRHP	1966	
33C0231	SAN LORENZO CREEK	JUST NE OF MAIN ST	5. Bridge not eligible for NRHP	1925	
33C0235	ASHLAND AVENUE UP	N/O SR 238	5. Bridge not eligible for NRHP	1960	
33C0236	ASHLAND AVE UP (BARTD AERIAL)	0.2 MI N/O 238	5. Bridge not eligible for NRHP	1960	1994
33C0237	ELGIN STREET OC	ELGIN ST & ASHLAND AVE	5. Bridge not eligible for NRHP	1960	1994
33C0238	LION CREEK TRIBUTARY	ABOUT 0.5 MI SE REDWOD RD	5. Bridge not eligible for NRHP	1970	
33C0239L	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	1983	
33C0239R	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	2009	
33C0240	ARROYO SECO	0.2 MI N TESLA RD	5. Bridge not eligible for NRHP	1962	
33C0241	SOUTH BAY AQUEDUCT	2.1 MI SOUTH OF I-580	5. Bridge not eligible for NRHP	1962	
33C0242	LAGUNA CREEK	FREMONT BLVD	5. Bridge not eligible for NRHP	1954	
33C0243	SOUTH BAY AQUEDUCT	1.0 MI E GREENVILLE RD	5. Bridge not eligible for NRHP	1962	
33C0244	ALAMEDA CREEK BRANCH	JUST S/E INDSTRL PKWY W	5. Bridge not eligible for NRHP	1971	
33C0245	STONY BROOK (PALOMARES CREEK)	7.57 MI SE PALO VERDE RD	5. Bridge not eligible for NRHP	1925	1962
33C0246	STONY BROOK	1.7 MILES NORTH OF SR 84	5. Bridge not eligible for NRHP	1925	1970
33C0248	CROW CREEK	0.1 MI W/O CROW CANYON RD	5. Bridge not eligible for NRHP	1970	
33C0249	75TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0250	ESTUDILLO CANAL	100' N BURKHART AVE	5. Bridge not eligible for NRHP	1955	

Attachment D: SOIS Action Plan

SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES ACTION PLAN

FOR THE

LEIMERT BOULEVARD BRIDGE SEISMIC RETROFIT PROJECT
CITY OF OAKLAND, CALIFORNIA

STPLZ-5012(124)

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October 2018

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 326 and the Memorandum of Understanding dated December 30, 2016, and executed by FHWA and Caltrans.

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1. SUMMARY OF ACTION PLAN

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge Number 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area). The Regional Location, Project Location, and Project Footprint maps are located in Attachment A, Figures 1 through 3. The Secretary of the Interior's Standards for Rehabilitation (Rehabilitation Standards) will be used to complete the project and applied to one historic property: Bridge Number 33C0215/Leimert Boulevard Bridge (Map Reference No. 1 on APE Map in Attachment A, Figure 4).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Bridge Number 33C0215/Leimert Boulevard Bridges significant under National Register of Historic Places (NRHP) Criteria A (for its association with the residential development of the Oakland Hills neighborhood) and NRHP Criteria C (for the bridge's aesthetic design and successful integration with the Oakmore Highlands subdivision), with a period of significance of 1926. It was determined eligible for the NRHP in March 2003.

Image 1: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-southeast. Source: BCA, Inc., May 2015.

A Finding of No Adverse Effect with Standard Conditions using the Secretary of the Interior's Standards for the Treatment of Historic Properties (FNAE-SC: SOIS) was prepared for the undertaking in October 2018 in accordance with the January 1, 2014 *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA). In the report Caltrans applied the Criteria of Adverse Effect to historic properties within the Area of Potential Effect (APE) and considered any views concerning such effects which were provided by consulting parties and the public, as per 36 CFR 800.5(a). Caltrans concluded that the plans for the undertaking complied with the Rehabilitation Standards. This Action Plan was prepared as a result of the FNAE-SC: SOIS.

Table 1 summarizes the Action Plan developed to ensure that the undertaking continues to comply with the Rehabilitation Standards throughout design and construction process. Details regarding the Action Plan, responsible parties, the proposed undertaking, and the historic property are included in the sections that follow.

Table 1: Summary of Action Plan			
Stage	Responsible Parties	Task	Date Complete[1]
Plan Development/ Construction Documents	CAH, CS, PM*, PE	PM, PE, and CS will provide Project plans for bridge at 65%, 95%, and 100% completion to CAH for review.	
Plan Development/ Construction Documents	CAH*, CS, PM, PE	CAH will review the plans for compliance with the Rehabilitation Standards and work with the PM, PE, and CS to resolve any outstanding issues.	
Plan Development/ Construction Documents	CAH*, CS	CAH will provide formal approval in the form of a memo.	
Plan Development/ Construction Documents	PM, PE, RE*	The SOIS Action Plan will be included in the Resident Engineer's Pending File.	
Plan Development/ Construction Documents	CAH*	CAH will ensure that the SOIS Action Plan will be included in the Environmental Commitments Record (ECR).	
Plan Development/ Construction Documents	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree to an on-site monitoring schedule in accordance with the construction schedule prior to the start of construction.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree on a methodology for installing the scaffolding and platforms, to ensure that the historic property is not damaged.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Graffiti/paint removal testing strategy	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Concrete spall repair mock-up inspection	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o CFRP mortared finish mock-up inspection	

[1] This column will be completed when each task is complete.

Table 1: Summary of Action Plan			
Stage	Responsible Parties	Task	Date Complete[1]
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Anti-graffiti coating mock-up inspection (on both types of masonry: original concrete and repaired spalls)	
Pre-Construction/ Construction	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	
During Construction	CAH, CS, PM*, RE	CS, PM, and RE will notify CAH in advance when events in the SOIS Action plan requiring monitoring will occur (including but not limited to those listed in the Pre-Construction/Construction Stage, above).	
During Construction	CAH*, CS, PM, RE	CAH will be present to monitor required construction events and will prepare monitoring reports summarizing activities, results, and next actions.	
Post-Construction	CAH, CS, PM*, RE	CS, PM, and PE will notify CAH when construction is complete.	
Post-Construction	CAH, CS, PM*, RE	CAH will investigate the finished bridge to ensure that all work was completed according to the plans and that it complies with the Standards for Rehabilitation.	
Post-Construction	CAH*, CS, PM, RE	All responsible parties will work together to resolve outstanding issues. CAH will provide formal approval in the form of a memo.	
Definition of Responsible Party acronyms are: CAH – Caltrans Architectural Historian[2]; CS – City Staff; PM – Caltrans Project Manager; PE – Project Engineer; RE – Resident Engineer. The primary responsible party in each task is noted with an *.			

[2] Caltrans may elect to have a qualified consultant conduct some of its monitoring responsibilities. In this case, Caltrans PQS would review and approve the consultant's work.

2. DESCRIPTION OF THE PROJECT

The City, in cooperation with Caltrans, proposes to seismically retrofit Bridge Number 33C0215/Leimert Boulevard Bridge, which carries Leimert Boulevard over Dimond Canyon and Sausal Creek, in Oakland, Alameda County, California. The bridge connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (see Attachment A, Figure 4, APE Map).

The bridge is a 357-foot long open-spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock. The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, are primarily residential, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge. The bridge was designed by George Posey, who designed several notable structures in Oakland. The bridge was constructed in 1926. It was designated locally as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB).

Seismic retrofit of the bridge was previously proposed with a design by URS Greiner, Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements; process the environmental CEQA and NEPA clearances; certify the required right of way; and issue the project for bid. However, during the course of the environmental review, a Finding of Effect Report was prepared in August 2008. The SHPO and the LPAB concluded that the proposed bridge retrofit would have an adverse effect under Section 106 and a significant impact under CEQA on the historic status of the bridge; therefore, the proposed retrofit plans were rejected. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge's historic integrity and landmark status; thus, a redesign of the project was initiated in 2017.

Since the previous 2008 submittal, the seismic retrofit project has been redesigned. The previous project description called for: adding steel casings around bents; adding steel jackets around arch ribs; and removing bracing between bent columns, which did not conform with the Standards for Rehabilitation and would have resulted in a Finding of Adverse Effect. The City has decided to change the project plans to conform with the Standards for Rehabilitation. The current project now identifies the following improvements: carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge; in the areas to be wrapped with CFRP, the graffiti/paint would first be removed to ensure a bond with the substrate; a mortared finish would be applied over the CFRP to resemble the existing board-formed finish and maintain the aesthetics of the structure; localized shotcrete would be applied to the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing; the existing asphaltic concrete would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck; graffiti/paint would be removed in the vicinity of spalled concrete and spalled concrete would be patched; graffiti/paint would be removed from the barrier railings; an anti-graffiti coating applied to the barrier railings; utility mains would be modified; and the chain link fence would be repaired or replaced. The project now requires temporary construction staging in the following areas: a scaffold that spans over the Sausal Creek; a platform suspended from Leimert Boulevard Bridge; and a staging area in the vacant parcel (APN 029A-1330-013-01) north of the bridge.

2.1 PROJECT PURPOSE AND NEED

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Leimert Boulevard Bridge to the extent feasible.

The project area is located in a region of relatively high seismicity and is less than a mile southwest of the Hayward Fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event. Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete overlay, which shows heavy cracking in both longitudinal and transverse directions. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the metal reinforcement inside the concrete.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve

the bridge appearance and provide barriers to prevent people or objects from falling off the bridge.

2.2 CONSTRUCTION ACTIVITIES

Typical construction equipment will include concrete saws, concrete mixing equipment, grinders, jackhammers, concrete pumps, scaffolding, platforms suspended from the bridge, various hand tools, and other equipment that may be identified later in the design process. The following improvements are proposed (see Attachment B, Preliminary Project Engineering):

- *Localized Shotcrete:*
  Localized shotcrete would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete. The shotcrete will be at grade level, on the steep slope, but not visible from the bridge nor from the Dimond Canyon Trail.

- *Replace Paving Materials:*
  The existing asphalt concrete overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.

- *Alteration of Utility Mains:*
  The existing water and gas mains that are currently within the substructure of the bridge, located above the transverse cross bracing, require alteration (see the Developed Elevation and Typical Section on page S-1 in Attachment B). The need for this action is two-fold. First, the existing mains do not meet current code and seismic requirements. Second, because the mains are supported by wood cradles directly resting on the transverse bracing members (see Image 12), the mains may need to be raised to allow clearance for the installation of the CFRP. The mains will likely be modified with new hangers to provide additional points of support for the utilities between the cradles. The proposed hangers will consist of a pair of vertical steel rods drilled and epoxied into the underside of the bridge deck and will be painted black to make less visible. The existing timber cradles will be replaced with cast-in-place concrete cradles that will be connected to the tops of the transverse cross braces. Flex joints would possibly be added to the lines. Should additional clearance be needed, requiring replacement of the mains, the lines would be replaced in kind, still above the transverse cross bracing, on an offset alignment.

- *Chain Link Fence:*
  The chain link fence would be repaired or replaced in-kind.

- *Graffiti Removal and Concrete Repair:*
  Graffiti/paint on the concrete barriers, in areas identified for the repair of spalled concrete, and areas to be wrapped in CFRP would be removed. The use of sandblasting would be prohibited in order to preserve the existing board-formed-

finish and concrete surfaces. Graffiti/paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A low-pressure water wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations. After the graffiti/paint has been removed, the spalled concrete will be repaired in-kind.

- *Anti-Graffiti Coating:*
  After graffiti/paint removal and concrete repair has been completed, an anti-graffiti coating would be applied to the concrete barrier railings.

- *Carbon Fiber Reinforced Polymer:*
  CFRP would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is required to maintain the historic integrity of the structure.

- *CFRP Mortared Board-Formed Finish:*
  A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.

- *Temporary Scaffolding and Platforms:*
  Although not permanent, in order to be built, the proposed project will require extensive temporary scaffolding and platforms for the activities noted above.

3. DESCRIPTION OF HISTORIC PROPERTY

The APE for the proposed undertaking includes one historic property: Bridge Number 33C0215/Leimert Boulevard Bridge.

Location: Bridge Number 33C0215/Leimert Boulevard Bridge carries Leimert Boulevard over Dimond Canyon and Sausal Creek, in Oakland, Alameda County.

Date Determined Eligible/Listed: Bridge Number 33C0215/Leimert Boulevard Bridge was resurveyed on March 27, 2003 as part of the California Historic Bridge Inventory. In 2003, the bridge was determined eligible for listing in the NRHP with a status code of 2S (individual property determined eligible for NRHP by the Keeper).

NRHP Criteria and Significance Level: A and C at the local level.

Boundary: The NRHP Boundary for the bridge follows the footprint of the bridge and includes the substructure and superstructure, as indicated on Image 2.

Period of Significance: 1926, which is also its date of construction.

Summary of Significance: Bridge Number 33C0215/Leimert Boulevard Bridge over Dimond Canyon and Sausal Creek is significant under National Register Criteria A, at the local level, for its association with the residential development of the Oakland Hills neighborhood (Image 3). The bridge is particularly important within this context because it was purpose-built to allow access to and for the subsequent development of the Oakmore Highlands subdivision. It is one of only a few bridges in California that was built intentionally to allow access to previously inaccessible land for real estate development. The bridge was built in response to specific demand for residential development and its construction met its intended goal, leading directly to the development of the Oakmore area, which was otherwise inaccessible.

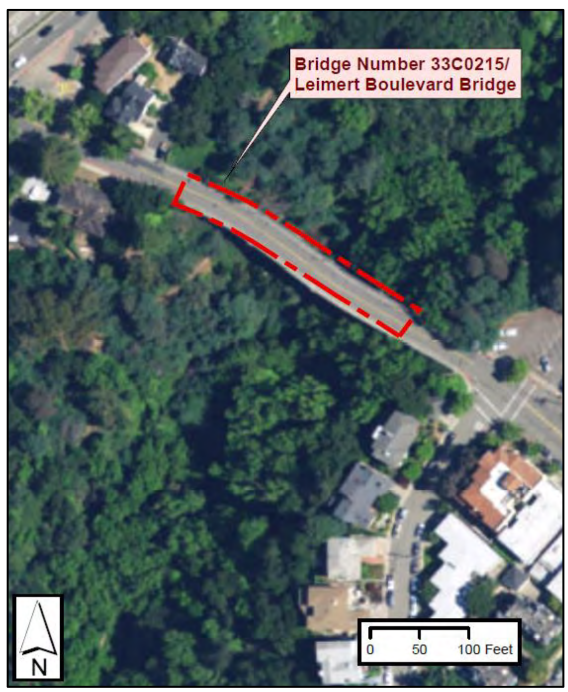


Image 2: Approximate NRHP Boundary for Bridge Number 33C0215/Leimert Boulevard

Bridge Number 33C0215/Leimert Boulevard Bridge is also significant under Criterion C because it embodies distinctive characteristics of a type, period, and method of construction. Its significance is not for its structural engineering achievement. Rather, its significance lies in the aesthetic design of the structure as a gateway to the new Oakmore Highlands development and for that design's integration with the aesthetics of the new subdivision. Since the bridge was built to be the gateway to the new Oakmore Highlands, the bridge was designed to convey permanence, grace, and strength – traits that would attract potential homebuyers.

Integrity: Bridge Number 33C0215/Leimert Boulevard Bridge is largely unaltered from 1926, with the exception of new road paving materials, paint, and a chain link fence on the top of the barriers (dates of alterations are unknown). Bridge Number 33C0215/Leimert Boulevard Bridge conveys its significance because it retains integrity of location, design, setting, materials, workmanship, feeling, and association.

Character-Defining Features: The character-defining features of Bridge Number 33C0215/Leimert Boulevard Bridge were not explicitly identified in the 2003 survey that determined the bridge was eligible for the NRHP (Attachment C). The bridge is 357 feet long, 34.3 feet wide, and carries two lanes of traffic and a cantilevered walkway. The assumed character-defining features identified in the 2018 FNAE-SC: SOIS report and the ranking criteria (which was developed based on guidance in Exhibit 7.1 of *Caltrans Standard Environmental Reference*) are included in Table 2. Non-character-defining alterations include the addition of a chain-link fence on top of the concrete barrier railings and a new road bed (dates of alterations are unknown).

Image 3: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing northeast. Source: BCA, Inc., July 2016.

Image 4: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-northeast. Source: BCA, Inc., May 2015.

Image 5: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-southeast. Source: BCA, Inc., May 2015.

Image 6: Bridge Number 33C0215/Leimert Boulevard Bridge, birds' eye view facing east-southeast. Source: BCA, Inc., May 2015.

Image 7: View of Leimert Boulevard over Sausal Creek from Clemens Road, view facing west. Source: BCA, Inc., July 2016.

Image 8: View of the Bridge Number 33C0215/Leimert Boulevard Bridge bents on the western embankment of Dimond Canyon, view facing south. Source: BCA, Inc., July 2016.

Image 9: Detail view of the bridge arch from below, showing the cross bracing, examples of spalls, and the board finish. Source: BCA, Inc., July 2016.

Image10: Detail view of the bridge arch from below, showing the cross bracing and the board finish, view facing east. Source: GPA, May 2017.

Image 11: Image showing soil erosion and footings at Bents 14 (right of frame), 15, and 16 (left of frame), view facing southwest. Source: BCA, Inc. July 2016.

Image 12: View of the utility lines, cross bracing, and bottom of the deck, view facing northwest. Source: BCA, Inc. July 2016.

Image 13: Representative image showing typical spalling. Source: BCA, Inc. July 2016.

Image 14: Representative image showing typical spalling and graffiti. Source: BCA, Inc. July 2016.

3.1 CHARACTER-DEFINING FEATURES THAT QUALIFY THE PROPERTY FOR THE NRHP

The character-defining features (CDF) are listed and ranked below in Table 2. Table 2 is based on the criteria matrix and rankings as described in the Caltrans Standard Environmental Reference, Volume 2, Exhibit 7.1, Updated 2014. Based on Table 2, all of the character-defining features fall into the most significant or significant categories, based on the rankings criteria (summarized in Table 3).

Table 2: Character-Defining Features and Point Ranking Criteria
High = 3 points, Medium = 2 points, Low = 1 point

Character-Defining Feature (CDF)	Craftsmanship	Conveying Significance	Public Benefit	Visibility and Transparency	Integrity	Total Points
CDF 1: Form of the open spandrel, fixed, parabolic bridge with a 173-foot-long, single, arch span (Images 1, 3 through 6)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 2: Two reinforced concrete, T-beam approach spans supported by reinforced concrete columns (Image 8)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 3: 17 bents supporting the roadway, nine of which are directly located over the concrete arch	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 4: Spread footings on bedrock that support the arch and the bents (Images 10 and 11)	Standard historic fabric (commonly found during period of significance)	Quintessential and Indispensable (without it the significance is lost)	Medium	Secondary	Intact as designed/ original	12
	2	3	2	2	3	
CDF 5: Concrete barrier railings (Image 7)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 6: Reinforced, board-formed concrete (Images 3 through 14)	Standard historic fabric (commonly found during period of significance)	Important	Medium	Primary, salient feature	Intact as designed/ original	12
	2	2	2	3	3	
CDF 7: Light posts (Images 6 and 7)	Standard historic fabric (commonly found during period of significance)	Important	High	Primary, salient feature	Somewhat altered but still conveys significance	12
	2	2	3	3	2	
CDF 8: Original sidewalk and curbing (Images 6 and 7)	Standard historic fabric (commonly found during period of significance)	Low	High	Primary, salient feature	Intact as designed/ original	12
	2	1	3	3	3	

Table 3: Rankings		
Points Range	Ranking	Description
13 - 15 points	Most Significant	Strongly conveys sense of time and place
9 - 12 points	Significant	Conveys sense of time and place
5 - 8 points	Less significant	Still conveys sense of time and place, but to lesser degree
< 5 points	N/A	Historic fabric, but not character-defining feature

<u>Non-Character Defining Features, Not Historic Fabric – All Non-Original</u>

- Non-original deck paving
- Non-original chain link fence
- Utility Mains

4. ANALYSIS OF EFFECTS RELATED TO CONDITIONS PROPOSED

Table 4 summarizes how the construction activities and proposed treatments meet the Rehabilitation Standards and avoid adverse effect on the historic property.

Table 4: Conditions to Avoid Adverse Effect

Construction Activity	Affected CDFs	Rank	Proposed Treatment	Standards Compliance
Localized Shotcrete	Footings CDF 4 None – proposed work is primarily below grade.	S	Minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.	The project complies with Standard 9. The work will take place in an area that is not visible, there will be no loss of historic materials, and no loss of CDFs.
Replace Paving Materials	None – deck paving is non-original. The bridge has been repaved several times.	N/A	Grind off existing asphalt concrete and replace with a compatible polyester concrete.	N/A, because the deck paving is non-original, its replacement with a compatible material is acceptable. The Rehabilitation Standards do not apply to this construction activity.
Alteration of Utility Mains	None – the utility mains are non-original.	N/A	Install new hangers, vertical steel rods drilled and epoxied into the underside of the bridge deck and will be painted black to make less visible, and new concrete utility cradles.	The project complies with Standard 9. The work will take place in an area that is not visible and there will be little loss of historic materials (at drill locations) and no loss of CDFs.
Chain Link Fence Repair or Replacement	None – the fencing is non-original.	N/A	The fence will be repaired or replaced in kind.	N/A, because the fencing is non-original, its replacement in kind is acceptable and will not introduce any new elements. The Rehabilitation Standards do not apply to this construction activity.
Paint/Graffiti Removal	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	A testing program for all chemical or treatments will be implemented, to determine the gentlest cleaning method possible and to ensure that the historic finishes are not damaged. The use of sandblasting would be prohibited in order to preserve the existing board-formed finish and concrete surfaces.	The project complies with Standard 7 because the testing strategy will identify the gentlest means possible for removing the paint/graffiti and will include only the primary viewsheds and the areas necessary to prepare the concrete substrate for repairs.

Table 4: Conditions to Avoid Adverse Effect				
Construction Activity	Affected CDFs	Rank	Proposed Treatment	Standards Compliance
Concrete Spall Repair	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	Repair with epoxies and standard patching techniques with the same concrete mix selected from mockups.	The project complies with Standards 5, 6, and 9. By applying the same board-formed finish to the spall repairs, the repairs will blend appropriately and maintain the historic character of the concrete.
Anti-Graffiti Coating	CDF 5. Reinforced, board-formed concrete barrier railings.	M	A testing program for all chemical or treatments will be implemented, to determine the method and product that will least impact the appearance of the bridge.	The project complies with Standard 7 because the testing strategy will identify the most appropriate coating material. Furthermore, the use of the coating will be limited to areas most critical for protection from graffiti.
Install CFRP and Board-Formed Finish	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	Reinforce structural members with CFRP and mortared board-formed finish.	The project complies with Standards 5, 6, and 9. By applying the same board-formed finish to the CFRP, the repairs will blend appropriately and maintain the same appearance of the historic concrete, along with similar massing and proportions of the structural members.
Installation of Temporary Scaffolding	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	Installation of temporary scaffolding and platforms, with protections in place to ensure that the concrete is not damaged.	The project complies with Standard 5. Reviews by the qualified architectural historian will ensure that any attachments to the bridge will not damage the historic, board-formed concrete.
Rank Definitions: M – Most Significant; S – Significant; L – Less Significant				

A more detailed analysis of the how the undertaking complies with the Rehabilitation Standards is included in the associated Finding of No Adverse with Standard Conditions report prepared for the project.

5. MONITORS

Because the project plans were in the early design stage when the FNAE-SC: SOIS report was prepared, monitoring is required to ensure the undertaking continues to comply with the Rehabilitation Standards as it progresses. Monitoring must be conducted by one of the following:

- Architects who meet the Secretary of the Interior's Professional Qualification Standards for historic architecture;
- Caltrans PQS Principal Architectural Historians or similarly qualified consultants; or
- Caltrans staff under the direction of a Caltrans PQS Principal Architectural Historian.

Monitoring will occur for the following activities at the specified intervals/milestones:

- A qualified monitor will review and approve construction documents at 65% and 95%.
- A qualified monitor will inspect and approve all mock-ups on-site after they have cured for the number of days as specified in the product literature.
- A qualified monitor will inspect and approve the repairs at specific milestones to be determined in accordance with the project schedule. Examples of milestones include:
    - o Graffiti/paint removal testing;
    - o Concrete spall repair mock-up inspection;
    - o CFRP mortared finish mock-up inspection;
    - o Anti-graffiti coating mock-up inspection (on both types of masonry: original concrete and repaired spalls);
    - o When form boards are removed;
    - o When a sampling of small patches (non-board-formed) are complete; and
    - o When all work is complete.

6. RESPONSIBLE PARTIES

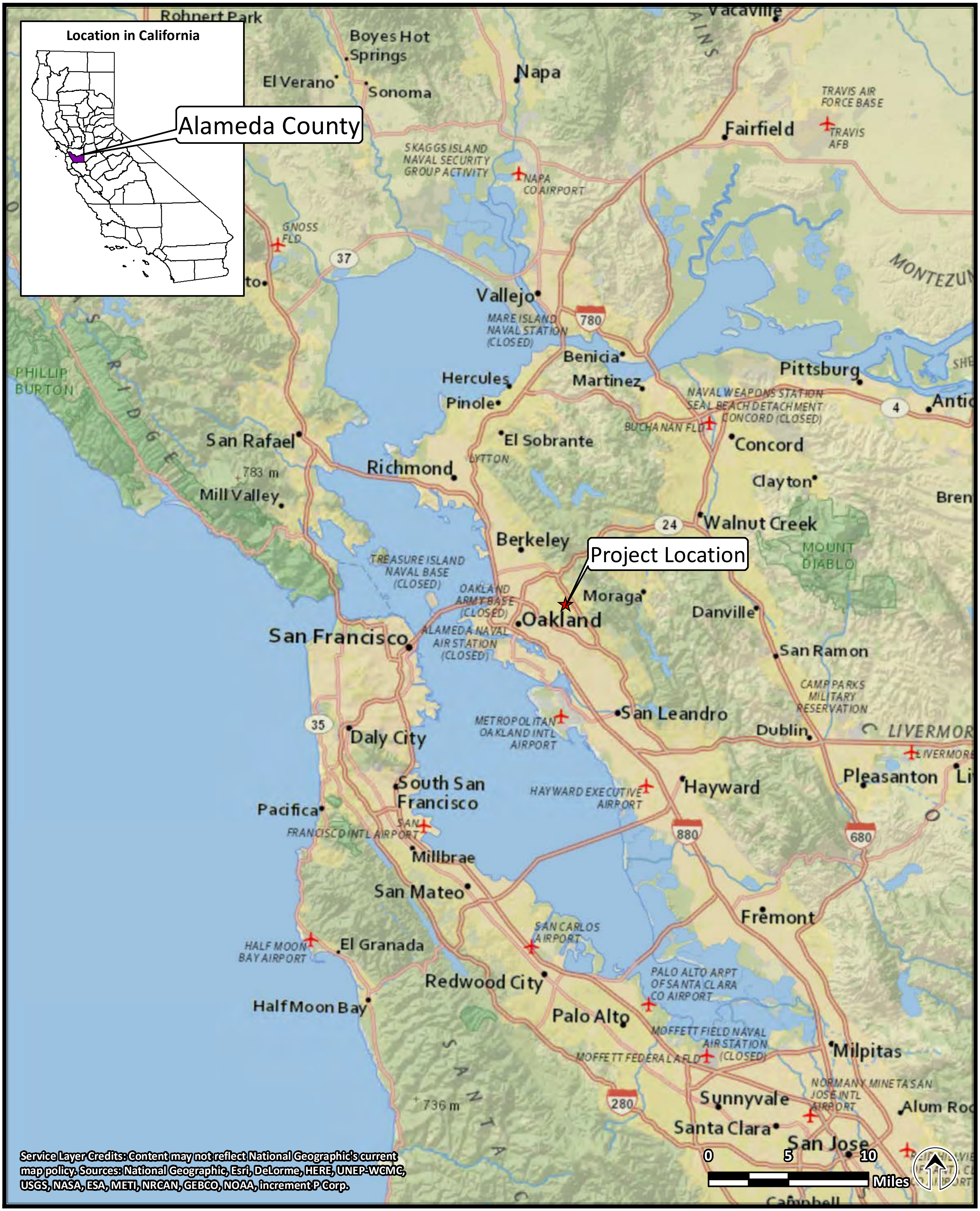
Table 5 lists the responsible parties for implementing this Action Plan:

Table 5: Responsible Parties			
Name[3]	Title	Organization	Contact Information
Noah Stewart	Principal Architectural Historian[4]	Caltrans	510-286-5370
Mohammad Barati	Project Manager	City of Oakland	510-238-7280
Ron Oen	Project Manager	BCA, Inc.	408-296-5515
Robert Yamane	Project Engineer	BCA, Inc.	408-296-5515

[3] Subject to change in the event of personnel change.

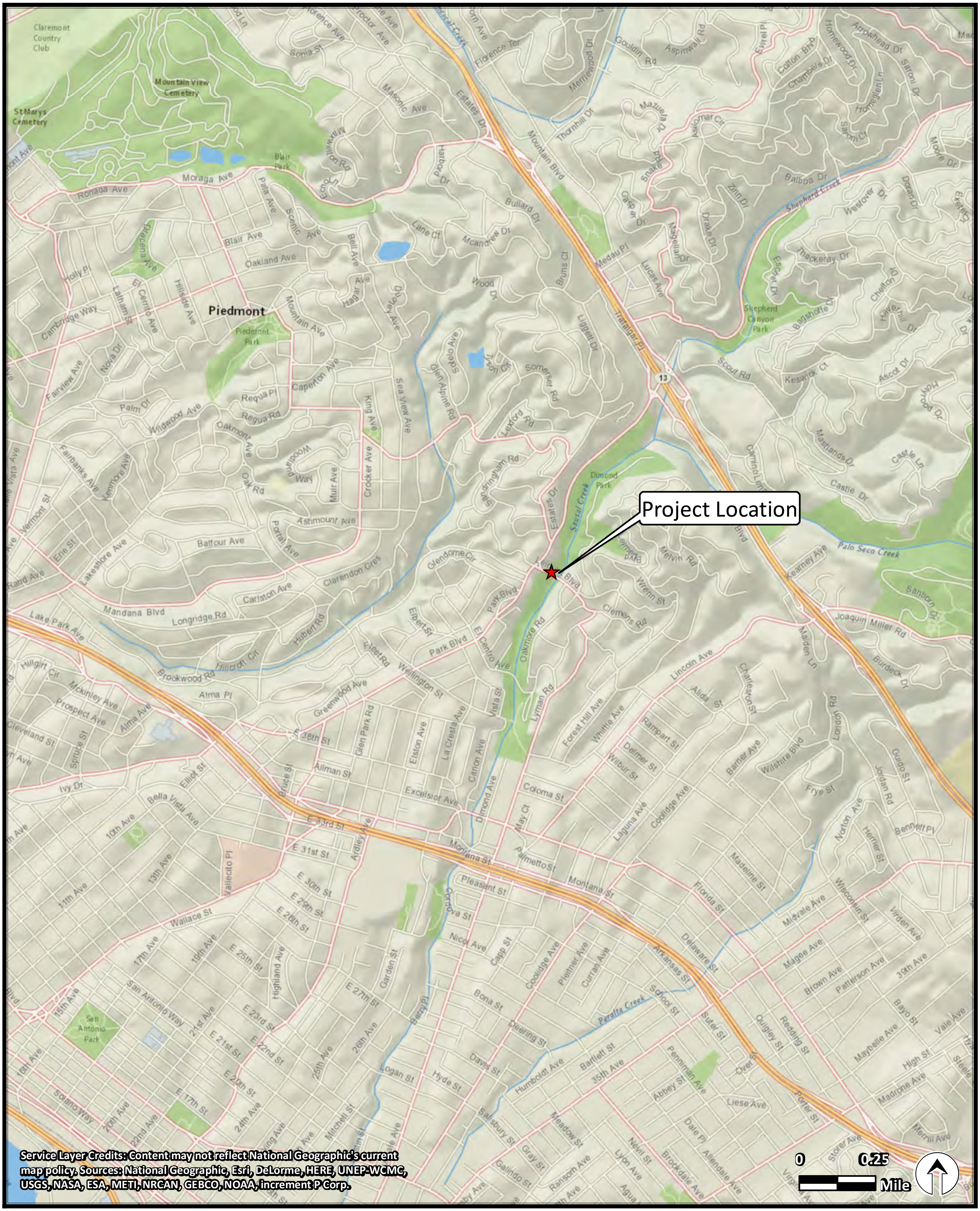
[4] Caltrans may elect to have a qualified consultant conduct some of its monitoring responsibilities. In this case, Caltrans PQS would review and approve the consultant's work.

Attachment A: Project Maps



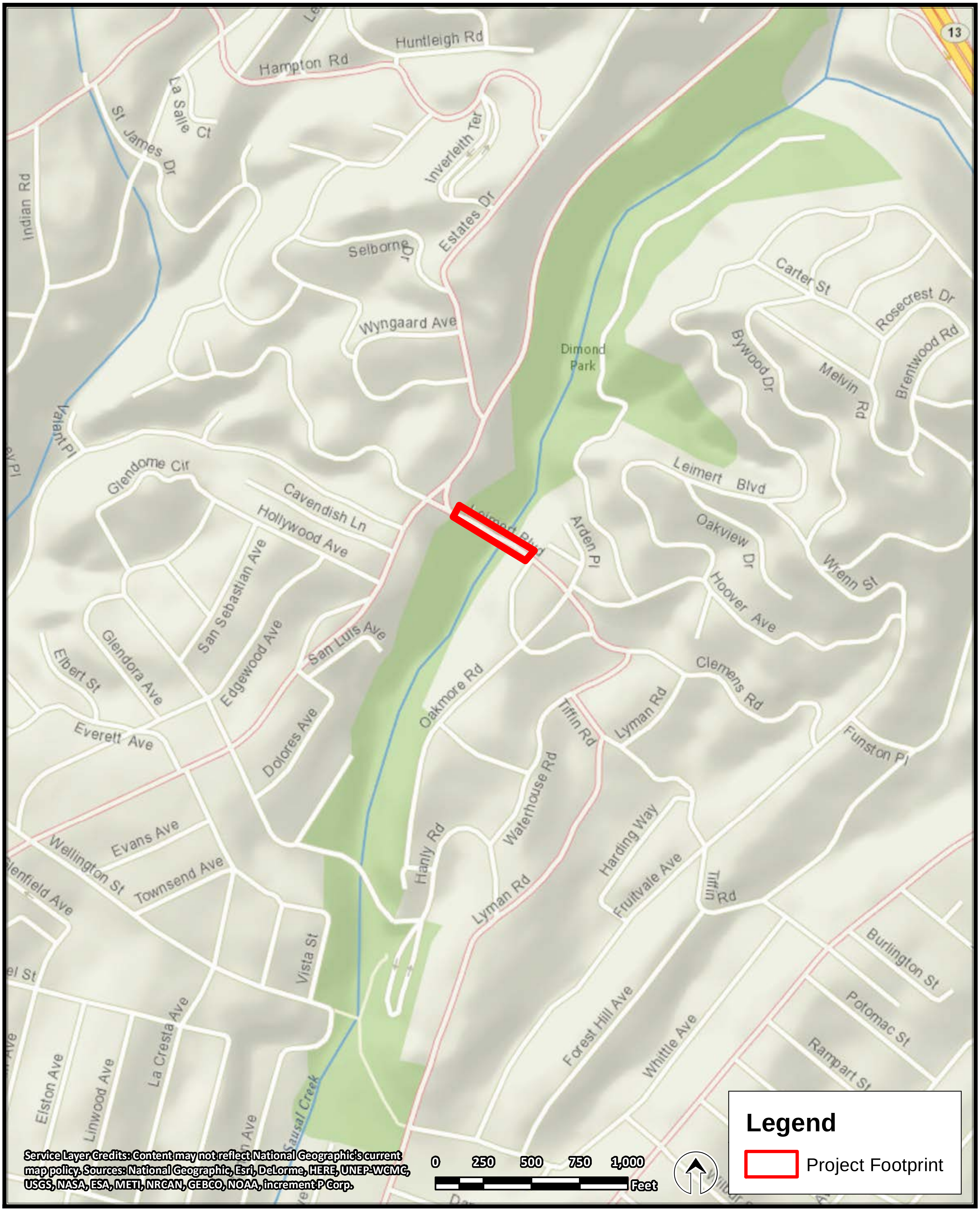
CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Road Bridge Rehabilitation



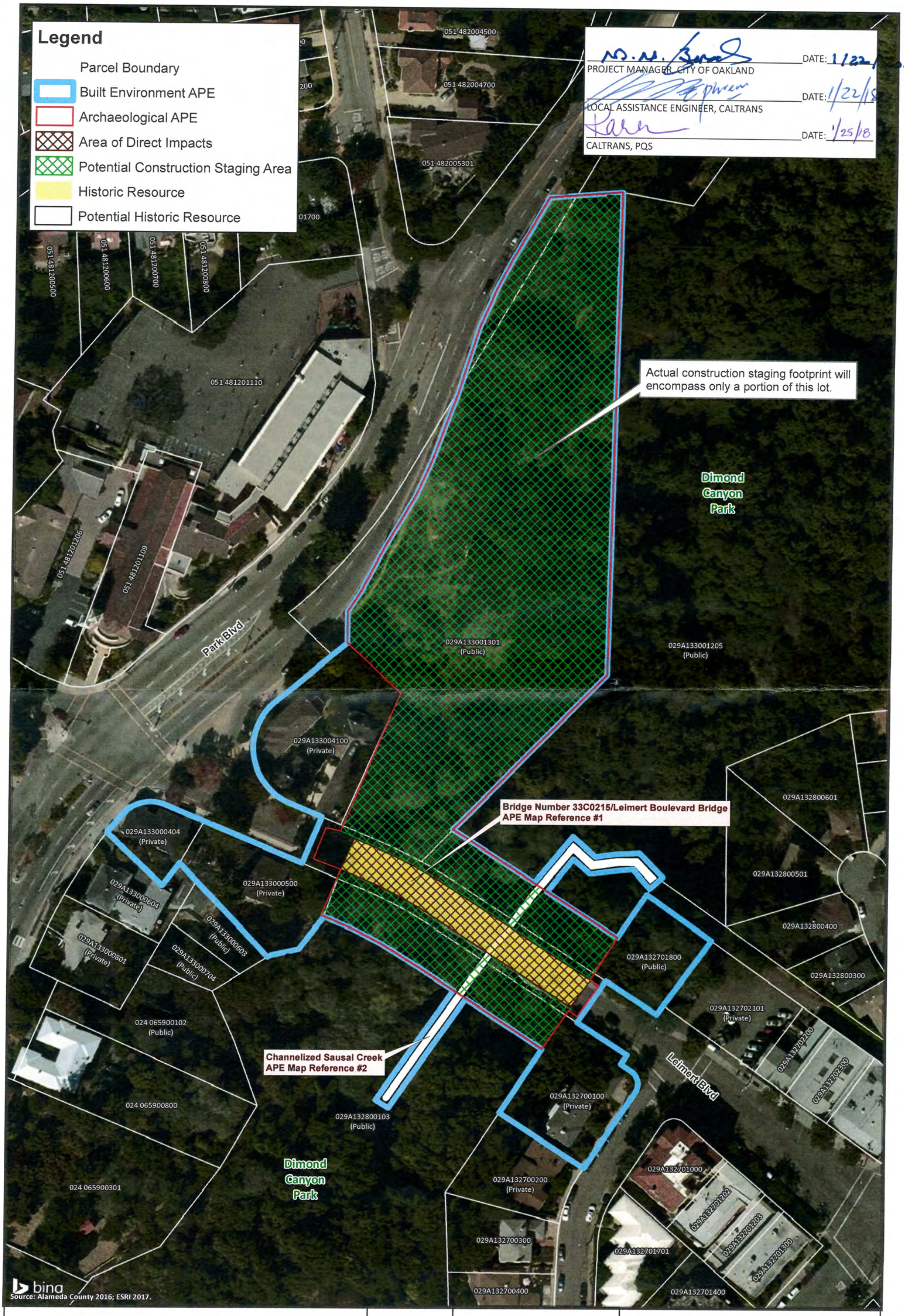
CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

FIGURE 3. PROJECT FOOTPRINT
Leimert Road Bridge Rehabilitation

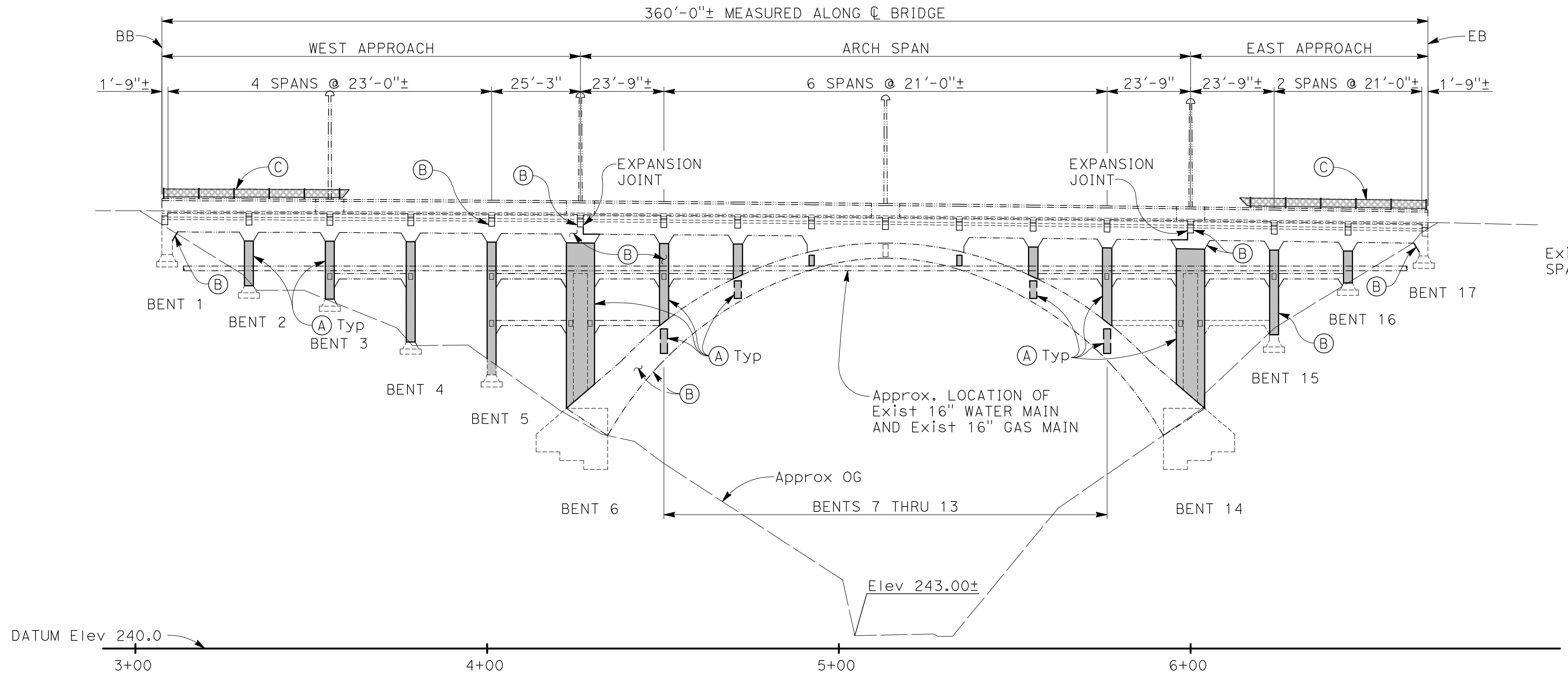


CITY OF OAKLAND

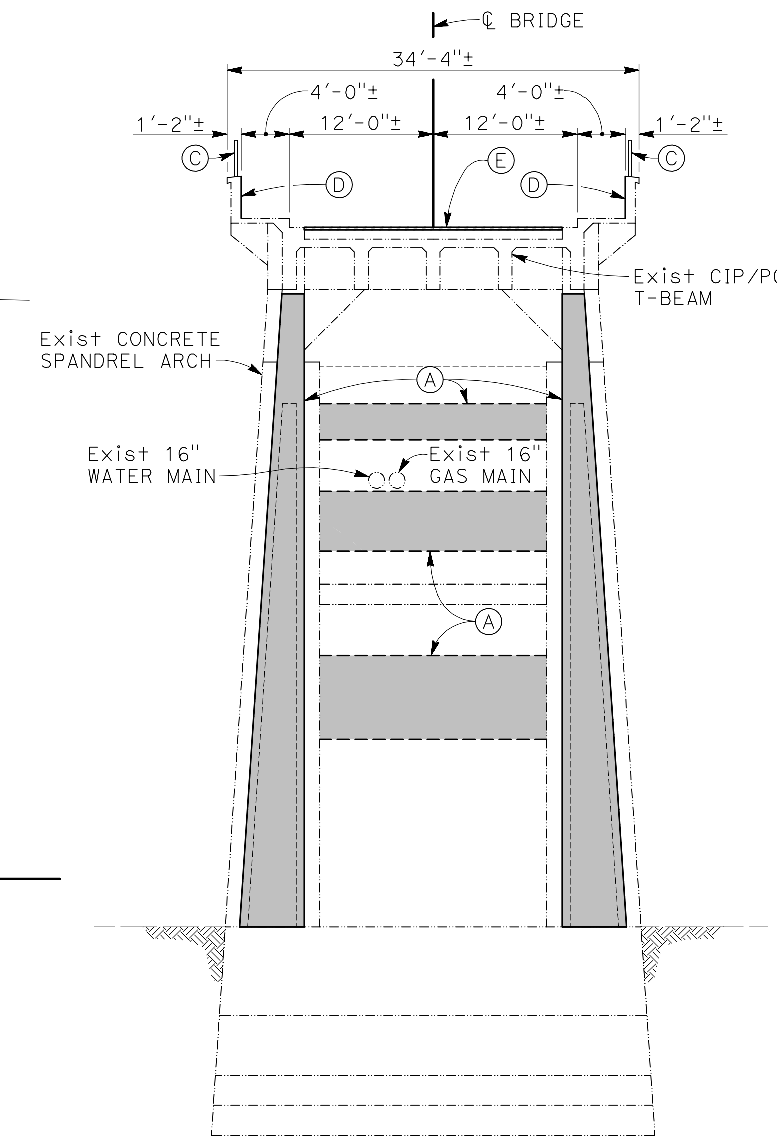
Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (124)

Area of Potential Effects

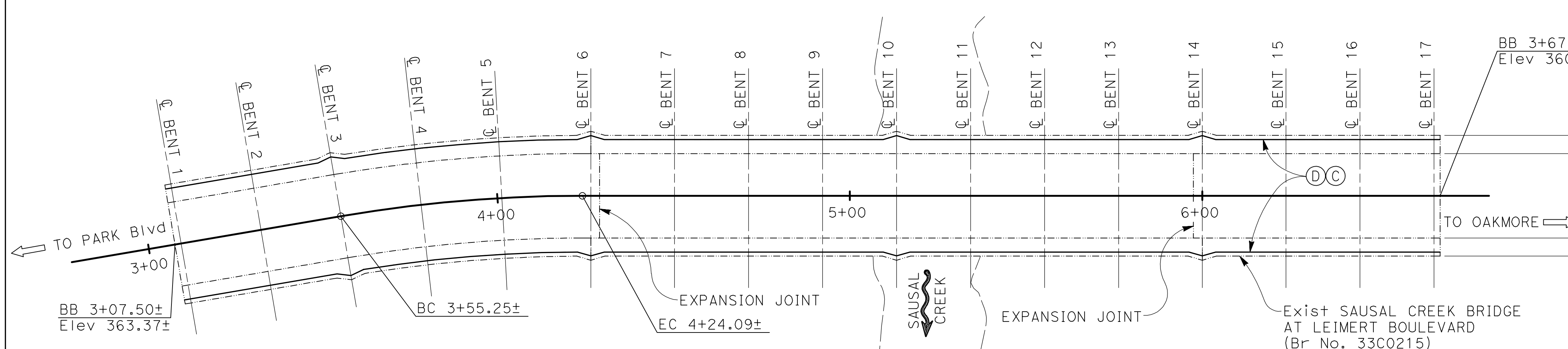
Attachment B: Preliminary Project Engineering



DEVELOPED ELEVATION
1" = 20'



TYPICAL SECTION
1/8" = 1'-0"



Curve Data
R = 406.60'±
△ = 09°42'±
T = 34.50'±
L = 68.84'±

PLAN
1" = 20'

NOTES:

- (A) Indicates limits of carbon fiber reinforced polymer composite casing system
- (B) Repair spalled surface area
- (C) Repair exist chain link railing
- (D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating
- (E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:
Indicates Existing Structure
Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (6/14/18)

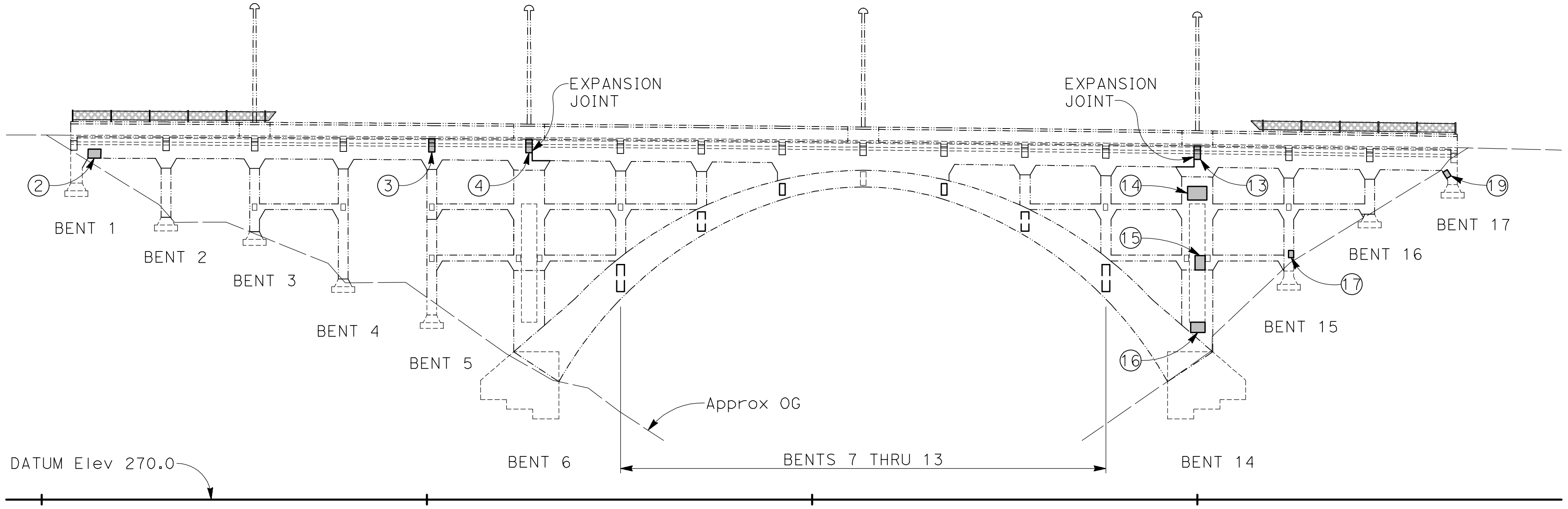
DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

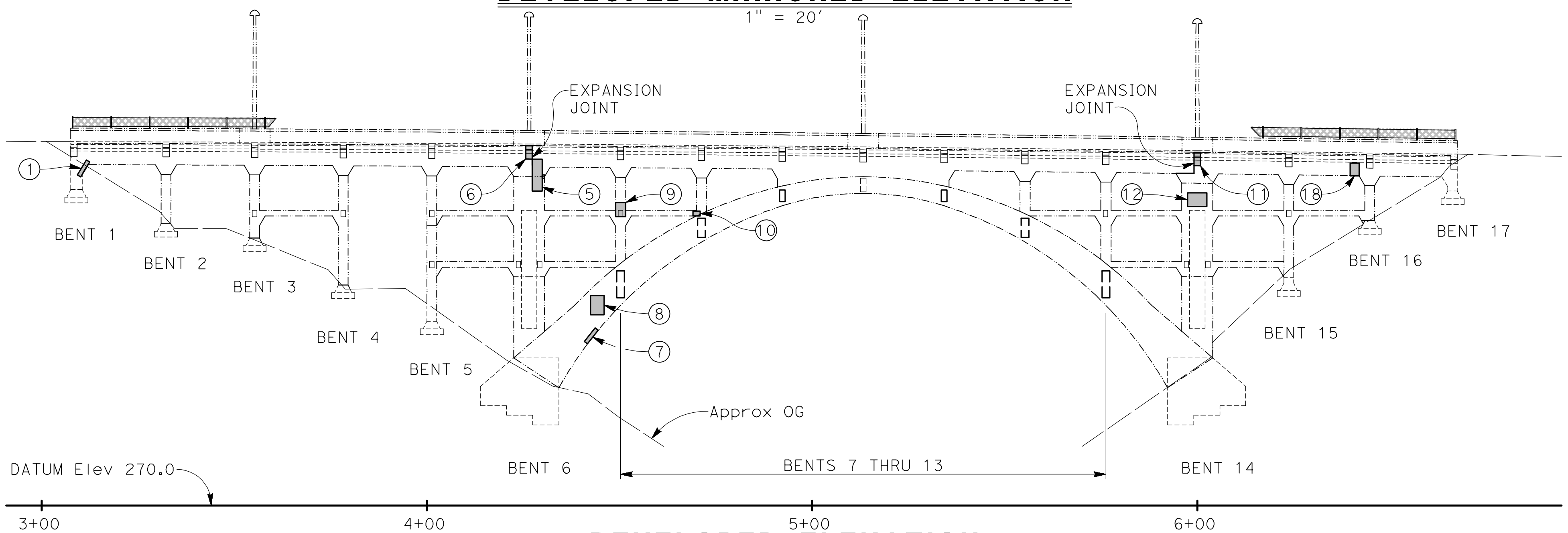
GENERAL PLAN
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

SHEET NUMBER
S-1
OF SHEETS
DRAWING NO.
2016051-1
2016051 (2016051S1)



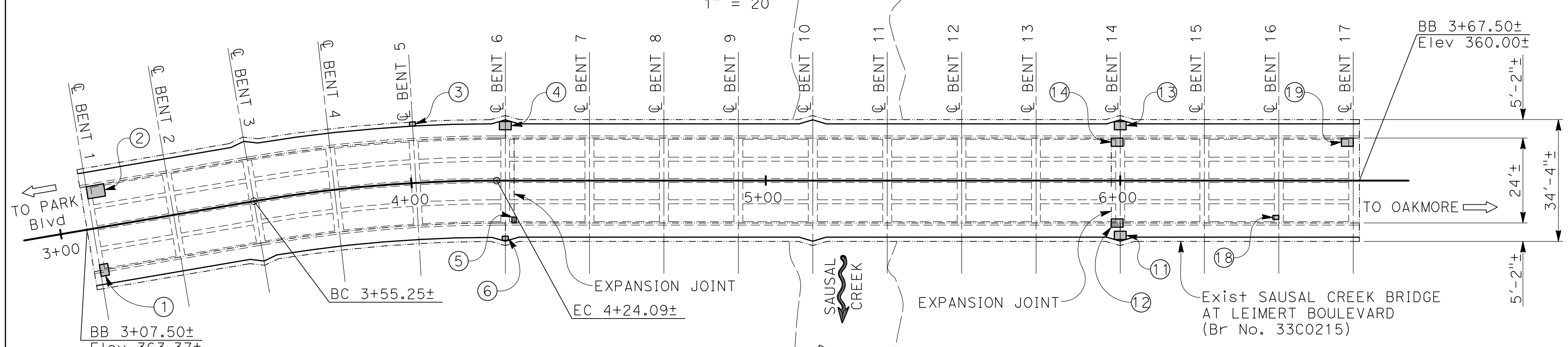
DEVELOPED MIRRORED ELEVATION

1" = 20'



DEVELOPED ELEVATION

1" = 20'



NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN

1" = 20'

SUMMARY OF SPALLED SURFACE AREAS

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (6/14/18)

DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS

SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD

OAKLAND CALIFORNIA

(2016051S2)

SHEET NUMBER
S-2
OF SHEETS

DRAWING NO.
2016051-2

2016051

Attachment C: Caltrans Historic Bridge Inventory Excerpt

District 04

Alameda County

Bridge Number	Bridge Name	Location	Historical Significance	Year Built	Year Wid/Ext
33C0201	SEMINARY AVE UP (BARTD AERIAL)	JUST NE/O SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0202	HEGENBERGER ROAD OH	0.4 MI SOUTH OF 66TH AVE	2. Bridge is eligible for NRHP	1966	2014
33C0203	SAN LORENZO CREEK	0.01 MI S OF I-880	5. Bridge not eligible for NRHP	1974	
33C0205	SAN LORENZO CREEK	0.02 MI NE OF MISSION BL	2. Bridge is eligible for NRHP	1915	
33C0206	SAN LORENZO CREEK	0.05 MI S OF LEWELLING BL	5. Bridge not eligible for NRHP	1927	
33C0207	ESTUDILLO CANAL DITCH	0.15 MI S MANOR BLVD	5. Bridge not eligible for NRHP	1972	
33C0208	ESTUDILLO CANAL	N OF BURKHART AVE	5. Bridge not eligible for NRHP	1955	
33C0209	LAGUNA CREEK (FLOOD CONTROL LINE E)	W OF FREMONT BLVD	5. Bridge not eligible for NRHP	1964	
33C0210	TENNYSON FLOOD CONTROL CHANNEL	E OF THACKERAY AVE	5. Bridge not eligible for NRHP	1960	
33C0211	WHITMAN STREET SEPARATION	ORCHARD AVE	5. Bridge not eligible for NRHP	1970	
33C0212	ORCHARD AVENUE UP	0.15 MI SW/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0213	ORCHARD AVE UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0214	NO NAME CREEK	DONALD AVE	5. Bridge not eligible for NRHP	1955	
33C0215	SAUSAL CREEK	0.1 MI E OF PARK BLVD	2. Bridge is eligible for NRHP	1926	
33C0216	LION CREEK	NEAR 69TH AVE	5. Bridge not eligible for NRHP	1940	1965
33C0217	105TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0218	SAN LEANDRO CREEK	0.3 MI W OF I 880	5. Bridge not eligible for NRHP	1939	2002
33C0219	WHITMAN STREET OVERCROSSING	HARDER RD	5. Bridge not eligible for NRHP	1970	
33C0220	HARDER ROAD UP	0.2 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0221	HARDER RD UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0222	ALAMEDA CREEK	0.2 MI E UNION CITY BLVD	5. Bridge not eligible for NRHP	1977	
33C0223	WHIPPLE ROAD OH (BARTD)	0.75 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0224	LAGUNA CREEK	FREMONT BLVD (0.1M E/O)	5. Bridge not eligible for NRHP	1955	
33C0225	PASEO PADRE PARKWAY UP	0.2 MI N/O PERALTA BLVD	5. Bridge not eligible for NRHP	1975	
33C0229	ALAMEDA LAKE	0.1 MI N/E OF OTIS DR	5. Bridge not eligible for NRHP	1958	
33C0230	BALLENA BAY	0.1 MI S OF CENTRAL AVE	5. Bridge not eligible for NRHP	1966	
33C0231	SAN LORENZO CREEK	JUST NE OF MAIN ST	5. Bridge not eligible for NRHP	1925	
33C0235	ASHLAND AVENUE UP	N/O SR 238	5. Bridge not eligible for NRHP	1960	
33C0236	ASHLAND AVE UP (BARTD AERIAL)	0.2 MI N/O 238	5. Bridge not eligible for NRHP	1960	1994
33C0237	ELGIN STREET OC	ELGIN ST & ASHLAND AVE	5. Bridge not eligible for NRHP	1960	1994
33C0238	LION CREEK TRIBUTARY	ABOUT 0.5 MI SE REDWOD RD	5. Bridge not eligible for NRHP	1970	
33C0239L	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	1983	
33C0239R	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	2009	
33C0240	ARROYO SECO	0.2 MI N TESLA RD	5. Bridge not eligible for NRHP	1962	
33C0241	SOUTH BAY AQUEDUCT	2.1 MI SOUTH OF I-580	5. Bridge not eligible for NRHP	1962	
33C0242	LAGUNA CREEK	FREMONT BLVD	5. Bridge not eligible for NRHP	1954	
33C0243	SOUTH BAY AQUEDUCT	1.0 MI E GREENVILLE RD	5. Bridge not eligible for NRHP	1962	
33C0244	ALAMEDA CREEK BRANCH	JUST S/E INDSTRL PKWY W	5. Bridge not eligible for NRHP	1971	
33C0245	STONY BROOK (PALOMARES CREEK)	7.57 MI SE PALO VERDE RD	5. Bridge not eligible for NRHP	1925	1962
33C0246	STONY BROOK	1.7 MILES NORTH OF SR 84	5. Bridge not eligible for NRHP	1925	1970
33C0248	CROW CREEK	0.1 MI W/O CROW CANYON RD	5. Bridge not eligible for NRHP	1970	
33C0249	75TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0250	ESTUDILLO CANAL	100' N BURKHART AVE	5. Bridge not eligible for NRHP	1955	

Attachment E: Correspondence with Interested Parties

CITY OF OAKLAND

DALZIEL BUILDING 250 FRANK H. OGAWA PLAZA, SUITE 4314 OAKLAND, CALIFORNIA 94612

Department of Transportation
Great Street Delivery, Complete Street Planning & Design

Phone: (510) 238-6659
FAX: (510) 238-6412
TTY: (510) 238-7644

Date: May 30, 2018

Oakland Heritage Alliance
446 17th Street, Suite 301
Oakland, CA 94612

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

Dear Interested Party,

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Leimert Boulevard Bridge (bridge) over Sausal Creek in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail. The Regional Location, Project Location, Project Footprint, and Area of Potential Effects (APE) maps are attached to this letter. The change to the project since the previous correspondence mailed to you (January 23, 2008) includes the redesign of the seismic retrofit project. The previous project description called for: adding steel casings around bents; adding steel jackets around arch ribs; and removing bracing between bent columns. The City has decided to change the project plans to conform with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The current project description now identifies the following improvements: carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge; a mortared finish would be applied over the CFRP to resemble the existing board-formed finish and maintain the aesthetics of the structure; localized shotcrete would be applied to the base of one bent to stabilize the slope surface to prevent further weathering and undermining of the footing; the existing asphaltic concrete would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck; graffiti paint would be removed and spalled concrete would be patched; and the chain link fence would be repaired or replaced. The changes to the project description now requires temporary construction staging in the following areas: a scaffold that spans over the Sausal Creek; a platform suspended from Leimert Boulevard Bridge; and a staging area in the vacant parcel (APN 029A133001301) north of the bridge.

Because the project will be federally funded, the City and Caltrans must comply with Section 106 of the National Historic Preservation Act (36 CFR §800) on the Federal Highway Administration's (FHWA) behalf. As part of the environmental process associated with compliance, the City is soliciting comments on the proposed project from potentially interested

parties, such as your organization. In particular, the City is seeking information regarding the potential of the proposed project to impact historic properties in the vicinity and for your organization's concerns regarding potential effects to the bridge. Your response allows us to identify concerns relating to the proposed project and to gather valuable information on local historic resources. We are already aware that the Leimert Boulevard Bridge is a historic property and we will be analyzing the proposed project for its potential to impact the bridge. In addition, the location of sensitive archaeological resources will remain confidential but the potential project impacts to these resources will be addressed in our environmental analysis.

Your response allows us to identify potential concerns relating to the proposed project and to gather information on any historic resources that may be located near the project areas. We would greatly appreciate any responses by June 25, 2018. To respond, please contact the City's consultant, Christine Cruiess, at GPA Consulting. She can be reached via phone at (310) 792-2690, email at christine@gpaconsulting-us.com, or mail at: GPA Consulting, 617 S. Olive Street, Suite 910, Los Angeles, CA 90014.

Thank you very much for your time. We look forward to any comments you might have.

Sincerely,

Mohammad Najib Barati
City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
Oakland, CA 94612

CITY OF OAKLAND

DALZIEL BUILDING 250 FRANK H. OGAWA PLAZA, SUITE 4314 OAKLAND, CALIFORNIA 94612

Department of Transportation
Great Street Delivery, Complete Street Planning & Design

Phone: (510) 238-6659
FAX: (510) 238-6412
TTY: (510) 238-7644

Date: May 30, 2018

Alameda County Historical Society
P.O. Box 13145
Oakland, CA 94661
info@AlamedaCountyHistory.org

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

Dear Interested Party,

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Sincerely,

M.N. Barati

Mohammad Najib Barati
City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
Oakland, CA 94612

CITY OF OAKLAND

DALZIEL BUILDING 250 FRANK H. OGAWA PLAZA, SUITE 4314 OAKLAND, CALIFORNIA 94612

Department of Transportation
Great Street Delivery, Complete Street Planning & Design

Phone: (510) 238-6659
FAX: (510) 238-6412
TTY: (510) 238-7644

Date: May 30, 2018

Historic Bridge Foundation
P.O. BOX 66245
Austin, Texas 78766

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

Dear Interested Party,

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Thank you very much for your time. We look forward to any comments you might have.

Sincerely,

Mohammad Najib Barati
City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
Oakland, CA 94612

CITY OF OAKLAND

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Department of Transportation
Great Street Delivery, Complete Street Planning & Design

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TTY: (510) 238-7644

Date: May 30, 2018

City of Oakland Landmarks Preservation Advisory Board
City of Oakland
250 Frank H. Ogawa Plaza Ste. 3315
Oakland, CA 94612

RE: Request for Public Comments and Information Regarding the Leimert Boulevard (Sausal Creek) Bridge, Number 33C-0215 Seismic Retrofit Project STPLZ-5012(025)

Dear Interested Party,

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Leimert Boulevard Bridge (bridge) over Sausal Creek in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail. The Regional Location, Project Location, Project Footprint, and Area of Potential Effects (APE) maps are attached to this letter. The change to the project since the previous correspondence mailed to you (January 23, 2008) includes the redesign of the seismic retrofit project. The previous project description called for: adding steel casings around bents; adding steel jackets around arch ribs; and removing bracing between bent columns. The City has decided to change the project plans to conform with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The current project description now identifies the following improvements: carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge; a mortared finish would be applied over the CFRP to resemble the existing board-formed finish and maintain the aesthetics of the structure; localized shotcrete would be applied to the base of one bent to stabilize the slope surface to prevent further weathering and undermining of the footing; the existing asphaltic concrete would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck; graffiti paint would be removed and spalled concrete would be patched; and the chain link fence would be repaired or replaced. The changes to the project description now requires temporary construction staging in the following areas: a scaffold that spans over the Sausal Creek; a platform suspended from Leimert Boulevard Bridge; and a staging area in the vacant parcel (APN 029A133001301) north of the bridge.

Because the project will be federally funded, the City and Caltrans must comply with Section 106 of the National Historic Preservation Act (36 CFR §800) on the Federal Highway Administration's (FHWA) behalf. As part of the environmental process associated with

compliance, the City is soliciting comments on the proposed project from potentially interested parties, such as your organization. In particular, the City is seeking information regarding the potential of the proposed project to impact historic properties in the vicinity and for your organization's concerns regarding potential effects to the bridge. Your response allows us to identify concerns relating to the proposed project and to gather valuable information on local historic resources. We are already aware that the Leimert Boulevard Bridge is a historic property and we will be analyzing the proposed project for its potential to impact the bridge. In addition, the location of sensitive archaeological resources will remain confidential but the potential project impacts to these resources will be addressed in our environmental analysis.

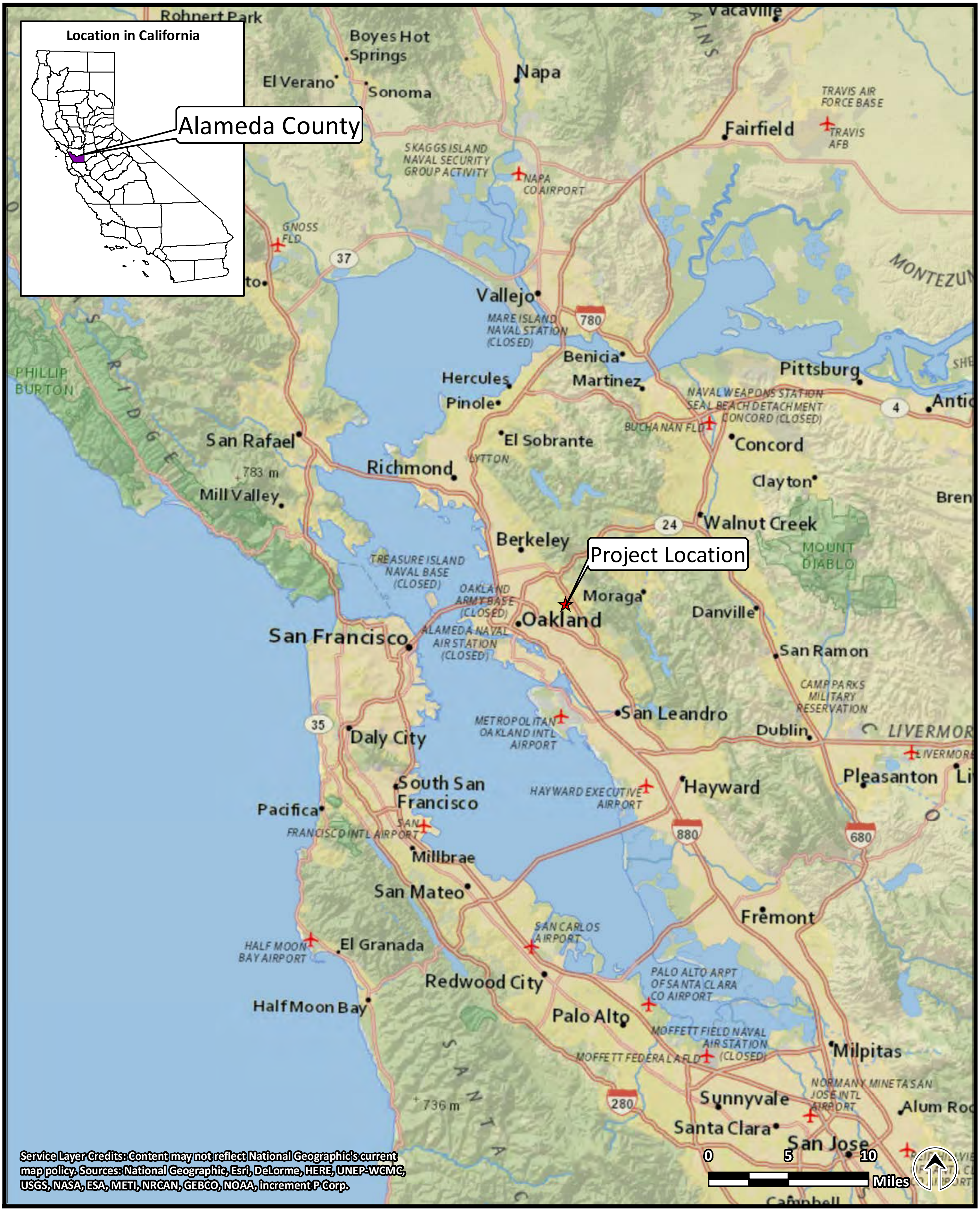
Your response allows us to identify potential concerns relating to the proposed project and to gather information on any historic resources that may be located near the project areas. We would greatly appreciate any responses by June 25, 2018. To respond, please contact the City's consultant, Christine Cruiess, at GPA Consulting. She can be reached via phone at (310) 792-2690, email at christine@gpaconsulting-us.com, or mail at: GPA Consulting, 617 S. Olive Street, Suite 910, Los Angeles, CA 90014.

Thank you very much for your time. We look forward to any comments you might have.

Sincerely,

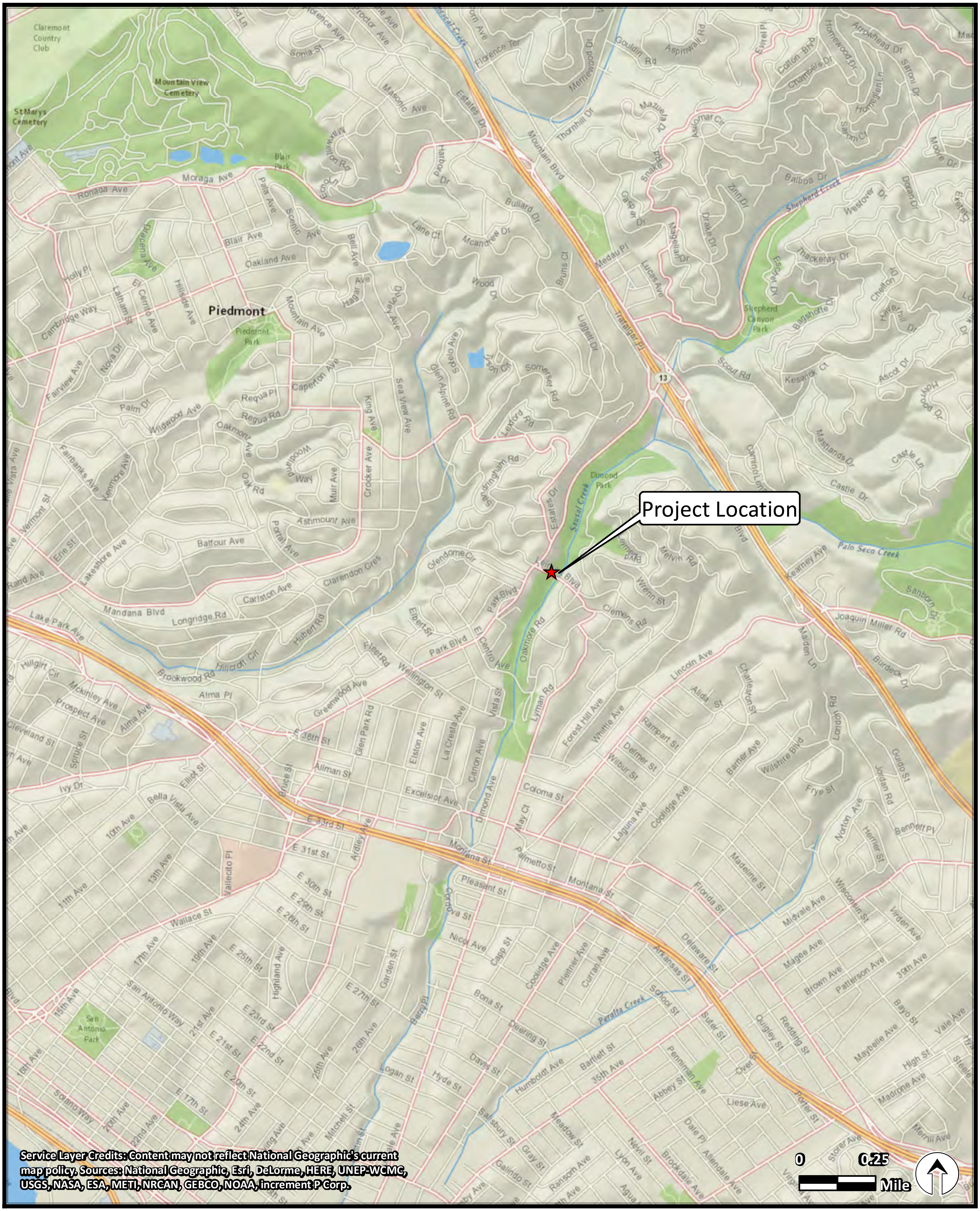
M.N. Barati

Mohammad Najib Barati
City of Oakland, Department of Transportation
250 Frank H Ogawa Plaza, Ste 4314
Oakland, CA 94612



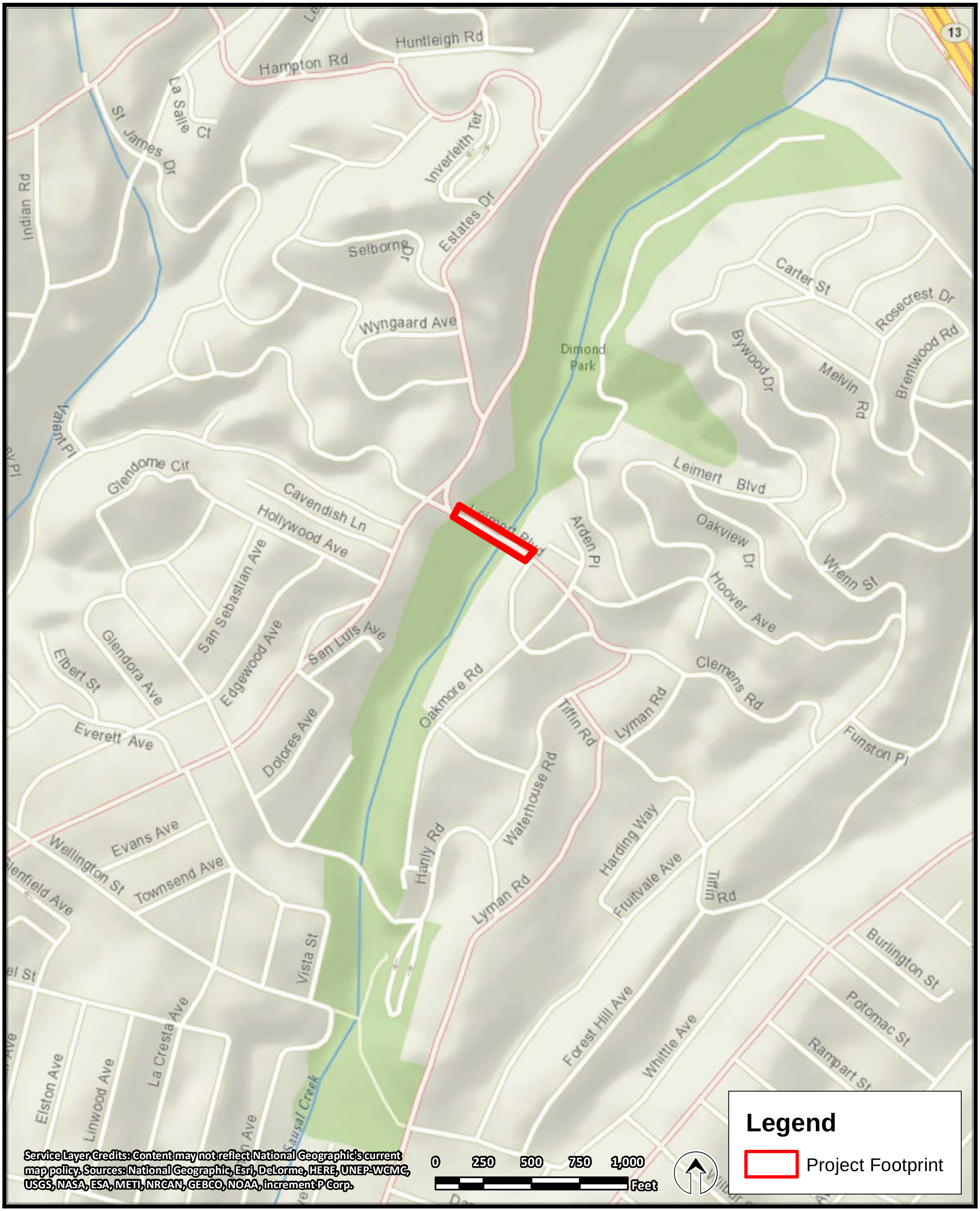
CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Road Bridge Rehabilitation



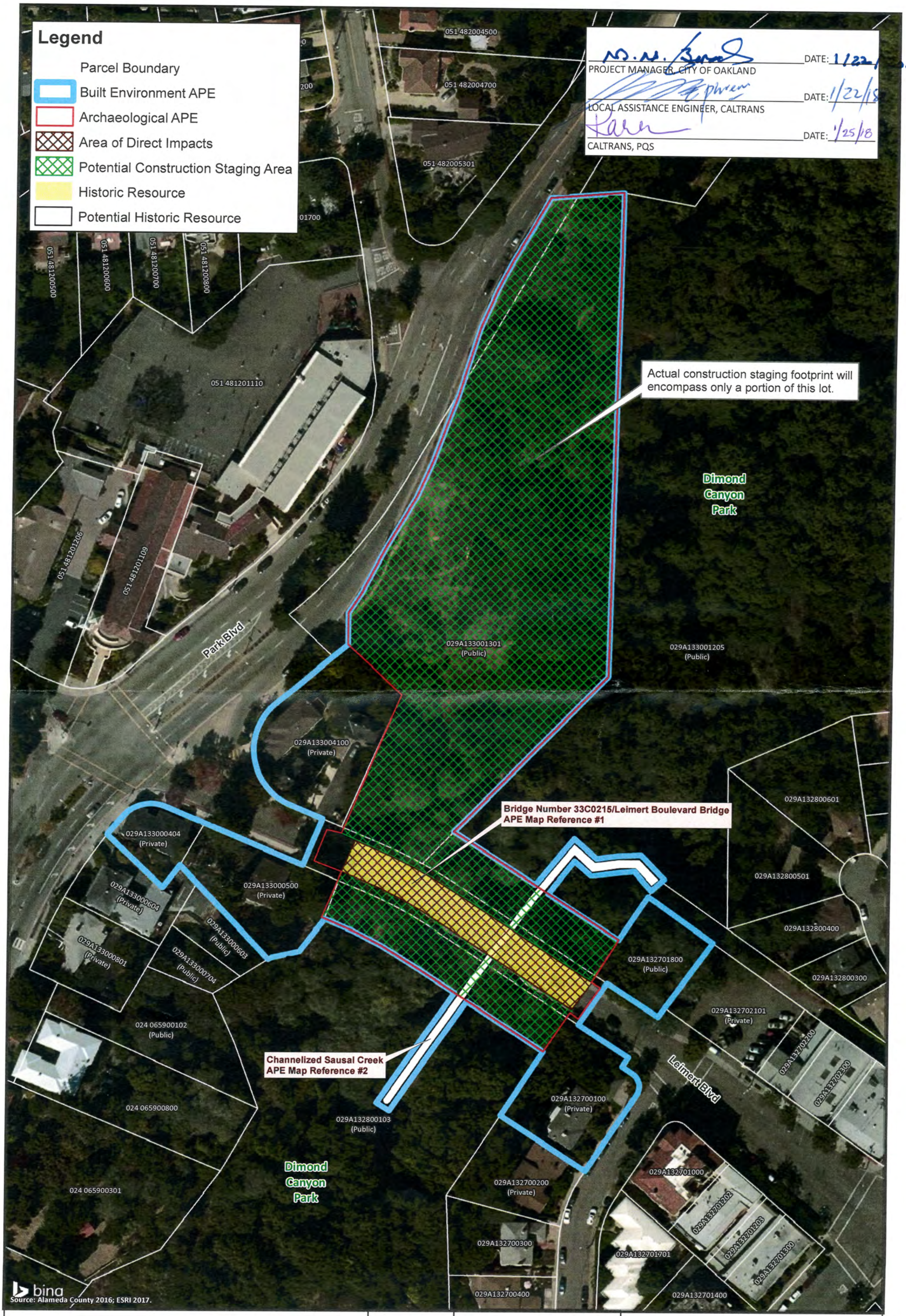
CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

FIGURE 3. PROJECT FOOTPRINT
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

Seismic Retrofit of
Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (124)

Area of Potential Effects

SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES ACTION PLAN

FOR THE

LEIMERT BOULEVARD BRIDGE SEISMIC RETROFIT PROJECT
CITY OF OAKLAND, CALIFORNIA

STPLZ-5012(124)

Prepared by: C. [signature]
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Approved by: [signature] January 7, 2019
for Tom Holstein
Environmental Branch Chief
Caltrans District 4
111 Grand Avenue
Oakland, CA 94612

October 2018

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 326 and the Memorandum of Understanding dated December 30, 2016, and executed by FHWA and Caltrans.

TABLE OF CONTENTS

1. SUMMARY OF ACTION PLAN

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge Number 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area). The Regional Location, Project Location, and Project Footprint maps are located in Attachment A, Figures 1 through 3. The Secretary of the Interior's Standards for Rehabilitation (Rehabilitation Standards) will be used to complete the project and applied to one historic property: Bridge Number 33C0215/Leimert Boulevard Bridge (Map Reference No. 1 on APE Map in Attachment A, Figure 4).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Bridge Number 33C0215/Leimert Boulevard Bridges significant under National Register of Historic Places (NRHP) Criteria A (for its association with the residential development of the Oakland Hills neighborhood) and NRHP Criteria C (for the bridge's aesthetic design and successful integration with the Oakmore Highlands subdivision), with a period of significance of 1926. It was determined eligible for the NRHP in March 2003.

Image 1: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-southeast. Source: BCA, Inc., May 2015.

A Finding of No Adverse Effect with Standard Conditions using the Secretary of the Interior's Standards for the Treatment of Historic Properties (FNAE-SC: SOIS) was prepared for the undertaking in October 2018 in accordance with the January 1, 2014 *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA). In the report Caltrans applied the Criteria of Adverse Effect to historic properties within the Area of Potential Effect (APE) and considered any views concerning such effects which were provided by consulting parties and the public, as per 36 CFR 800.5(a). Caltrans concluded that the plans for the undertaking complied with the Rehabilitation Standards. This Action Plan was prepared as a result of the FNAE-SC: SOIS.

Table 1 summarizes the Action Plan developed to ensure that the undertaking continues to comply with the Rehabilitation Standards throughout design and construction process. Details regarding the Action Plan, responsible parties, the proposed undertaking, and the historic property are included in the sections that follow.

Table 1: Summary of Action Plan			
Stage	Responsible Parties	Task	Date Complete[1]
Plan Development/ Construction Documents	CAH, CS, PM*, PE	PM, PE, and CS will provide Project plans for bridge at 65%, 95%, and 100% completion to CAH for review.	
Plan Development/ Construction Documents	CAH*, CS, PM, PE	CAH will review the plans for compliance with the Rehabilitation Standards and work with the PM, PE, and CS to resolve any outstanding issues.	
Plan Development/ Construction Documents	CAH*, CS	CAH will provide formal approval in the form of a memo.	
Plan Development/ Construction Documents	PM, PE, RE*	The SOIS Action Plan will be included in the Resident Engineer's Pending File.	
Plan Development/ Construction Documents	CAH*	CAH will ensure that the SOIS Action Plan will be included in the Environmental Commitments Record (ECR).	
Plan Development/ Construction Documents	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree to an on-site monitoring schedule in accordance with the construction schedule prior to the start of construction.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree on a methodology for installing the scaffolding and platforms, to ensure that the historic property is not damaged.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Graffiti/paint removal testing strategy	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Concrete spall repair mock-up inspection	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o CFRP mortared finish mock-up inspection	

[1] This column will be completed when each task is complete.

Table 1: Summary of Action Plan			
Stage	Responsible Parties	Task	Date Complete[1]
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Anti-graffiti coating mock-up inspection (on both types of masonry: original concrete and repaired spalls)	
Pre-Construction/ Construction	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	
During Construction	CAH, CS, PM*, RE	CS, PM, and RE will notify CAH in advance when events in the SOIS Action plan requiring monitoring will occur (including but not limited to those listed in the Pre-Construction/Construction Stage, above).	
During Construction	CAH*, CS, PM, RE	CAH will be present to monitor required construction events and will prepare monitoring reports summarizing activities, results, and next actions.	
Post-Construction	CAH, CS, PM*, RE	CS, PM, and PE will notify CAH when construction is complete.	
Post-Construction	CAH, CS, PM*, RE	CAH will investigate the finished bridge to ensure that all work was completed according to the plans and that it complies with the Standards for Rehabilitation.	
Post-Construction	CAH*, CS, PM, RE	All responsible parties will work together to resolve outstanding issues. CAH will provide formal approval in the form of a memo.	
Definition of Responsible Party acronyms are: CAH – Caltrans Architectural Historian[2]; CS – City Staff; PM – Caltrans Project Manager; PE – Project Engineer; RE – Resident Engineer. The primary responsible party in each task is noted with an *.			

[2] Caltrans may elect to have a qualified consultant conduct some of its monitoring responsibilities. In this case, Caltrans PQS would review and approve the consultant's work.

2. DESCRIPTION OF THE PROJECT

The City, in cooperation with Caltrans, proposes to seismically retrofit Bridge Number 33C0215/Leimert Boulevard Bridge, which carries Leimert Boulevard over Dimond Canyon and Sausal Creek, in Oakland, Alameda County, California. The bridge connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (see Attachment A, Figure 4, APE Map).

The bridge is a 357-foot long open-spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock. The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, are primarily residential, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge. The bridge was designed by George Posey, who designed several notable structures in Oakland. The bridge was constructed in 1926. It was designated locally as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB).

Seismic retrofit of the bridge was previously proposed with a design by URS Greiner, Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements; process the environmental CEQA and NEPA clearances; certify the required right of way; and issue the project for bid. However, during the course of the environmental review, a Finding of Effect Report was prepared in August 2008. The SHPO and the LPAB concluded that the proposed bridge retrofit would have an adverse effect under Section 106 and a significant impact under CEQA on the historic status of the bridge; therefore, the proposed retrofit plans were rejected. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge's historic integrity and landmark status; thus, a redesign of the project was initiated in 2017.

Since the previous 2008 submittal, the seismic retrofit project has been redesigned. The previous project description called for: adding steel casings around bents; adding steel jackets around arch ribs; and removing bracing between bent columns, which did not conform with the Standards for Rehabilitation and would have resulted in a Finding of Adverse Effect. The City has decided to change the project plans to conform with the Standards for Rehabilitation. The current project now identifies the following improvements: carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge; in the areas to be wrapped with CFRP, the graffiti/paint would first be removed to ensure a bond with the substrate; a mortared finish would be applied over the CFRP to resemble the existing board-formed finish and maintain the aesthetics of the structure; localized shotcrete would be applied to the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing; the existing asphaltic concrete would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck; graffiti/paint would be removed in the vicinity of spalled concrete and spalled concrete would be patched; graffiti/paint would be removed from the barrier railings; an anti-graffiti coating applied to the barrier railings; utility mains would be modified; and the chain link fence would be repaired or replaced. The project now requires temporary construction staging in the following areas: a scaffold that spans over the Sausal Creek; a platform suspended from Leimert Boulevard Bridge; and a staging area in the vacant parcel (APN 029A-1330-013-01) north of the bridge.

2.1 PROJECT PURPOSE AND NEED

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Leimert Boulevard Bridge to the extent feasible.

The project area is located in a region of relatively high seismicity and is less than a mile southwest of the Hayward Fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event. Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete overlay, which shows heavy cracking in both longitudinal and transverse directions. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the metal reinforcement inside the concrete.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve

the bridge appearance and provide barriers to prevent people or objects from falling off the bridge.

2.2 CONSTRUCTION ACTIVITIES

Typical construction equipment will include concrete saws, concrete mixing equipment, grinders, jackhammers, concrete pumps, scaffolding, platforms suspended from the bridge, various hand tools, and other equipment that may be identified later in the design process. The following improvements are proposed (see Attachment B, Preliminary Project Engineering):

- *Localized Shotcrete:*
  Localized shotcrete would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete. The shotcrete will be at grade level, on the steep slope, but not visible from the bridge nor from the Dimond Canyon Trail.

- *Replace Paving Materials:*
  The existing asphalt concrete overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.

- *Alteration of Utility Mains:*
  The existing water and gas mains that are currently within the substructure of the bridge, located above the transverse cross bracing, require alteration (see the Developed Elevation and Typical Section on page S-1 in Attachment B). The need for this action is two-fold. First, the existing mains do not meet current code and seismic requirements. Second, because the mains are supported by wood cradles directly resting on the transverse bracing members (see Image 12), the mains may need to be raised to allow clearance for the installation of the CFRP. The mains will likely be modified with new hangers to provide additional points of support for the utilities between the cradles. The proposed hangers will consist of a pair of vertical steel rods drilled and epoxied into the underside of the bridge deck and will be painted black to make less visible. The existing timber cradles will be replaced with cast-in-place concrete cradles that will be connected to the tops of the transverse cross braces. Flex joints would possibly be added to the lines. Should additional clearance be needed, requiring replacement of the mains, the lines would be replaced in kind, still above the transverse cross bracing, on an offset alignment.

- *Chain Link Fence:*
  The chain link fence would be repaired or replaced in-kind.

- *Graffiti Removal and Concrete Repair:*
  Graffiti/paint on the concrete barriers, in areas identified for the repair of spalled concrete, and areas to be wrapped in CFRP would be removed. The use of sandblasting would be prohibited in order to preserve the existing board-formed-

finish and concrete surfaces. Graffiti/paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A low-pressure water wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations. After the graffiti/paint has been removed, the spalled concrete will be repaired in-kind.

- *Anti-Graffiti Coating:*
  After graffiti/paint removal and concrete repair has been completed, an anti-graffiti coating would be applied to the concrete barrier railings.

- *Carbon Fiber Reinforced Polymer:*
  CFRP would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is required to maintain the historic integrity of the structure.

- *CFRP Mortared Board-Formed Finish:*
  A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.

- *Temporary Scaffolding and Platforms:*
  Although not permanent, in order to be built, the proposed project will require extensive temporary scaffolding and platforms for the activities noted above.

3. DESCRIPTION OF HISTORIC PROPERTY

The APE for the proposed undertaking includes one historic property: Bridge Number 33C0215/Leimert Boulevard Bridge.

Location: Bridge Number 33C0215/Leimert Boulevard Bridge carries Leimert Boulevard over Dimond Canyon and Sausal Creek, in Oakland, Alameda County.

Date Determined Eligible/Listed: Bridge Number 33C0215/Leimert Boulevard Bridge was resurveyed on March 27, 2003 as part of the California Historic Bridge Inventory. In 2003, the bridge was determined eligible for listing in the NRHP with a status code of 2S (individual property determined eligible for NRHP by the Keeper).

NRHP Criteria and Significance Level: A and C at the local level.

Boundary: The NRHP Boundary for the bridge follows the footprint of the bridge and includes the substructure and superstructure, as indicated on Image 2.

Period of Significance: 1926, which is also its date of construction.

Summary of Significance: Bridge Number 33C0215/Leimert Boulevard Bridge over Dimond Canyon and Sausal Creek is significant under National Register Criteria A, at the local level, for its association with the residential development of the Oakland Hills neighborhood (Image 3). The bridge is particularly important within this context because it was purpose-built to allow access to and for the subsequent development of the Oakmore Highlands subdivision. It is one of only a few bridges in California that was built intentionally to allow access to previously inaccessible land for real estate development. The bridge was built in response to specific demand for residential development and its construction met its intended goal, leading directly to the development of the Oakmore area, which was otherwise inaccessible.

Bridge Number 33C0215/Leimert Boulevard Bridge is also significant under Criterion C because it embodies distinctive characteristics of a type, period, and method of construction. Its significance is not for its structural engineering achievement. Rather, its significance lies in the aesthetic design of the structure as a gateway to the new Oakmore Highlands development and for that design's integration with the aesthetics of the new subdivision. Since the bridge was built to be the gateway to the new Oakmore Highlands, the bridge was designed to convey permanence, grace, and strength – traits that would attract potential homebuyers.

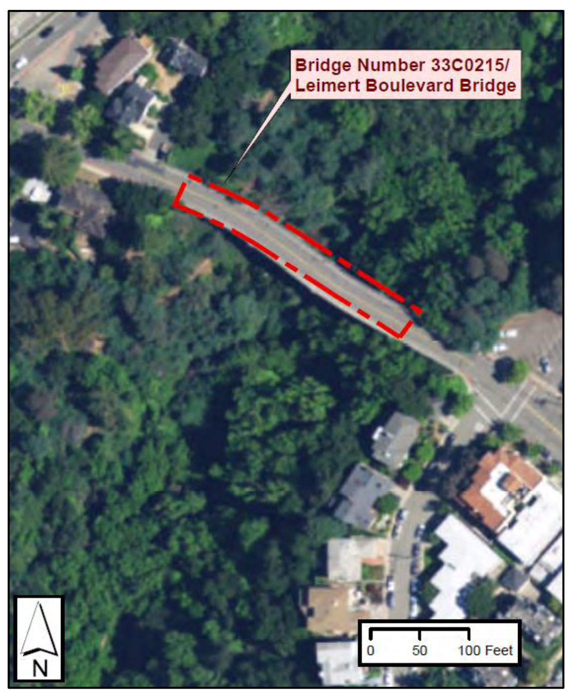


Image 2: Approximate NRHP Boundary for Bridge Number 33C0215/Leimert Boulevard

Integrity: Bridge Number 33C0215/Leimert Boulevard Bridge is largely unaltered from 1926, with the exception of new road paving materials, paint, and a chain link fence on the top of the barriers (dates of alterations are unknown). Bridge Number 33C0215/Leimert Boulevard Bridge conveys its significance because it retains integrity of location, design, setting, materials, workmanship, feeling, and association.

Character-Defining Features: The character-defining features of Bridge Number 33C0215/Leimert Boulevard Bridge were not explicitly identified in the 2003 survey that determined the bridge was eligible for the NRHP (Attachment C). The bridge is 357 feet long, 34.3 feet wide, and carries two lanes of traffic and a cantilevered walkway. The assumed character-defining features identified in the 2018 FNAE-SC: SOIS report and the ranking criteria (which was developed based on guidance in Exhibit 7.1 of *Caltrans Standard Environmental Reference*) are included in Table 2. Non-character-defining alterations include the addition of a chain-link fence on top of the concrete barrier railings and a new road bed (dates of alterations are unknown).

Image 3: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing northeast.
Source: BCA, Inc., July 2016.

Image 4: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-northeast. Source: BCA, Inc., May 2015.

Image 5: Bridge Number 33C0215/Leimert Boulevard Bridge, view facing east-southeast. Source: BCA, Inc., May 2015.

Image 6: Bridge Number 33C0215/Leimert Boulevard Bridge, birds' eye view facing east-southeast. Source: BCA, Inc., May 2015.

Image 7: View of Leimert Boulevard over Sausal Creek from Clemens Road, view facing west. Source: BCA, Inc., July 2016.

Image 8: View of the Bridge Number 33C0215/Leimert Boulevard Bridge bents on the western embankment of Dimond Canyon, view facing south. Source: BCA, Inc., July 2016.

Image 9: Detail view of the bridge arch from below, showing the cross bracing, examples of spalls, and the board finish. Source: BCA, Inc., July 2016.

Image10: Detail view of the bridge arch from below, showing the cross bracing and the board finish, view facing east. Source: GPA, May 2017.

Image 11: Image showing soil erosion and footings at Bents 14 (right of frame), 15, and 16 (left of frame), view facing southwest. Source: BCA, Inc. July 2016.

Image 12: View of the utility lines, cross bracing, and bottom of the deck, view facing northwest. Source: BCA, Inc. July 2016.

Image 13: Representative image showing typical spalling. Source: BCA, Inc. July 2016.

Image 14: Representative image showing typical spalling and graffiti. Source: BCA, Inc. July 2016.

3.1 CHARACTER-DEFINING FEATURES THAT QUALIFY THE PROPERTY FOR THE NRHP

The character-defining features (CDF) are listed and ranked below in Table 2. Table 2 is based on the criteria matrix and rankings as described in the Caltrans Standard Environmental Reference, Volume 2, Exhibit 7.1, Updated 2014. Based on Table 2, all of the character-defining features fall into the most significant or significant categories, based on the rankings criteria (summarized in Table 3).

Table 2: Character-Defining Features and Point Ranking Criteria
High = 3 points, Medium = 2 points, Low = 1 point

Character-Defining Feature (CDF)	Craftsmanship	Conveying Significance	Public Benefit	Visibility and Transparency	Integrity	Total Points
CDF 1: Form of the open spandrel, fixed, parabolic bridge with a 173-foot-long, single, arch span (Images 1, 3 through 6)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 2: Two reinforced concrete, T-beam approach spans supported by reinforced concrete columns (Image 8)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 3: 17 bents supporting the roadway, nine of which are directly located over the concrete arch	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 4: Spread footings on bedrock that support the arch and the bents (Images 10 and 11)	Standard historic fabric (commonly found during period of significance)	Quintessential and Indispensable (without it the significance is lost)	Medium	Secondary	Intact as designed/ original	12
	2	3	2	2	3	
CDF 5: Concrete barrier railings (Image 7)	High artistic value, craftsmanship, design, materials	Quintessential and Indispensable (without it the significance is lost)	High	Primary, salient feature	Intact as designed/ original	15
	3	3	3	3	3	
CDF 6: Reinforced, board-formed concrete (Images 3 through 14)	Standard historic fabric (commonly found during period of significance)	Important	Medium	Primary, salient feature	Intact as designed/ original	12
	2	2	2	3	3	
CDF 7: Light posts (Images 6 and 7)	Standard historic fabric (commonly found during period of significance)	Important	High	Primary, salient feature	Somewhat altered but still conveys significance	12
	2	2	3	3	2	
CDF 8: Original sidewalk and curbing (Images 6 and 7)	Standard historic fabric (commonly found during period of significance)	Low	High	Primary, salient feature	Intact as designed/ original	12
	2	1	3	3	3	

Table 3: Rankings		
Points Range	Ranking	Description
13 - 15 points	Most Significant	Strongly conveys sense of time and place
9 - 12 points	Significant	Conveys sense of time and place
5 - 8 points	Less significant	Still conveys sense of time and place, but to lesser degree
< 5 points	N/A	Historic fabric, but not character-defining feature

Non-Character Defining Features, Not Historic Fabric – All Non-Original

- Non-original deck paving
- Non-original chain link fence
- Utility Mains

4. ANALYSIS OF EFFECTS RELATED TO CONDITIONS PROPOSED

Table 4 summarizes how the construction activities and proposed treatments meet the Rehabilitation Standards and avoid adverse effect on the historic property.

Table 4: Conditions to Avoid Adverse Effect

Construction Activity	Affected CDFs	Rank	Proposed Treatment	Standards Compliance
Localized Shotcrete	Footings CDF 4 None – proposed work is primarily below grade.	S	Minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.	The project complies with Standard 9. The work will take place in an area that is not visible, there will be no loss of historic materials, and no loss of CDFs.
Replace Paving Materials	None – deck paving is non-original. The bridge has been repaved several times.	N/A	Grind off existing asphalt concrete and replace with a compatible polyester concrete.	N/A, because the deck paving is non-original, its replacement with a compatible material is acceptable. The Rehabilitation Standards do not apply to this construction activity.
Alteration of Utility Mains	None – the utility mains are non-original.	N/A	Install new hangers, vertical steel rods drilled and epoxied into the underside of the bridge deck and will be painted black to make less visible, and new concrete utility cradles.	The project complies with Standard 9. The work will take place in an area that is not visible and there will be little loss of historic materials (at drill locations) and no loss of CDFs.
Chain Link Fence Repair or Replacement	None – the fencing is non-original.	N/A	The fence will be repaired or replaced in kind.	N/A, because the fencing is non-original, its replacement in kind is acceptable and will not introduce any new elements. The Rehabilitation Standards do not apply to this construction activity.
Paint/Graffiti Removal	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	A testing program for all chemical or treatments will be implemented, to determine the gentlest cleaning method possible and to ensure that the historic finishes are not damaged. The use of sandblasting would be prohibited in order to preserve the existing board-formed finish and concrete surfaces.	The project complies with Standard 7 because the testing strategy will identify the gentlest means possible for removing the paint/graffiti and will include only the primary viewsheds and the areas necessary to prepare the concrete substrate for repairs.

Table 4: Conditions to Avoid Adverse Effect				
Construction Activity	Affected CDFs	Rank	Proposed Treatment	Standards Compliance
Concrete Spall Repair	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	Repair with epoxies and standard patching techniques with the same concrete mix selected from mockups.	The project complies with Standards 5, 6, and 9. By applying the same board-formed finish to the spall repairs, the repairs will blend appropriately and maintain the historic character of the concrete.
Anti-Graffiti Coating	CDF 5. Reinforced, board-formed concrete barrier railings.	M	A testing program for all chemical or treatments will be implemented, to determine the method and product that will least impact the appearance of the bridge.	The project complies with Standard 7 because the testing strategy will identify the most appropriate coating material. Furthermore, the use of the coating will be limited to areas most critical for protection from graffiti.
Install CFRP and Board-Formed Finish	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	Reinforce structural members with CFRP and mortared board-formed finish.	The project complies with Standards 5, 6, and 9. By applying the same board-formed finish to the CFRP, the repairs will blend appropriately and maintain the same appearance of the historic concrete, along with similar massing and proportions of the structural members.
Installation of Temporary Scaffolding	CDFs 1 through 6. Reinforced, board-formed concrete and all structural elements.	M	Installation of temporary scaffolding and platforms, with protections in place to ensure that the concrete is not damaged.	The project complies with Standard 5. Reviews by the qualified architectural historian will ensure that any attachments to the bridge will not damage the historic, board-formed concrete.
Rank Definitions: M – Most Significant; S – Significant; L – Less Significant				

A more detailed analysis of the how the undertaking complies with the Rehabilitation Standards is included in the associated Finding of No Adverse with Standard Conditions report prepared for the project.

5. MONITORS

Because the project plans were in the early design stage when the FNAE-SC: SOIS report was prepared, monitoring is required to ensure the undertaking continues to comply with the Rehabilitation Standards as it progresses. Monitoring must be conducted by one of the following:

- Architects who meet the Secretary of the Interior's Professional Qualification Standards for historic architecture;
- Caltrans PQS Principal Architectural Historians or similarly qualified consultants; or
- Caltrans staff under the direction of a Caltrans PQS Principal Architectural Historian.

Monitoring will occur for the following activities at the specified intervals/milestones:

- A qualified monitor will review and approve construction documents at 65% and 95%.
- A qualified monitor will inspect and approve all mock-ups on-site after they have cured for the number of days as specified in the product literature.
- A qualified monitor will inspect and approve the repairs at specific milestones to be determined in accordance with the project schedule. Examples of milestones include:
    - Graffiti/paint removal testing;
    - Concrete spall repair mock-up inspection;
    - CFRP mortared finish mock-up inspection;
    - Anti-graffiti coating mock-up inspection (on both types of masonry: original concrete and repaired spalls);
    - When form boards are removed;
    - When a sampling of small patches (non-board-formed) are complete; and
    - When all work is complete.

6. RESPONSIBLE PARTIES

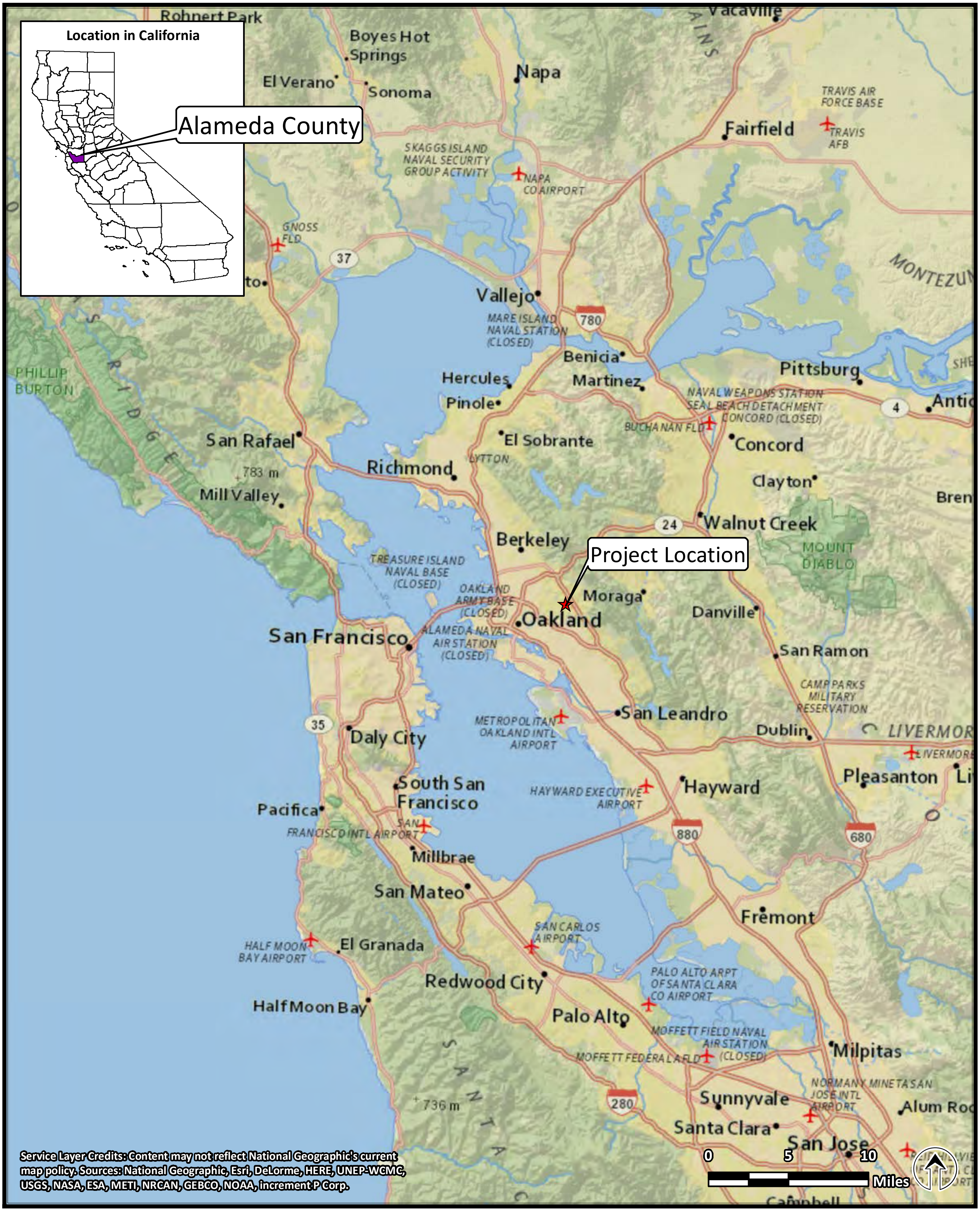
Table 5 lists the responsible parties for implementing this Action Plan:

Table 5: Responsible Parties			
Name[3]	Title	Organization	Contact Information
Noah Stewart	Principal Architectural Historian[4]	Caltrans	510-286-5370
Mohammad Barati	Project Manager	City of Oakland	510-238-7280
Ron Oen	Project Manager	BCA, Inc.	408-296-5515
Robert Yamane	Project Engineer	BCA, Inc.	408-296-5515

[3] Subject to change in the event of personnel change.

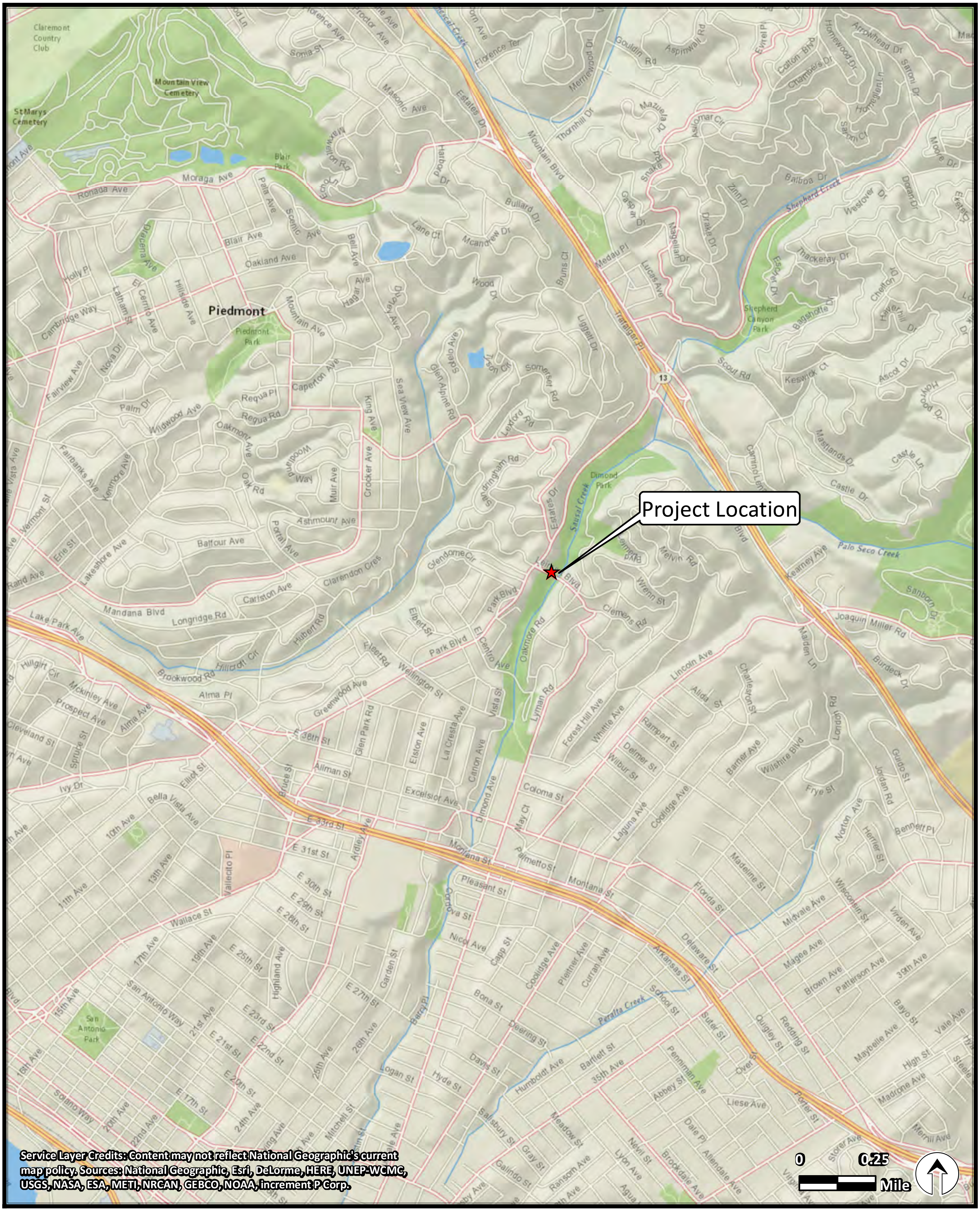
[4] Caltrans may elect to have a qualified consultant conduct some of its monitoring responsibilities. In this case, Caltrans PQS would review and approve the consultant's work.

Attachment A: Project Maps



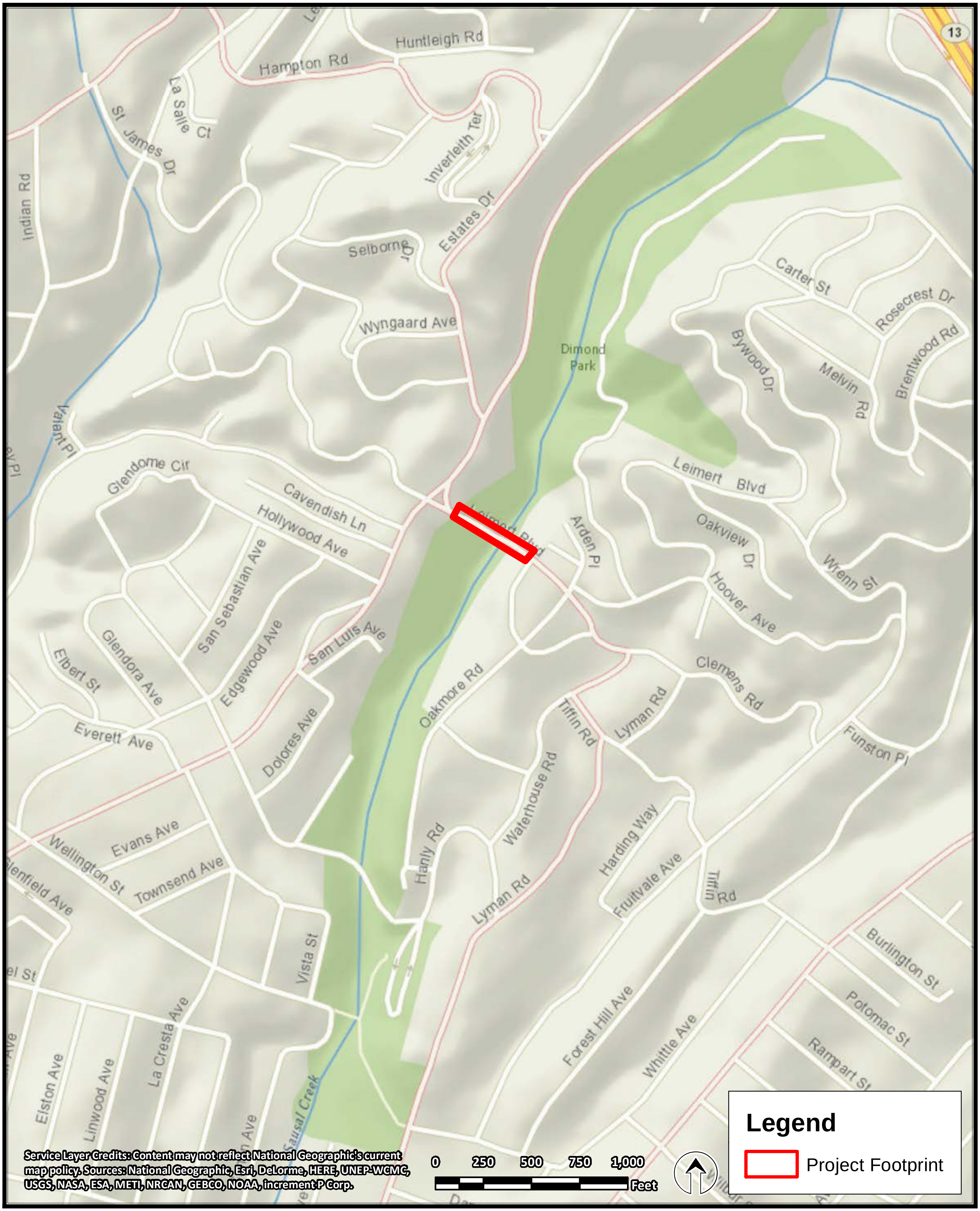
CITY OF OAKLAND

FIGURE 1. REGIONAL LOCATION
Leimert Road Bridge Rehabilitation



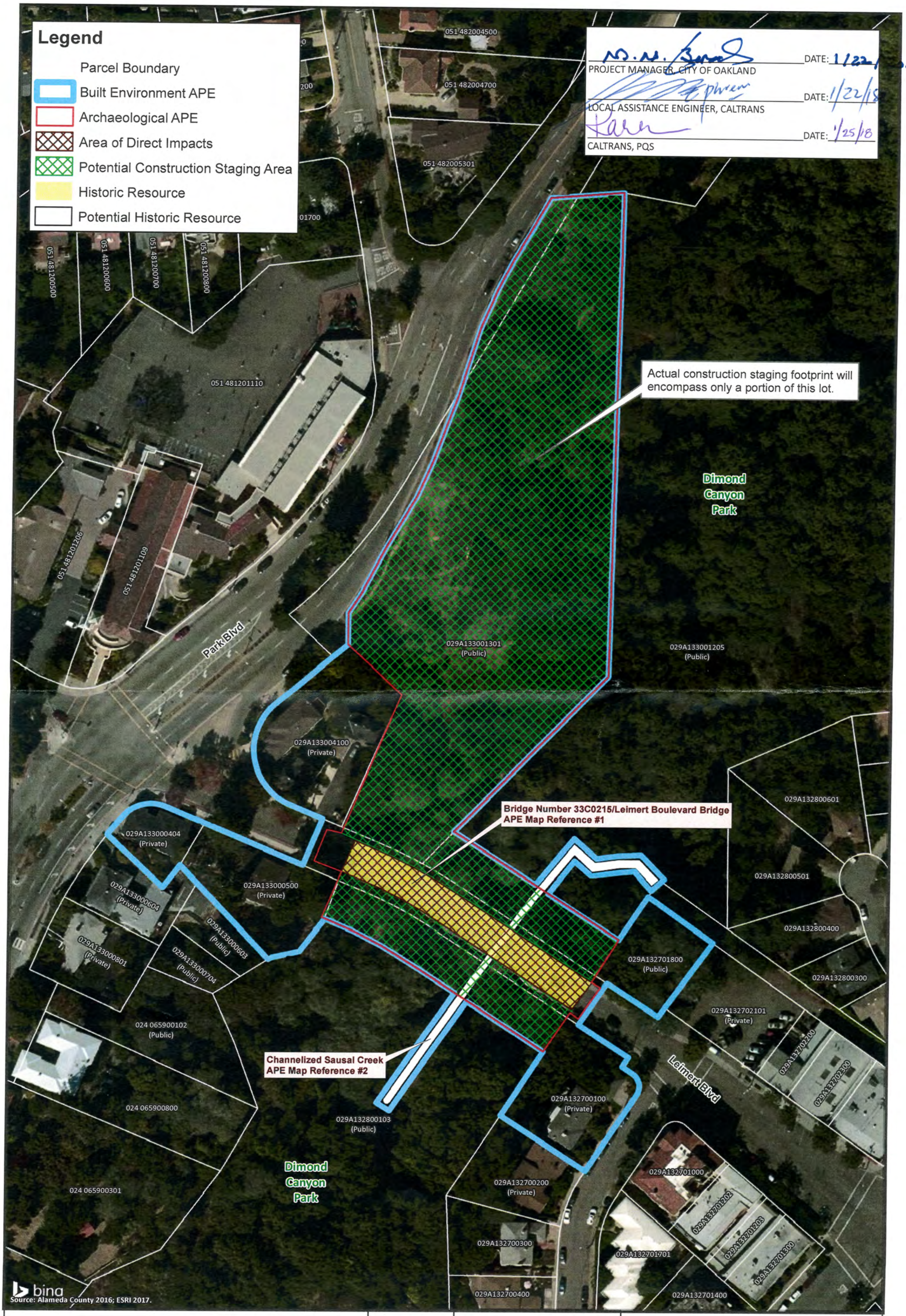
CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Road Bridge Rehabilitation



CITY OF OAKLAND

FIGURE 3. PROJECT FOOTPRINT
Leimert Road Bridge Rehabilitation

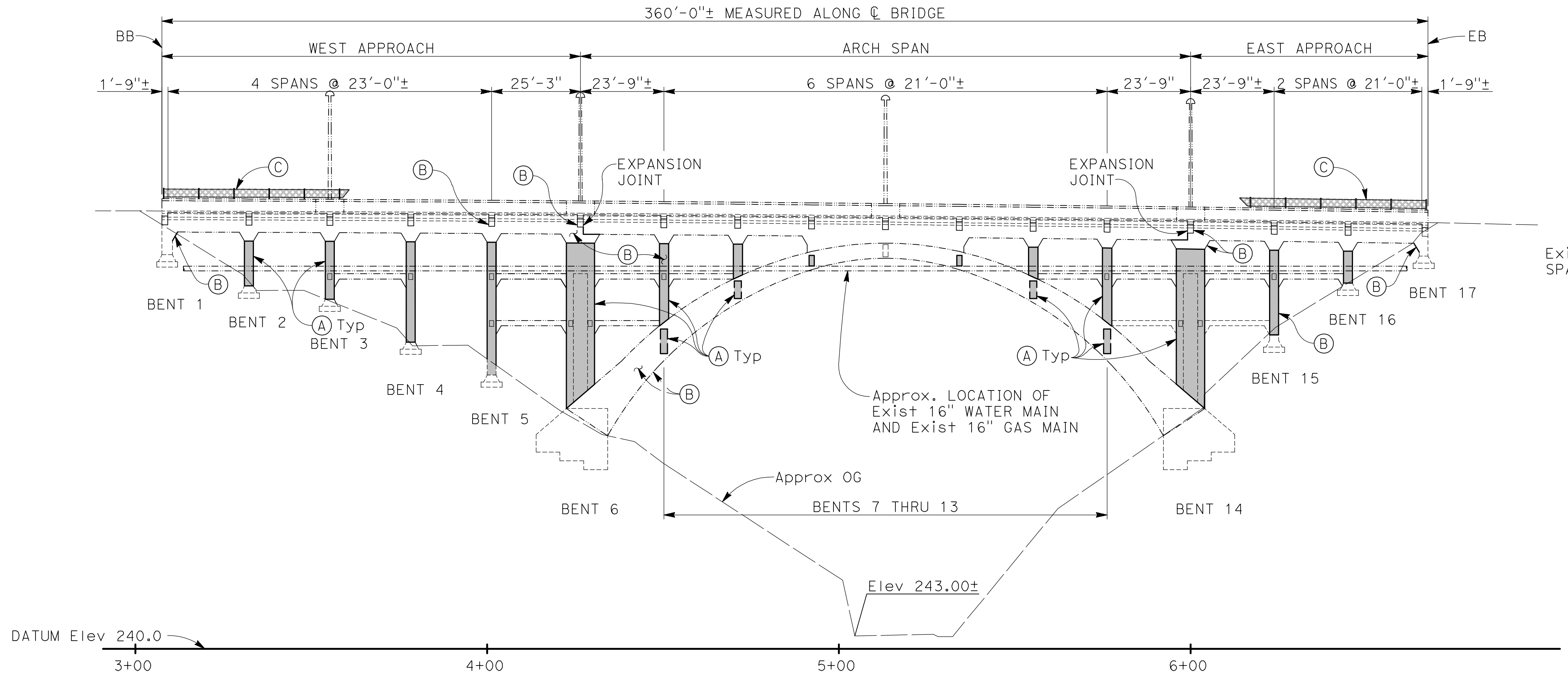


CITY OF OAKLAND

Seismic Retrofit of Leimert Blvd Bridge
(Bridge Number 33C-0215)
District 4, Alameda County
Federal ID No. STPLZ-5012 (124)

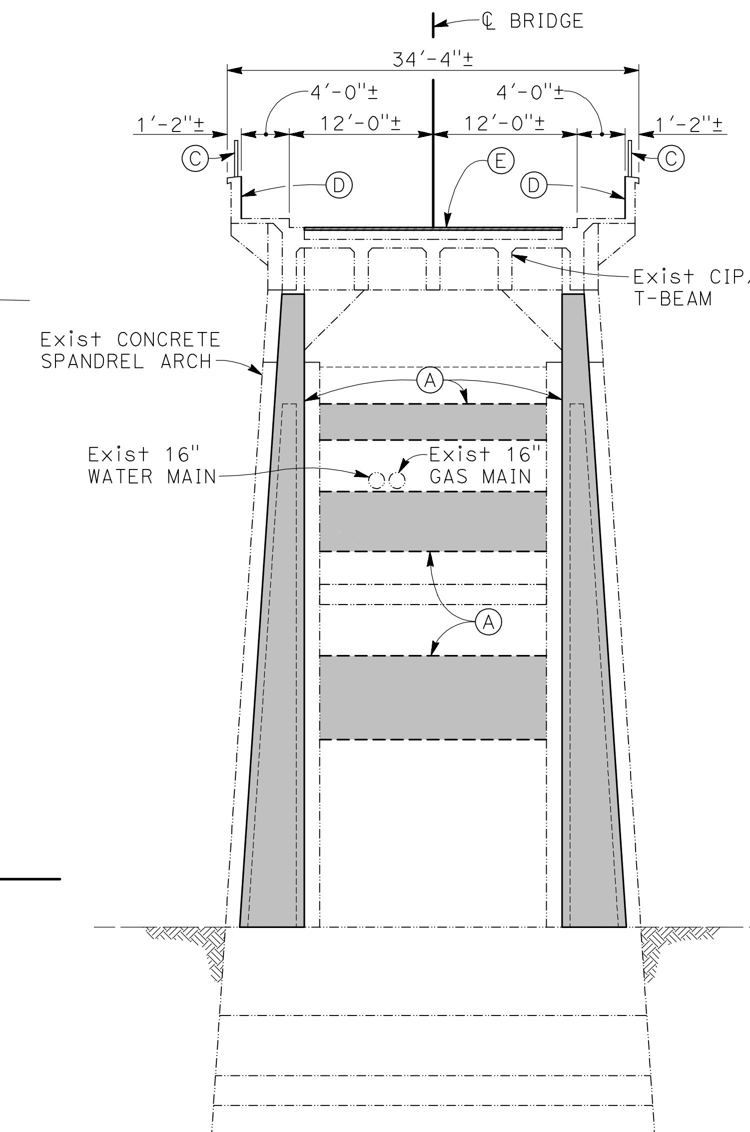
Area of Potential Effects

Attachment B: Preliminary Project Engineering



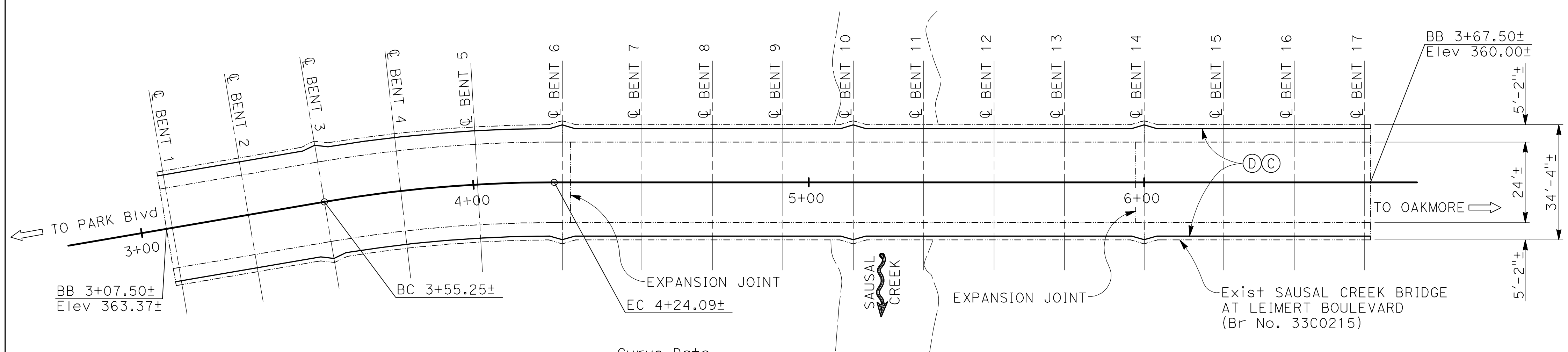
DEVELOPED ELEVATION

1" = 20'



TYPICAL SECTION

1/8" = 1'-0"



Curve Data
R = 406.60'±
Δ = 09°42'±
T = 34.50'±
L = 68.84'±

PLAN

1" = 20'

NOTES:

- (A) Indicates limits of carbon fiber reinforced polymer composite casing system
- (B) Repair spalled surface area
- (C) Repair exist chain link railing
- (D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating
- (E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:

- Indicates Existing Structure
- Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (6/14/18)

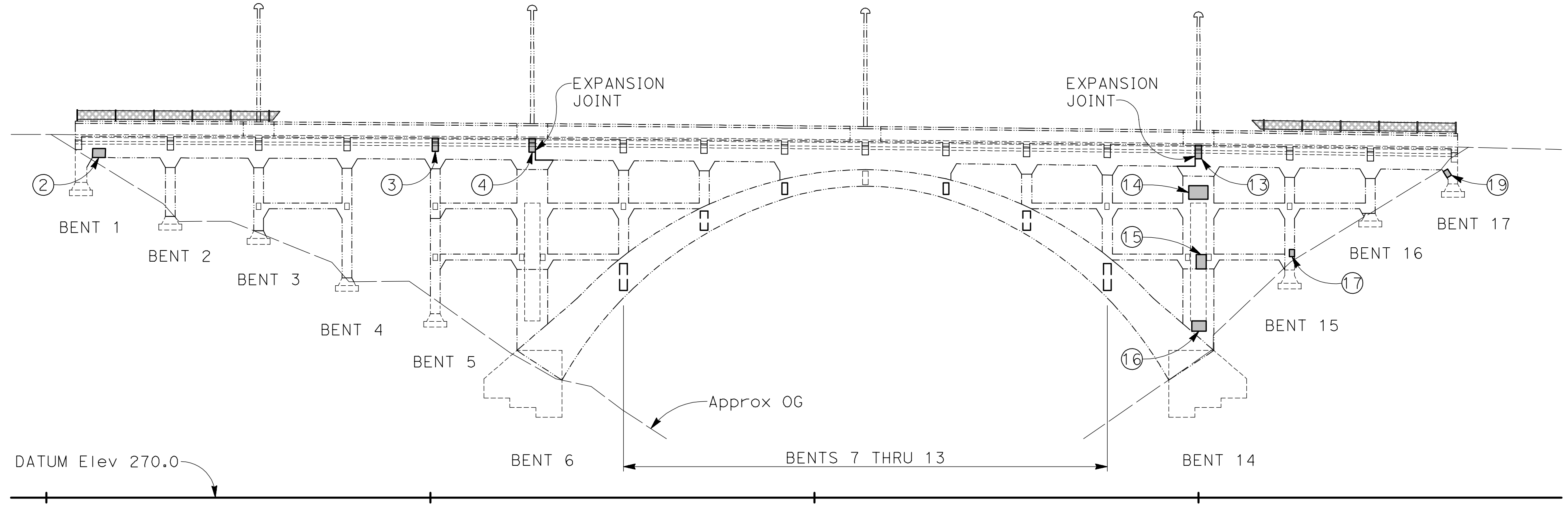
DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV. | DATE | DESCRIPTION | BY
0

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

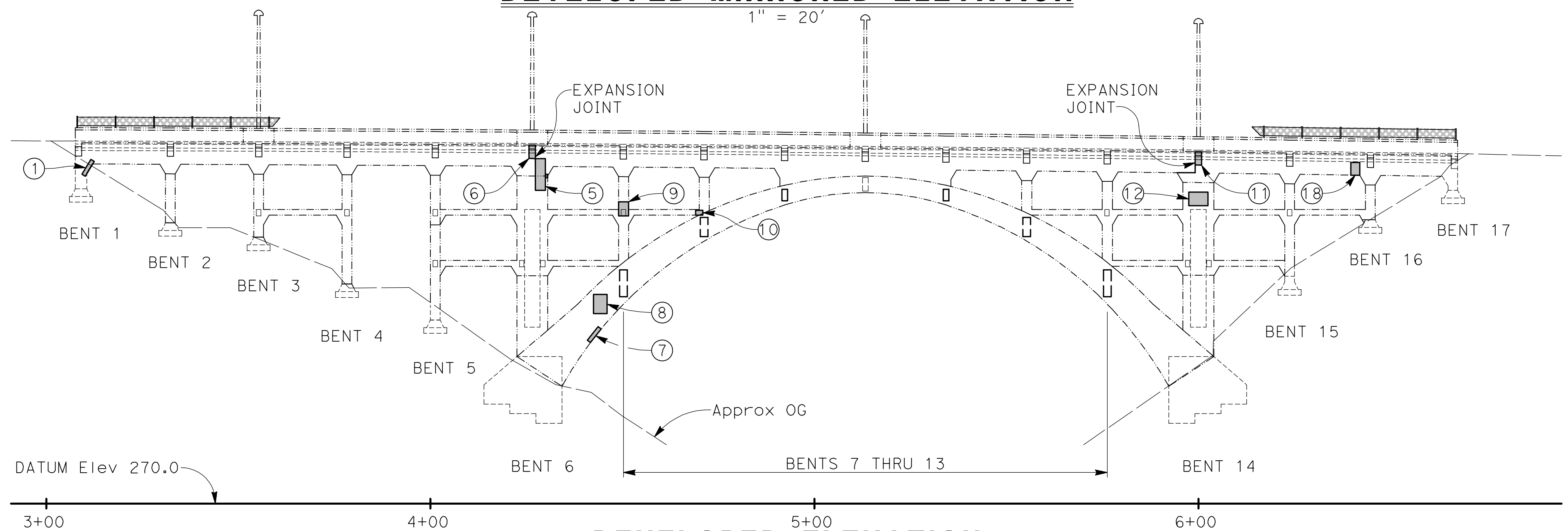
GENERAL PLAN
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

SHEET NUMBER
S-1
OF SHEETS
DRAWING NO.
2016051-1
2016051 (2016051S1)



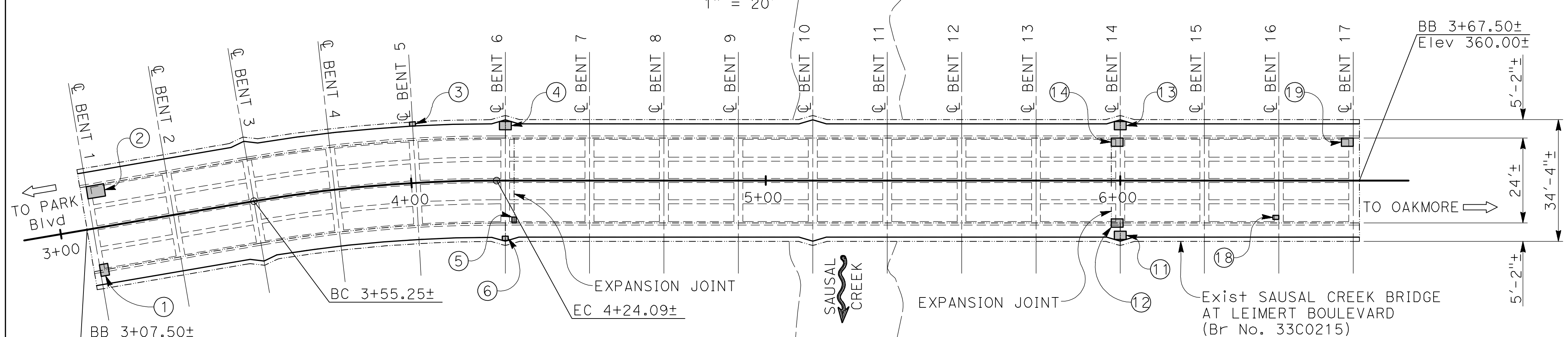
DEVELOPED MIRRORED ELEVATION

1" = 20'



DEVELOPED ELEVATION

1" = 20'



NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN

1" = 20'

SUMMARY OF SPALLED SURFACE AREAS

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
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OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (6/14/18)

DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BCA

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

SHEET NUMBER
S-2
OF SHEETS

DRAWING NO.
2016051-2

2016051 (2016051S2)

Attachment C: Caltrans Historic Bridge Inventory Excerpt

District 04

Alameda County

Bridge Number	Bridge Name	Location	Historical Significance	Year Built	Year Wid/Ext
33C0201	SEMINARY AVE UP (BARTD AERIAL)	JUST NE/O SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0202	HEGENBERGER ROAD OH	0.4 MI SOUTH OF 66TH AVE	2. Bridge is eligible for NRHP	1966	2014
33C0203	SAN LORENZO CREEK	0.01 MI S OF I-880	5. Bridge not eligible for NRHP	1974	
33C0205	SAN LORENZO CREEK	0.02 MI NE OF MISSION BL	2. Bridge is eligible for NRHP	1915	
33C0206	SAN LORENZO CREEK	0.05 MI S OF LEWELLING BL	5. Bridge not eligible for NRHP	1927	
33C0207	ESTUDILLO CANAL DITCH	0.15 MI S MANOR BLVD	5. Bridge not eligible for NRHP	1972	
33C0208	ESTUDILLO CANAL	N OF BURKHART AVE	5. Bridge not eligible for NRHP	1955	
33C0209	LAGUNA CREEK (FLOOD CONTROL LINE E)	W OF FREMONT BLVD	5. Bridge not eligible for NRHP	1964	
33C0210	TENNYSON FLOOD CONTROL CHANNEL	E OF THACKERAY AVE	5. Bridge not eligible for NRHP	1960	
33C0211	WHITMAN STREET SEPARATION	ORCHARD AVE	5. Bridge not eligible for NRHP	1970	
33C0212	ORCHARD AVENUE UP	0.15 MI SW/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0213	ORCHARD AVE UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0214	NO NAME CREEK	DONALD AVE	5. Bridge not eligible for NRHP	1955	
33C0215	SAUSAL CREEK	0.1 MI E OF PARK BLVD	2. Bridge is eligible for NRHP	1926	
33C0216	LION CREEK	NEAR 69TH AVE	5. Bridge not eligible for NRHP	1940	1965
33C0217	105TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0218	SAN LEANDRO CREEK	0.3 MI W OF I 880	5. Bridge not eligible for NRHP	1939	2002
33C0219	WHITMAN STREET OVERCROSSING	HARDER RD	5. Bridge not eligible for NRHP	1970	
33C0220	HARDER ROAD UP	0.2 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0221	HARDER RD UP (BARTD AERIAL)	0.1 MI W/O MISSION BLVD	5. Bridge not eligible for NRHP	1970	
33C0222	ALAMEDA CREEK	0.2 MI E UNION CITY BLVD	5. Bridge not eligible for NRHP	1977	
33C0223	WHIPPLE ROAD OH (BARTD)	0.75 MI W/O SR 238	5. Bridge not eligible for NRHP	1970	
33C0224	LAGUNA CREEK	FREMONT BLVD (0.1M E/O)	5. Bridge not eligible for NRHP	1955	
33C0225	PASEO PADRE PARKWAY UP	0.2 MI N/O PERALTA BLVD	5. Bridge not eligible for NRHP	1975	
33C0229	ALAMEDA LAKE	0.1 MI N/E OF OTIS DR	5. Bridge not eligible for NRHP	1958	
33C0230	BALLENA BAY	0.1 MI S OF CENTRAL AVE	5. Bridge not eligible for NRHP	1966	
33C0231	SAN LORENZO CREEK	JUST NE OF MAIN ST	5. Bridge not eligible for NRHP	1925	
33C0235	ASHLAND AVENUE UP	N/O SR 238	5. Bridge not eligible for NRHP	1960	
33C0236	ASHLAND AVE UP (BARTD AERIAL)	0.2 MI N/O 238	5. Bridge not eligible for NRHP	1960	1994
33C0237	ELGIN STREET OC	ELGIN ST & ASHLAND AVE	5. Bridge not eligible for NRHP	1960	1994
33C0238	LION CREEK TRIBUTARY	ABOUT 0.5 MI SE REDWOD RD	5. Bridge not eligible for NRHP	1970	
33C0239L	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	1983	
33C0239R	ARROYO DEL VALLE	0.05 MI N OF VINEYARD	5. Bridge not eligible for NRHP	2009	
33C0240	ARROYO SECO	0.2 MI N TESLA RD	5. Bridge not eligible for NRHP	1962	
33C0241	SOUTH BAY AQUEDUCT	2.1 MI SOUTH OF I-580	5. Bridge not eligible for NRHP	1962	
33C0242	LAGUNA CREEK	FREMONT BLVD	5. Bridge not eligible for NRHP	1954	
33C0243	SOUTH BAY AQUEDUCT	1.0 MI E GREENVILLE RD	5. Bridge not eligible for NRHP	1962	
33C0244	ALAMEDA CREEK BRANCH	JUST S/E INDSTRL PKWY W	5. Bridge not eligible for NRHP	1971	
33C0245	STONY BROOK (PALOMARES CREEK)	7.57 MI SE PALO VERDE RD	5. Bridge not eligible for NRHP	1925	1962
33C0246	STONY BROOK	1.7 MILES NORTH OF SR 84	5. Bridge not eligible for NRHP	1925	1970
33C0248	CROW CREEK	0.1 MI W/O CROW CANYON RD	5. Bridge not eligible for NRHP	1970	
33C0249	75TH AVE UP (BARTD AERIAL)	AT SAN LEANDRO ST	5. Bridge not eligible for NRHP	1968	
33C0250	ESTUDILLO CANAL	100' N BURKHART AVE	5. Bridge not eligible for NRHP	1955	

Attachment F: Equipment Staging Memorandum

Memorandum

To: **Dan Rivas**
Caltrans, District 4
111 Grand Avenue
Oakland, CA 94612

Date: June 13, 2018

File No.: Leimert Boulevard Bridge Seismic Retrofit Project
04-Alameda-Leimert Boulevard
Bridge No. 33C0215
Federal Project No. STPLZ-5012(124)

From: Melissa Logue
Senior Associate Environmental Planner
GPA Consulting
2600 Capital Avenue, Suite 100
Sacramento, CA 95816
(310) 792-2624

For: Mohammad Barati
City of Oakland
250 Frank Ogawa Plaza, Suite 4314
Oakland, CA 94612
(510) 238-7280

Subject: **Leimert Boulevard Bridge Seismic Retrofit Project – Equipment Staging Memorandum**

This memorandum (memo) includes a discussion of the project, as well as a description of the equipment staging requirements and associated impacts during construction of the project.

Project Description

Introduction

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see **Attachment A**, Regional Location). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area) (see **Attachment B**, Project Location and **Attachment C**, Project Footprint).

The bridge is a 357-foot long open spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock.

The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, include primarily residences, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge.

The bridge was designed by George Posey, who designed notable structures in Oakland. The bridge was constructed in 1926, and was designated as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB). The bridge has also been determined eligible for listing on the National Register for Historic Places (NRHP).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Project Purpose

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Sausal Creek Bridge at Leimert Boulevard to the extent feasible.

Project Need

The project area is located in a region of relatively high seismicity, and is less than a mile southwest of the Hayward fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event.

Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete (AC) overlay, which shows heavy cracking in both longitudinal and transverse direction. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the reinforcement inside.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or materials from falling off the bridge.

Seismic retrofit of the bridge was previously proposed, and a proposed design was previously completed by URS Greiner Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements, process the environmental CEQA and NEPA clearances, certify the required right of way, and issue the project for bid. However, during the course of the environmental review, the State Historic Preservation Office (SHPO) and the LPAB concluded that the proposed bridge retrofit would have a significant impact under CEQA on the historic status of the bridge and, therefore, rejected the proposed retrofit plans. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge's landmark status and historic integrity.

Proposed Project

The following improvements are proposed (see **Attachment D**, Engineering Drawings):

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.
- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.
- Localized "shotcrete" would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.
- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.
- Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.
- The chain link fence would be repaired or replaced.

Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane closures may be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane closures may be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine months, and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

- Mobilization (5 days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Clean Expansion Joint (5 days);
- Shotcrete Footing Slope Paving (5 days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (10 days).

Measures for preventing material, equipment, and debris from falling into Sausal Creek would be implemented during construction.

Regulatory Setting

City of Oakland Standard Conditions of Approval

The City developed the *Standard Conditions of Approval* to achieve consistency for project approval, in accordance with CEQA Guidelines sections 15183 and 15183.3 (City of Oakland, 2017a). The *Standard Conditions of Approval* contains Environmental Protection Measures to substantially mitigate environmental effects. In cases where a project will result in environmental impacts despite implementation of the *Standard Conditions of Approval*, the City will determine if mitigation measures are feasible to reduce significant impacts.

Oakland Grading Ordinance

Chapter 16.20 of the City's Code of Ordinances describes requirements for grading (City of Oakland, 2017b). The ordinance also states that all grading work must be done under the direction of a registered civil engineer who is responsible for enforcing the conditions outlined in the ordinance.

Oakland Protected Trees Ordinance

Chapter 12.36 of the City's Code of Ordinances aims to protect trees for their positive contributions to the City's culture, history, aesthetics, climate, and natural resources (City of Oakland, 2017b). The ordinance defines trees that qualify for protection, provides regulations for tree removal and preservation, outlines measures to prevent tree loss and minimize environmental damage, and promotes tree appreciation and replacement plantings. Permits and compliance with the outlined conditions of approval are required for projects resulting in protected tree removal.

Affected Environment

The existing bridge connects local streets and roads in the Oakmore Highlands neighborhood in the east, to Park Boulevard, a major through road adjacent to the Piedmont and Glenview neighborhoods in the west. The bridge spans over Dimond Canyon Park, which is comprised of City-owned public parcels. In addition, several private parcels line Dimond Canyon to the east and west of the project area. The canyon corridor includes heavy vegetation consisting of a mix of native and non-native shrubs, trees, and ruderal (weedy) vegetation.

Construction equipment would likely be staged on a portion of Parcel 029A133001301, a relatively flat, upland parcel owned by the City (see **Attachment E**, Construction Staging Areas). The parcel is accessible from Park Boulevard in the west, and consists of ruderal vegetation and a mixture of native and non-native trees and shrubs. It is anticipated that the construction contractor would use a pathway to connect the staging area to the existing pathway on the northeast side of the canyon, and also utilize a portion of the existing pathway on the northeast side of the canyon, for personnel access and to hand-carry material and equipment to the work area under the bridge. No heavy equipment would be used on the pathway.

Construction equipment would also be staged on elevated platforms above the canyon, extending approximately 50 feet from either side of the bridge in Dimond Canyon Park, as shown in **Attachment E**. The elevated platforms would be installed on three City-owned parcels in a slightly sloped, heavily vegetated area adjacent to, and upstream and downstream of the bridge. The elevated platform upstream of the bridge would be located on portions of Parcel 029A133001301, described above, and Parcel 029A133001205. Parcel 029A133001205 is lined with private properties to the east and is accessible from the Bridgeview Trail at Bridgeview Drive.

The elevated platform downstream of the bridge would be installed on a portion of Parcel 029A132800103. This parcel is lined with private properties to the east and west, and is accessible from the Old Cañon Trail at Benevides Avenue and the Dimond Canyon Trail at El Centro Avenue.

In addition to the parcels described above, construction work would be performed under the bridge within City right-of-way. The City does not anticipate staging equipment outside of City rights-of-way or City-owned parcels.

Equipment Staging Impacts

On a portion of Parcel 029A133001301, construction equipment would primarily be staged on existing flat, weedy areas. It is anticipated that the construction contractor would use a pathway to connect the staging area to the existing pathway on the northeast side of the canyon, and also utilize a portion of the existing pathway on the northeast side of the canyon, for personnel access and to hand-carry material and equipment to the work area under the bridge. No heavy equipment would be used on the pathway. However, minor grading may be required to create additional flat surfaces for staged equipment, and to create a pathway from the equipment staging area to the existing pathway to provide personnel access and hand-carried materials and equipment to the bridge. Minor grading may also be required to provide a stable surface for the elevated platforms on Parcels 029A133001301, 029A133001205, and 029A132800103.

Potential impacts from grading activities may include erosion, sedimentation, and dust generation. However, with implementation of construction best management practices, such as standard dust control measures, and compliance with the City's *Standard Conditions of Approval* and Grading Ordinance, these impacts would be minimized. Therefore, equipment staging is not anticipated to result in substantial impacts related to grading.

Vegetation trimming and removal may also be required to clear the pathway for construction workers and equipment on Parcel 029A133001301, and to provide adequate work space around the elevated platforms on Parcels 029A133001301, 029A133001205, and 029A132800103. Trees in the staging area that meet the criteria for protection under the Protected Trees Ordinance would be permanently affected through trimming or removal. It is estimated that approximately 15 protected trees have the potential to be impacted as a result of project construction. Approximately eight trees would be trimmed and seven trees would be removed. Of the seven trees to be removed, five are native tree species and two are non-native trees with a dbh greater than nine inches. No trees with a dbh of 36 inches or greater would be removed by the project. However, the project would comply with the Protected Trees Ordinance and the conditions outlined in the City's *Standard Conditions of Approval*. Trees would be protected to the greatest extent feasible, and the trees removed to accommodate construction would be replaced through replanting in or near the project area following completion of the proposed project. Therefore, equipment staging is not anticipated to result in substantial impacts related to vegetation removal.

Avoidance and Minimization Measures

The City's *Standard Conditions of Approval* do not include measures specifically related to equipment staging; however, the project would comply with conditions to avoid or minimize adverse effects related to vegetation removal and grading, described below.

The following condition applies to all projects requiring a tree permit under the City's Tree Protection Ordinance:

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.

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.

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.

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 diameter at breast height [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

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 (BMP) during construction and after construction to protect the creek. Required BMPs are identified below in sections (b), (c), and (d).

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 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 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.

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.

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.

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.

With compliance with the City's *Standard Conditions of Approval* listed above, and compliance with the City's Grading and Protected Trees Ordinances, the project would not be expected to result in substantial impacts related to equipment staging.

Conclusion

During project construction, equipment staging may require minor grading and vegetation removal on three City-owned parcels. Implementation of construction best management practices, such as standard dust control measures, and compliance with the City's *Standard Conditions of Approval* and Grading Ordinance, would reduce impacts from grading, such as erosion, sedimentation, and dust generation. In addition, the project would comply with the Protected Trees Ordinance and the conditions outlined in the City's *Standard Conditions of Approval* to protect trees to the greatest extent feasible, and replant trees that are removed following completion of the proposed project. Therefore, equipment staging is not anticipated to result in substantial impacts related to grading or vegetation removal.

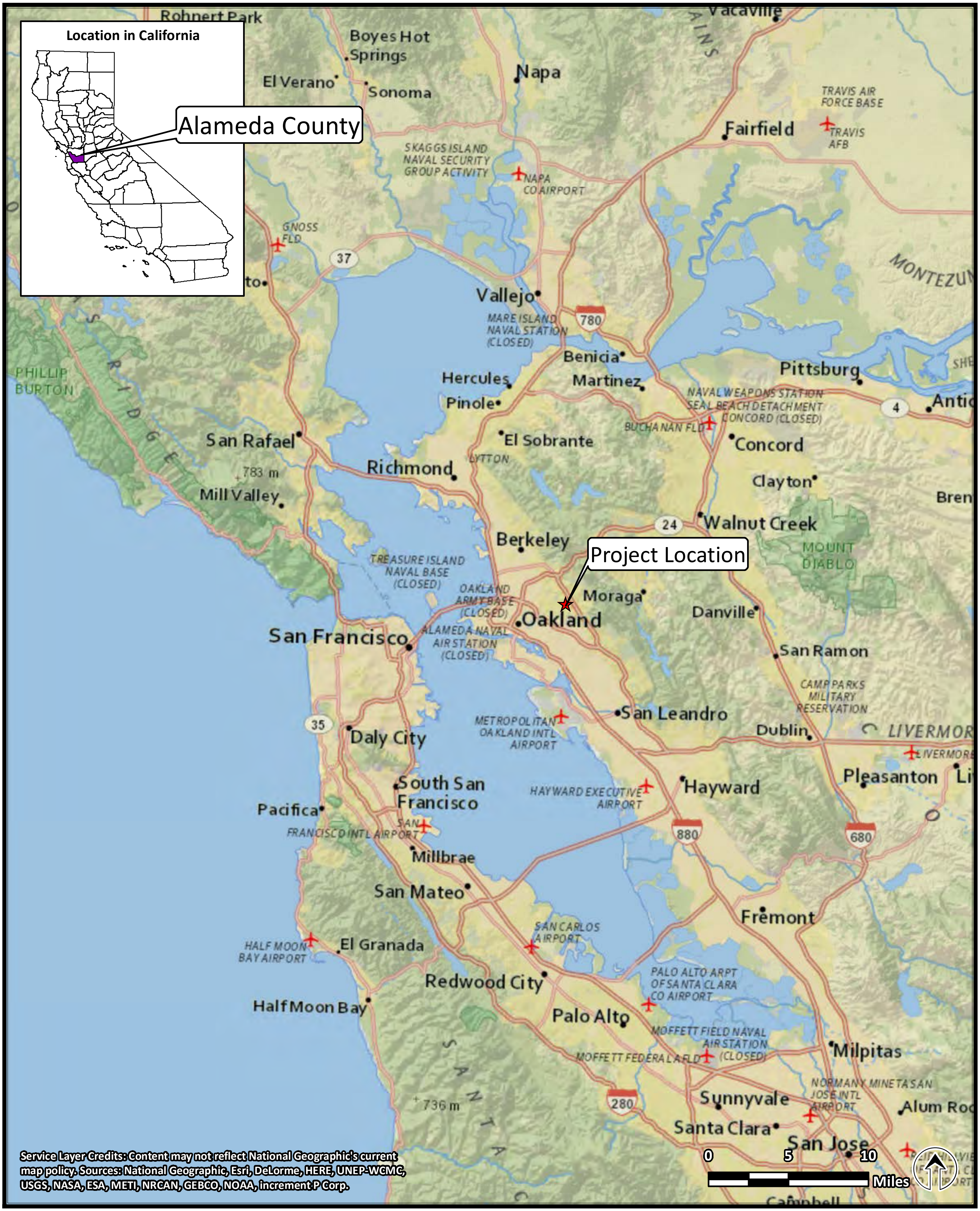
References

City of Oakland. (2017a). *Standard Conditions of Approval*. Oakland: Department of Planning and Building, Bureau of Planning.

City of Oakland. (2017b, July 17). *Code of Ordinances, Supplement 73*. Retrieved from City of Oakland: https://library.municode.com/ca/oakland/codes/code_of_ordinances?nodeId=16308

ATTACHMENT A

Regional Location



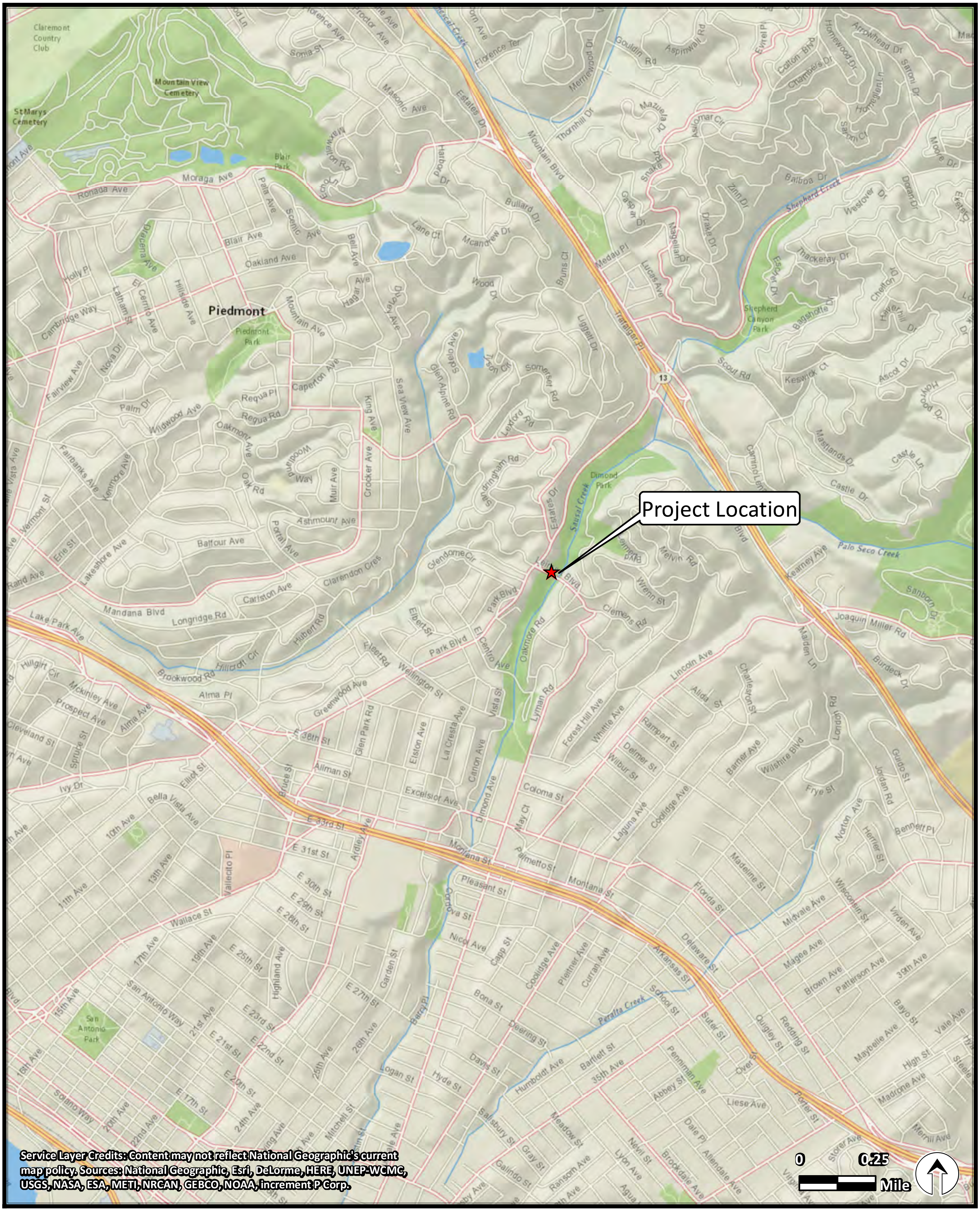
CITY OF OAKLAND

ATTACHMENT A. REGIONAL LOCATION

Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT B

Project Location

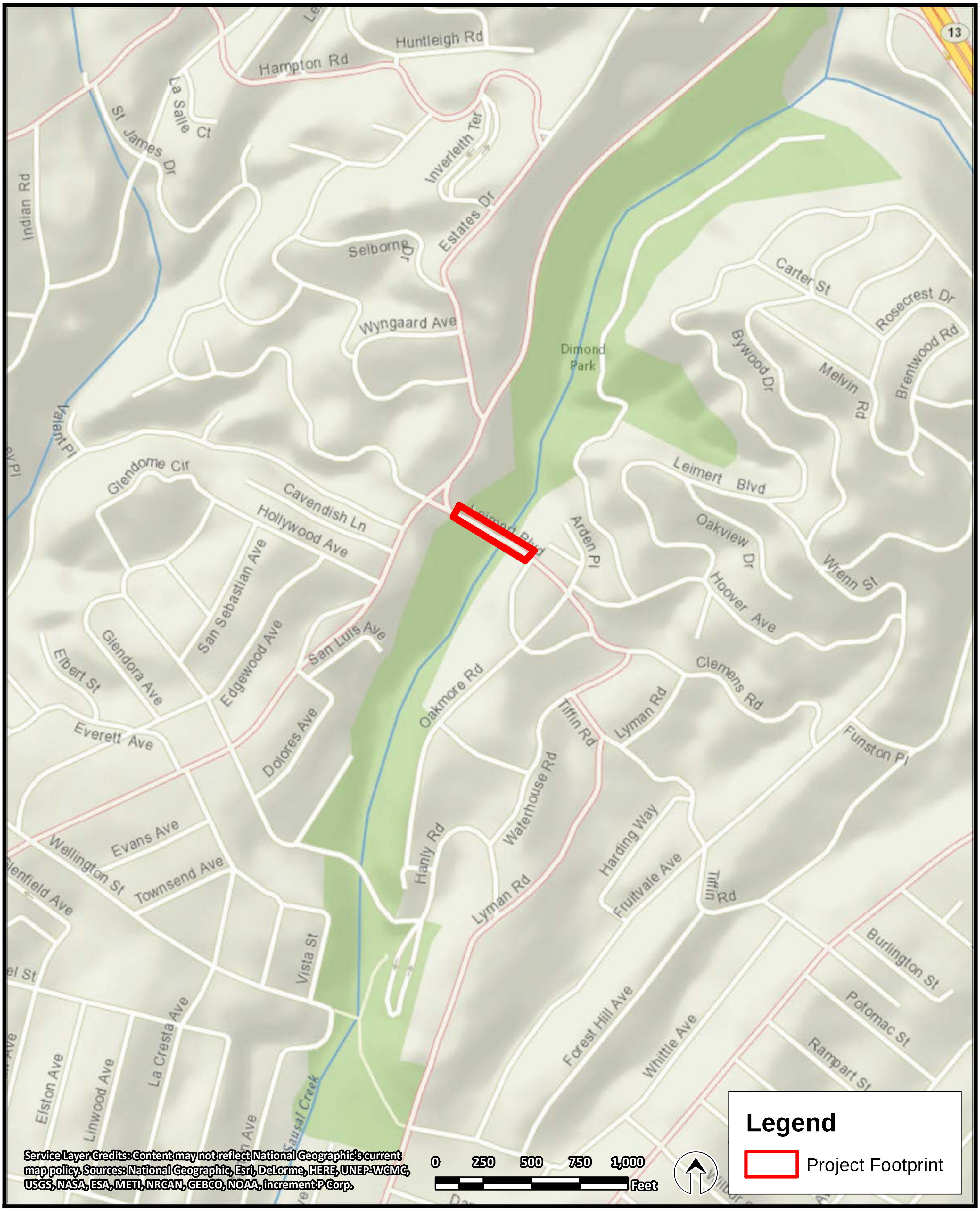


CITY OF OAKLAND

ATTACHMENT B. PROJECT LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT C

Project Footprint

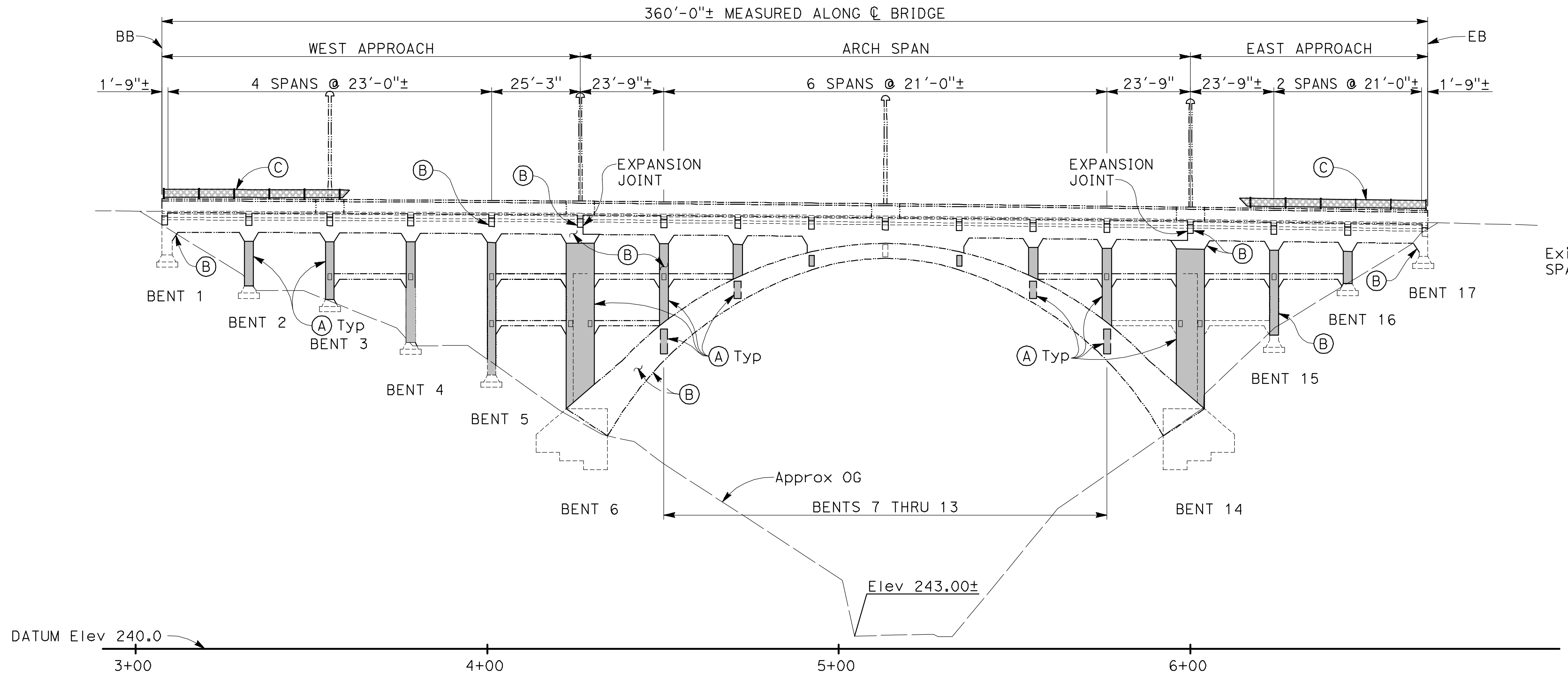


CITY OF OAKLAND

ATTACHMENT C. PROJECT FOOTPRINT
Leimert Boulevard Bridge Seismic Retrofit Project

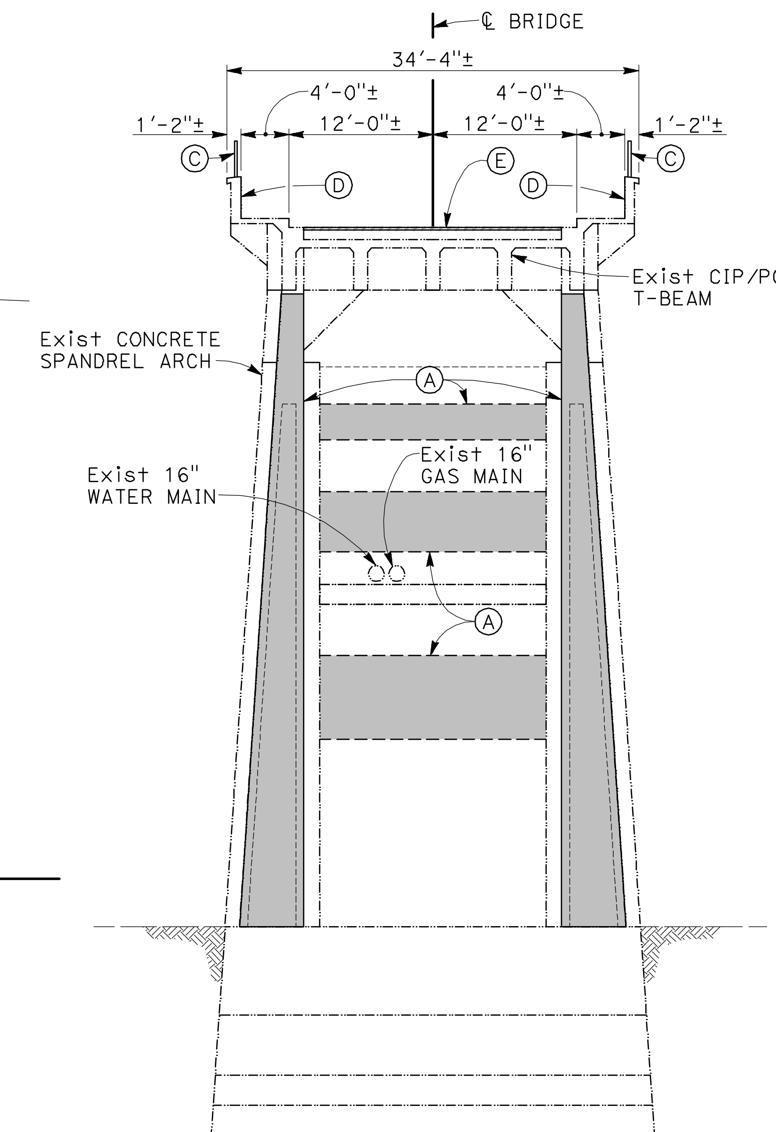
ATTACHMENT D

Engineering Drawings



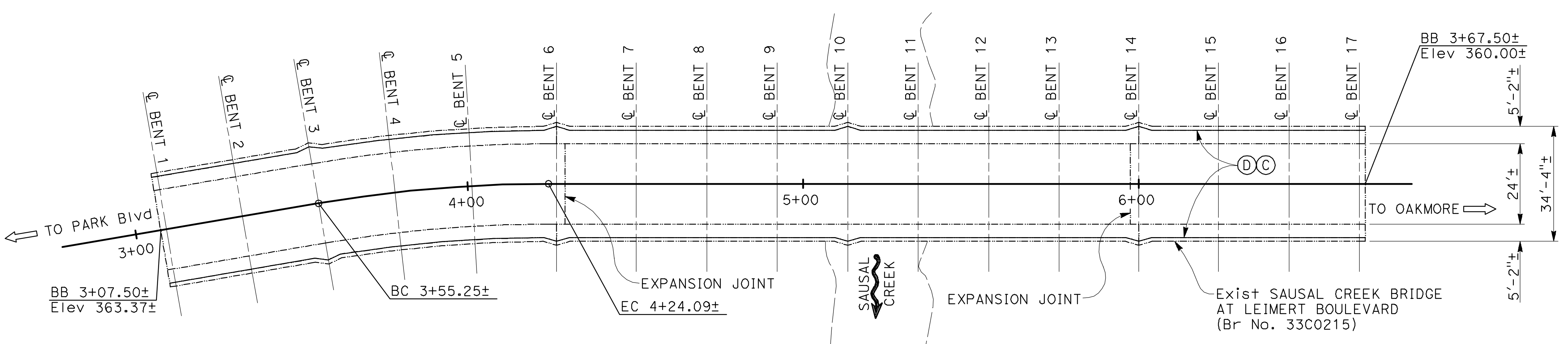
DEVELOPED ELEVATION

1" = 20'



TYPICAL SECTION

1/8" = 1'-0"



Curve Data
R = 406.60'±
△ = 09°42'±
T = 34.50'±
L = 68.84'±

PLAN

1" = 20'

NOTES:

(A) Indicates limits of carbon fiber reinforced polymer composite casing system

(B) Repair spalled surface area

(C) Repair exist chain link railing

(D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating

(E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:
Indicates Existing Structure
Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/3/17)

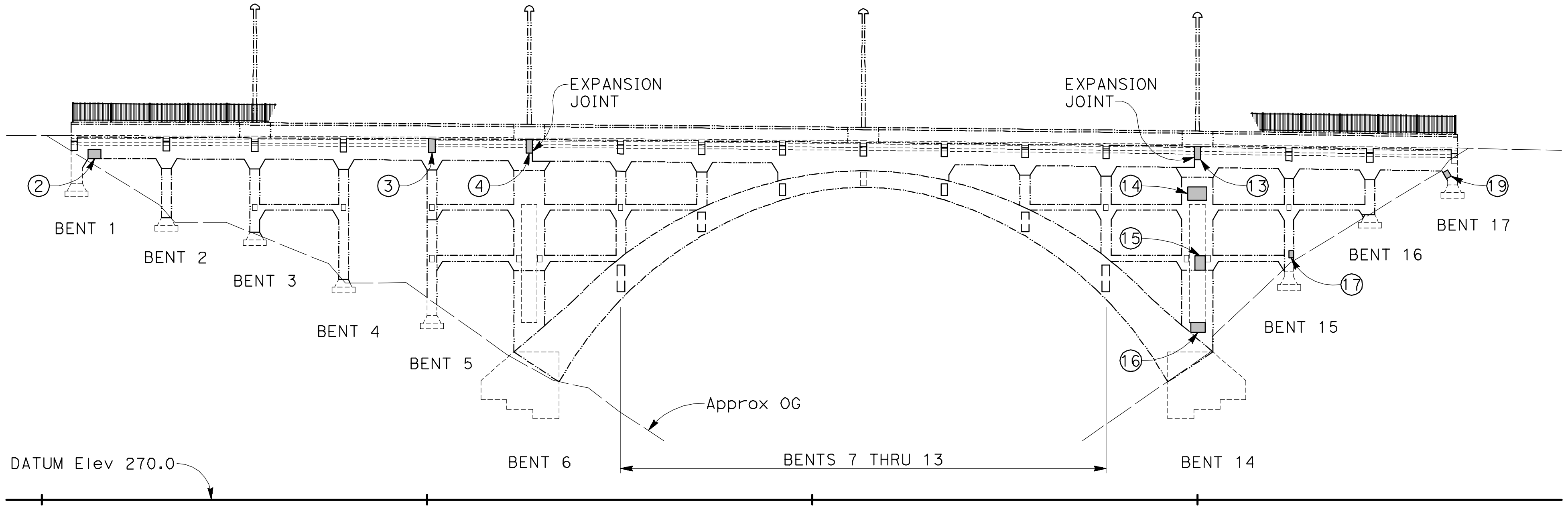
DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

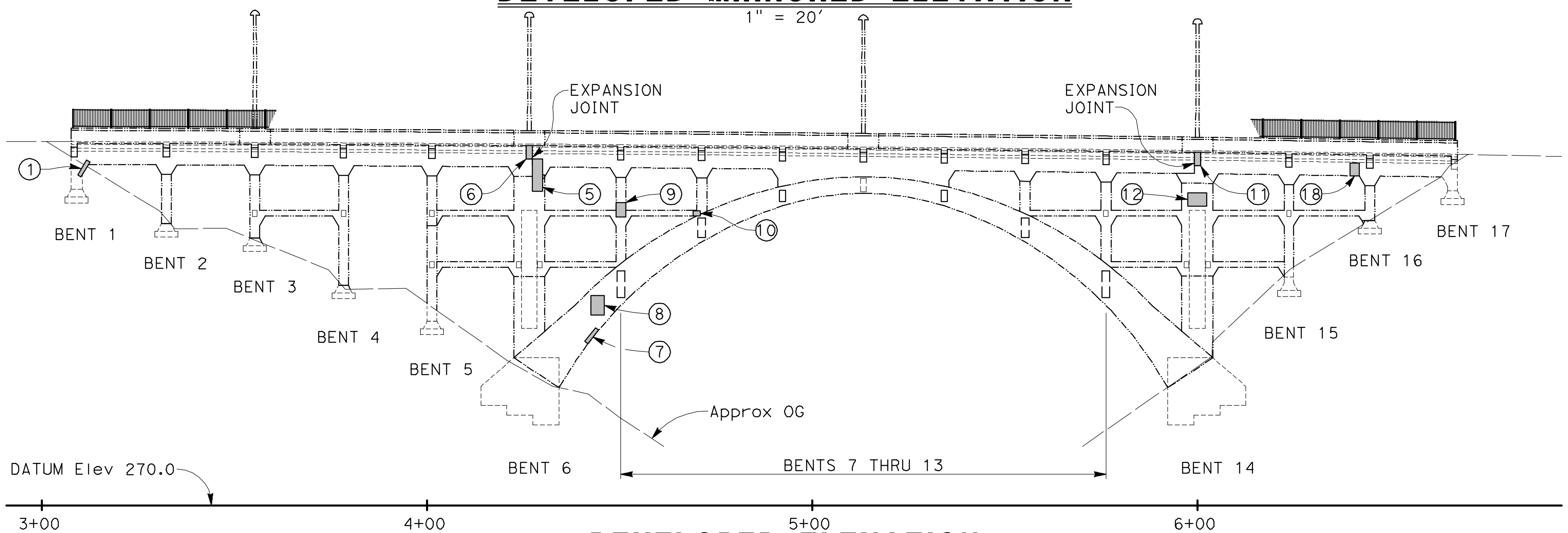
GENERAL PLAN
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

SHEET NUMBER
S-1
OF SHEETS
DRAWING NO.
2016051-1
2016051 (2016051S1)



DEVELOPED MIRRORED ELEVATION

1" = 20'

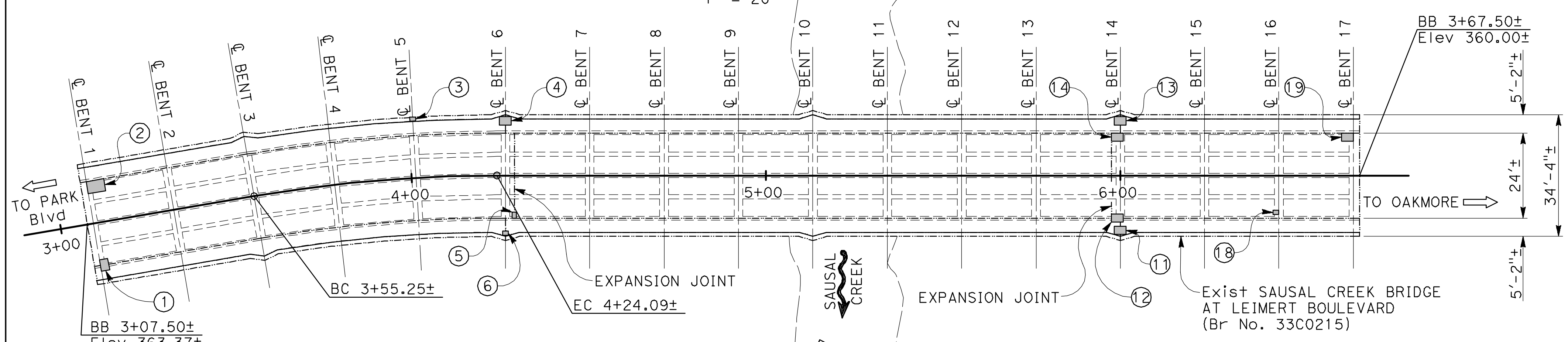


DEVELOPED ELEVATION

1" = 20'

SUMMARY OF SPALLED SURFACE AREAS		
LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)		
LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD



PLAN

1" = 20'

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/22/17)

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
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DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS

SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD

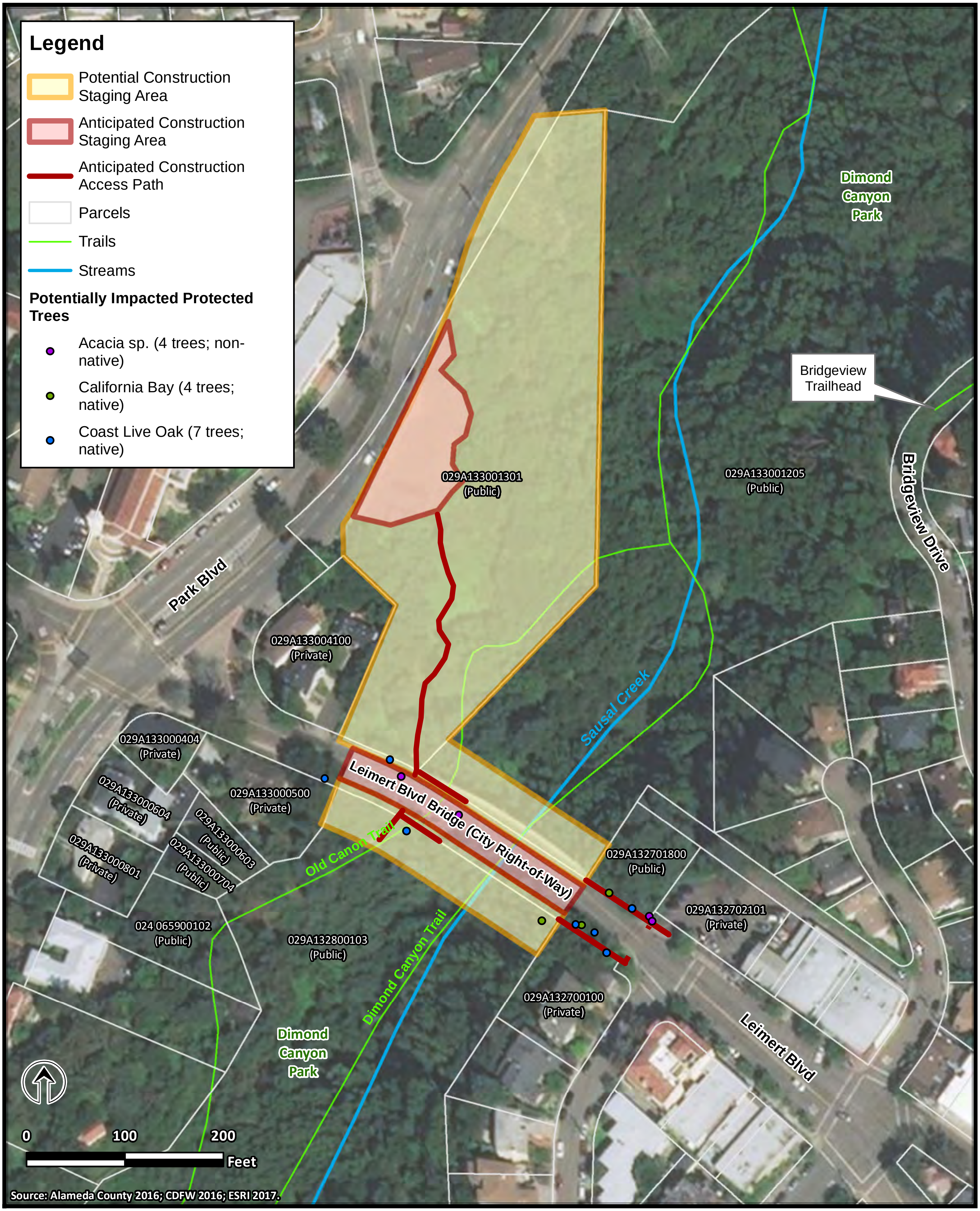
OAKLAND CALIFORNIA

2016051 (2016051S2)

SHEET NUMBER S-2
OF SHEETS
DRAWING NO. 2016051-2

ATTACHMENT E

Construction Staging Areas



CITY OF OAKLAND

ATTACHMENT E: CONSTRUCTION STAGING AREAS

Leimert Boulevard Bridge Seismic Retrofit Project

Attachment G: Water Quality Memorandum

CITY OF OAKLAND

Memorandum

To: **Tom Holstein**
Caltrans, District 4
111 Grand Avenue
Oakland, CA 94612

Date: January 22, 2018

File No.: Leimert Boulevard Bridge
Seismic Retrofit Project
04-Alameda-Leimert Boulevard
Bridge No. 33C0215
Federal Project No. STPLZ-5012(124)

From: Melissa Logue
Senior Associate Environmental Planner
GPA Consulting
2600 Capital Avenue, Suite 100
Sacramento, CA 95816
(310) 792-2624

For: Mohammad Barati
City of Oakland
250 Frank Ogawa Plaza, Suite 4314
Oakland, CA 94612
(510) 238-7280

Subject: **Leimert Boulevard Bridge Seismic Retrofit Project – Water Quality Memorandum**

This memorandum (memo) includes a discussion of the project, the regulatory framework, and the physical setting of the project area with respect to water quality. The memo also provides data on surface water and groundwater resources within the project area, and recommends avoidance and/or minimization measures for potential impacts.

Project Description

Introduction

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see **Attachment A**, Regional Location). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area) (see **Attachment B**, Project Location and **Attachment C**, Project Footprint).

The bridge is a 357-foot long open spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock.

The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, include primarily residences, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge.

The bridge was designed by George Posey, who designed notable structures in Oakland. The bridge was constructed in 1926, and was designated as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB). The bridge has also been determined eligible for listing on the National Register for Historic Places (NRHP).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Project Purpose

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Sausal Creek Bridge at Leimert Boulevard to the extent feasible.

Project Need

The project area is located in a region of relatively high seismicity, and is less than a mile southwest of the Hayward fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event.

Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete (AC) overlay, which shows heavy cracking in both longitudinal and transverse direction. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the reinforcement inside.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or materials from falling off the bridge.

Seismic retrofit of the bridge was previously proposed, and a proposed design was previously completed by URS Greiner Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements, process the environmental CEQA and NEPA clearances, certify the required right of way, and issue the project for bid. However, during the course of the environmental review, the State Historic Preservation Office (SHPO) and the LPAB concluded that the proposed bridge retrofit would have a significant impact under CEQA on the historic status of the bridge and, therefore, rejected the proposed retrofit plans. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge’s landmark status and historic integrity.

Proposed Project

The following improvements are proposed (see **Attachment D**, Engineering Drawings):

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.
- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.
- Localized "shotcrete" would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.
- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.
- Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.
- The chain link fence would be repaired or replaced.

Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane or full bridge closures may be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane or full bridge closures may be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane or full bridge closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic or night time hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine months, and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

- Mobilization (5 days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Clean Expansion Joint (5 days);
- Shotcrete Footing Slope Paving (5 days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (10 days).

Measures for preventing material, equipment, and debris from falling into Sausal Creek would be implemented during construction.

Regulatory Setting

Clean Water Act

The United States Army Corps of Engineers (USACE) regulates the placement of dredged and fill material into waters of the United States (U.S.), including wetlands, under Section 404 of the Clean Water Act (CWA). The limits of USACE jurisdiction extend to the ordinary high water mark. No discharge of dredged or fill material into waters of the U.S. is permitted unless authorized under a USACE Nationwide Permit or Individual Permit. For all work subject to an USACE Section 404 permit, project proponents must obtain a Water Quality Certification from the applicable RWQCB under CWA Section 401 stating that the project would comply with applicable water quality regulations.

Water Quality Control Plan for the San Francisco Bay Basin

The State Water Resources Control Board (SWRCB) determines water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving basin plans, Total Maximum Daily Loads (TMDL), and National Pollutant Discharge Elimination System (NPDES) permits. Regional Water Quality Control Boards (RWCQB) are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility. The San Francisco RWQCB requires permits for any project that may potentially adversely affect a creek or waterway in the region.

The SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of TMDLs, which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

The San Francisco Bay RWQCB has adopted a Water Quality Control Plan (Basin Plan) to form a basis for water quality regulation in the region. The Basin Plan includes a description of beneficial water uses protected by the RWQCB, as well as water quality objectives and implementation plans for protecting these beneficial uses, including TMDLs. The Basin Plan includes objectives for ocean waters, surface waters, groundwater, as well as specific objectives for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and the Alameda Creek Watershed.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. The act predates the CWA and regulates discharges to waters of the state. Waters of the state include groundwater and surface waters not considered waters of the U.S. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDR) and may be required even when the discharge is already permitted or exempt under the CWA.

California Fish and Game Code Section 1602 Streambed Alteration Agreement

In compliance with California Fish and Game Code Section 1602, the California Department of Fish and Wildlife (CDFW) issues agreements for any alteration of a river, stream or lake where fish or wildlife resources may be adversely affected. Streams and rivers are defined by the presence of a channel bed, banks, and perennial, intermittent, or ephemeral flow of water. CDFW typically extends the limits of their jurisdictional laterally beyond the channel banks for streams to the outer edges of riparian vegetation. The permit governs activities that modify the physical characteristics of the stream as well as activities that may affect fish and wildlife that use the stream and surrounding habitat.

Alameda County Clean Water Program

The Alameda County Clean Water Program was developed to facilitate local compliance with the CWA in order to protect creeks, wetlands, and the San Francisco Bay. The program is required in Alameda County; the cities of Alameda County, including Oakland; the Alameda County Flood Control and Water Conservation District; and the Zone 7 Water Agency. The San Francisco Bay RWQCB issues permits to the program and member agencies for activities involving the discharge of stormwater.

City of Oakland Creek Protection, Stormwater Management and Discharge Control Ordinance

Since 1997, the City's Creek Protection, Stormwater Management and Discharge Control Ordinance No. 12024 has provided guidelines for construction projects in or near creeks to minimize negative impacts to creeks (City of Oakland, 2017). The ordinance requires varying levels of regulation for a project depending on the type and location of work, and may require the adoption of a Creek Protection Plan (City of Oakland, 1997). The criteria for permit approval depends on if a project would:

- Discharge a substantial amount of pollutants;
- Substantially modify creek flow or capacity;
- Cause substantial erosion or bank instability;
- Adversely affect the riparian corridor, vegetation, or wildlife;
- Substantially degrade the visual quality of the riparian corridor;
- Be consistent with the purpose of the Ordinance; or

- Endanger public or private property or threaten public health or safety.

The ordinance provides typical conditions of permit approval, which may include but not be limited to riparian restoration, bank stabilization measures, stormwater quality protection measures, drainage controls, erosion controls, and protective fencing. In addition, permits would not be granted to projects and activities that do not meet the criteria listed in the ordinance (City of Oakland, 1997).

Under the City's Creek Protection, Stormwater Management and Discharge Control Ordinance, there are four categories of creekside work requiring a Creek Protection Permit. The project falls under Category 4, which includes projects in which exterior work is conducted from the centerline of the creek to within 20 feet from the top of the creek bank. Category 4 projects require the submittal of a Landscape Plan, Creek Protection Plan, and Hydrology Report. The Creek Protection Plan includes a description of measures to protect the creek, creek banks, riparian vegetation, wildlife, surrounding habitat, and the creek's natural appearance during and after construction.

City of Oakland Standard Conditions of Approval

The City developed the *Standard Conditions of Approval* to achieve consistency for project approval, in accordance with CEQA Guidelines sections 15183 and 15183.3. The *Standard Conditions of Approval* contains Environmental Protection Measures to substantially mitigate environmental effects. In cases where a project will result in environmental impacts despite implementation of the *Standard Conditions of Approval*, the City will determine if there are other feasible mitigation measures to reduce significant impacts.

Affected Environment

The project is in the city of Oakland, in Alameda County, in the central portion of the San Francisco Bay Area of California. The project area is surrounded by the Oakland Hills to the east and the San Francisco Bay to the west. The elevation in the project area is approximately 360 feet above mean sea level (msl).

Hydrology

Surface Waters

Based on the classification system for surface waters employed by the San Francisco Bay RWQCB, as defined by the United States Geologic Survey (USGS), the project area is in the San Lorenzo Creek-Frontal San Francisco Bay Estuaries Watershed, which covers approximately 106,302 acres; and the Sausal Creek-Frontal San Francisco Bay Estuaries Subwatershed, which covers approximately 7,344 acres (see **Attachment E**, Watershed) (UC Davis Sustainability Indicators Group, n.d.a; UC Davis Sustainability Indicators Group, n.d.b). Regional surface waters in Alameda County include Cobbledick Creek, Escher Creek, Palo Seco Creek, Sausal

Creek, Shephard Creek, and the Oakland Estuary (Alameda County Flood Control and Water Conservation District, 2017).

The Oakland Museum of California and the Alameda County Flood Control and Water Conservation District delineate watersheds at a smaller scale than the USGS (Oakland Museum of California, 2010; Alameda County Flood Control and Water Conservation District, 2017). According to the Creek and Watershed Map of Oakland and Berkeley, the project area is in the Sausal Creek Watershed, which spans approximately 2,656 acres in Oakland (Oakland Museum of California, 2010). Approximately 80 percent of the watershed is urbanized with a mixture of commercial and residential uses (Friends of Sausal Creek, n.d.).

Sausal Creek is the only surface water that flows through the project area. The creek begins approximately half a mile north of the project area at the confluence of Shephard Creek and Palo Seco Creek in the Oakland Hills (Alameda County Flood Control and Water Conservation District, 2017). In its upper reaches, Sausal Creek has a natural channel for part of its length as it flows through Dimond Canyon. Upstream of the project area, the flow is controlled by grade control structures, culverts, and cement linings, which were constructed in the 1930s as part of the public works projects under the Works Progress Administration (Aquatic Outreach Institue and the Friends of Sausal Creek, 1998). Downstream of the project area, several grade control structures have been removed as a result of ongoing restoration efforts led by the Friends of Sausal Creek. In the flatter, urbanized areas of Oakland west of Interstate 580, Sausal Creek alternates between culverted sections and open sections of creek. Sausal Creek eventually empties into the Oakland Estuary in the San Francisco Bay approximately three miles south of the project area (Alameda County Flood Control and Water Conservation District, 2017).

According to the San Francisco Bay RWQCB Basin Plan, beneficial uses of Sausal Creek are cold freshwater habitat (COLD), preservation of rare and endangered species (RARE), fish spawning (SPWN), warm freshwater habitat (WARM), wildlife habitat (WILD), water contact recreation (REC-1), and noncontact water recreation (REC-2).

Sausal Creek is an impaired water body under Section 303(d) of the CWA, which is a water body that fails to meet standards for specific pollutants. According to the 2016 California List of Water Quality Limited Segments, Sausal Creek is characterized as a Category 4B water segment, which is a water segment where all of its 303(d) listings are being addressed by actions other than TMDLs (San Francisco Bay Regional Water Quality Control Board, 2017). The pollutant affecting the creek is identified as trash with the source unknown.

Floodplains

As shown on Federal Emergency management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Numbers 06001C0080G and 06001C0087G, the project area is located in Zone X, which is defined as areas determined to be outside the 0.2 percent annual chance floodplain (see **Attachment F**, FEMA FIRM) (Federal Emergency Management Agency, 2009). Therefore, the project area is not located on a floodplain. In addition, the project area is not located within or adjacent to a federal regulatory floodway.

A Hydraulics Technical Memo was prepared by Avila and Associates on August 10, 2016 to provide a preliminary hydraulic analysis for the project. The Hydraulics Technical Memo determined that the 100-year water surface elevation of Sausal Creek below the bridge is 262 feet, which is almost 30-feet below the lowest structural member elevation of approximately 290 feet. (Avila & Associates, 2016). Because the project action would be approximately 30-feet above the 100-year water surface elevation, it would have no impact on the hydraulics of Sausal Creek.

Groundwater

The classification system for ground water was developed by the California Department of Water Resources (CDWR), and divides groundwaters into hydrologic regions, basins, and subbasins (California Department of Water Resources, 2003a). The project area is within the San Francisco Bay Hydrologic Region (HR), which covers approximately 2.88 million acres in San Francisco County and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda Counties (California Department of Water Resources, 2003b). Within the San Francisco Bay HR, the project is in the Santa Clara Valley Groundwater Basin (Basin) and the East Bay Plain Groundwater Subbasin (Subbasin).

The Subbasin is a northwest trending alluvial plain, bounded by San Pablo Bay to the north, Franciscan Basement rock to the east, the Niles Cone Groundwater Basin to the south, and extends into the San Francisco Bay to the west (California Department of Water Resources, 2004). Prior to development in the region, groundwater recharge in the Subbasin was primarily supplied by San Leandro and San Lorenzo Creeks. The channelization of streams and increase in pavement has contributed to a reduction in natural recharge of the Subbasin (East Bay Municipal Utility District, 2013).

Based on estimates from 1995, approximately 3,400 acre-feet of groundwater is extracted from the Subbasin per year, which supplies about two percent of the Subbasin's total water consumption (San Francisco Bay Regional Water Quality Control Board, 2017). As of 1999, there were approximately 4,700 wells in the East Bay Plain; however, many are inactive. Groundwater use from the Subbasin is limited due to high salts in the groundwater and the potential for saltwater intrusion. In addition, the Subbasin experiences high levels of contamination in the aquifers, primarily due to the release of fuels and solvents (California Department of Water Resources, 2004). Only the southern portion of the Subbasin, which begins south of the project area, has substantial storage capacity for municipal, industrial, and irrigation well production (East Bay Municipal Utility District, 2013). In Oakland, the groundwater is saturated by brackish water from the San Francisco Bay. Therefore, the water supply is dominated by imported surface water.

The Subbasin includes groundwater containing calcium bicarbonate in the upper 200 feet and sodium bicarbonate in depths of 200 to 1,000 feet. Total dissolved solids (TDS) values range from 360 to 1,020 milligrams per liter (mg/L) in the upper zone and from 310 to 1,420 mg/L in the lower depths (California Department of Water Resources, 2004).

Geology/Soils

Regional Geology

California is divided into 11 geomorphic provinces, which are naturally defined geologic regions that display a distinct landscape or landform. The project is in the central portion of the Coast Ranges Geomorphic Province, which is a series of low mountain ranges and northwest-trending valleys that run nearly parallel to the San Andreas Fault (California Geological Survey and California State Parks, 2015). The Coast Ranges are primarily composed of sedimentary rocks of late Mesozoic and Cenozoic origin (251 million years ago to present). The project area is underlain by Franciscan Complex rocks, which is comprised of Cretaceous and Jurassic sandstone with smaller amounts of shale, chert, limestone, and conglomerate (California Department of Transportation, 2012).

Soil Characteristics

The United States Department of Agriculture (USDA) Web Soil Survey indicates that the project area is primarily underlain by Maymen-Los Gatos complex (30 to 70 percent slopes) based on survey area data for Alameda County, California, Western Part (United States Department of Agriculture, Natural Resources Conservation Science, 2016). Both Maymen and Los Gatos soils were formed from the weathering of sedimentary rock.

Maymen soils are somewhat excessively drained with a water table depth of more than 80 inches, and very high runoff class. At zero to 19 inches, the soil profile consists of loam, and from 19 to 23 inches, the soil profile consists of unweathered bedrock. Like Maymen soils, Los Gatos soils have a water table depth of 80 inches and a very high runoff class, but are well drained. From zero to 40 inches, the soil profile consists of loam, and from 40 to 44 inches the soil profile consists of unweathered bedrock.

Soil Erosion Potential

The composition, moisture, and compaction of soil are all major factors in determining soil erosion potential. Sediments containing more clay tend to be more resistant to erosion than those with sand or silt, as clay helps to bind soil particles together. In addition, soils with high levels of organic materials are often more resistant to erosion because the organic materials create a stronger, more stable soil structure (United States Department of Agriculture, Soil Conservation Service, 1990).

The soil erodibility factor K indicates the erodibility of whole soil. The estimates of the K factor are based primarily on percentage of silt, sand, and organic matter; and on soil structure and saturated hydraulic conductivity. In the project area, the K factor is 0.37 (California Department of Transportation, 2012). A K factor between 0.25 and 0.4 indicates that the soils have a moderate potential for erosion because the soils are medium textured, and therefore have a moderate susceptibility to detachment and produce moderate runoff (Michigan State University, 2002).

Maymen soils belong to Hydrologic Soil Group D, which include clay loam, silty clay loam, sandy clay, silty clay, or clay (Purdue University College of Engineering, n.d.). This soil group has the highest runoff potential, with low infiltration rates. Los Gatos soils belong to Hydrologic Soil Group C, which are sandy clay loam soils. This soil group also has low infiltration rates, often consisting of a layer that impedes the downward movement of water and fine-textured soils. These soils have the second highest runoff potential.

Environmental Consequences

Short-Term Construction Impacts

Construction activities associated with the project would include seismic retrofits on the bridge, such as wrapping the concrete members on the bridge, applying mortared finish and localized shotcrete, removing and replacing AC overlay with polyester concrete overlay, removing graffiti paint, and patching spalled concrete. Minor excavation to a depth of about three feet around the base of Bent 15 would be required to prepare the ground surface for the application of the shotcrete around the bent footing. Vegetation removal would also be required to access areas around the bridge.

Excavation would not be deep enough or extensive enough to reach or contaminate groundwater used for the water supply. Therefore, the project would not affect groundwater quality

The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Because scaffolding would be suspended from the existing bridge, work within the Sausal Creek channel would be limited.

Graffiti paint would also be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. The chemical strippers on the list do not contain methylene chloride or methanol, which would reduce the potential for harmful pollutants entering Sausal Creek. In addition, a water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.

During construction, excavation, vegetation removal, and other construction activities could result in bank erosion or cause dust and soil to fall into the creek. In addition, during the bridge structure repair and application of concrete and other materials on the bridge, construction debris and materials could accidentally fall from construction areas into the creek below the bridge.

Additionally, oil, fuel, and other petroleum products from construction equipment could be accidentally released during construction. Therefore, the project has the potential to result in water quality impacts on surface waters.

The project would comply with the requirements of the Section 1602 Streambed Alteration Agreement permit, which requires implementation of protective measures to minimize erosion and prevent construction debris and other materials from entering the creek during construction. As a tributary to the San Francisco Bay, which is an interstate water body used in interstate or foreign commerce, Sausal Creek is considered a water of the U.S. and the state (United State Environmental Protection Agency, 2017). Because all proposed retrofit work would be performed above the ordinary high water mark of the creek, and measures to prevent contaminants from entering the creek would be implemented in compliance with the Section 1602 Streambed Alteration Agreement permit, the project would not result in impacts on waters of the U.S. and state. Therefore, a CWA Section 401 Water Quality Certification from the RWQCB and a CWA Section 404 Pre-Construction Notification from the USACE would not be required for the project.

The City's *Standard Conditions of Approval*, as listed in the Avoidance and Minimization Measures section of this memo, would also be incorporated into the project. The *Standard Conditions of Approval* include vegetation management requirements and implementation of a Creek Protection Plan to avoid or minimize erosion, sedimentation, and discharge into Sausal Creek during construction. Measures such as the use of tarps would also be implemented to prevent construction debris, materials, and petroleum products from being released into the creek.

With compliance with the requirements of the Section 1602 Streambed Alteration Agreement permit, implementation of the City's *Standard Conditions of Approval*, and compliance with other applicable water quality regulations and regulatory permits, the project would not be expected to result in substantial water quality impacts on surface waters.

Long-Term Operational Impacts

Because the project includes seismic retrofit of the existing bridge structure, implementation of the project would not result in a substantial increase of impervious surface area, and additional stormwater runoff is not anticipated. Because impervious surface area would not substantially increase, the project would not reduce the amount of pervious surfaces for groundwater to percolate into the soil and reach underground aquifers. Therefore, the project would not interfere with groundwater recharge. In addition, the repaired bridge would not increase the volume of traffic on the bridge because the number of lanes and the amount of traffic on the repaired bridge would remain unchanged. Therefore, the project would not result in additional vehicles that could release additional pollutants (e.g., oil, grease) into runoff.

The project design would not substantially modify the Sausal Creek channel because all proposed retrofits would be made to the existing bridge and outside of the 100-year flood elevation. Therefore, the project would not result in impacts related to floodplains.

Because the project would maintain existing runoff levels and standard road drainage features, and no additional pollutants would result from the project, the project would not be expected to result in substantial water quality impacts during operation.

Cumulative Impacts

The cumulative setting is considered the Sausal Creek Watershed, which spans approximately 2,656 acres in Oakland (Oakland Museum of California, 2010). Approximately 80 percent of the watershed is urbanized with a mixture of commercial and residential uses (Friends of Sausal Creek, n.d.). Sausal Creek is an impaired water body under Section 303(d) of the CWA, which is a water body that fails to meet standards for specific pollutants. According to the 2016 California List of Water Quality Limited Segments, Sausal Creek is characterized as a Category 4B water segment, which is a water segment where all of its 303(d) listings are being address by actions other than TMDLs (San Francisco Bay Regional Water Quality Control Board, 2017). The pollutant affecting the creek is identified as trash with the source unknown.

Previous and ongoing actions in the watershed have contributed, and continue to contribute to, past and current water quality impacts, which are considered cumulatively considerable because Sausal Creek has been listed as an impaired water body since at least 2010, according to the 2010 303(d) list (San Francisco Regional Water Quality Control Board, 2009).

During construction, the project would have the potential to contribute to cumulative water quality impacts in the Sausal Creek Watershed from the potential for erosion, and releases of dust/soil, construction debris, materials, oil, fuel, and other petroleum products into the creek, as discussed above. With compliance with regulatory permits and implementation of the City's *Standard Conditions of Approval*, project impacts would be substantially minimized. Future projects in the cumulative impact area would be expected to implement similar measures. In addition, potential impacts during construction would be temporary. Therefore, project construction would not result in a cumulatively considerable contribution to cumulative impacts.

During operation, the project would result in negligible or no impacts on water quality. The project would not result in an increase in impervious surfaces, and would therefore not substantially affect runoff. In addition, no changes in vehicle-related pollutants would result from the project. Therefore, project operation would not result in a cumulatively considerable contribution to cumulative impacts.

Avoidance and Minimization Measures

The project would comply with the City's *Standard Conditions of Approval* during construction to avoid or minimize adverse effects on water quality within Sausal Creek, described below.

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 diameter at breast height [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

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 (BMP) during construction and after construction to protect the creek. Required BMPs are identified below in sections (b), (c), and (d).

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 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 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.

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.

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.

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.

With compliance with the City's *Standard Conditions of Approval* and Creek Protection Permit requirements listed above, and compliance with applicable water quality regulations and regulatory permits, the project would not be expected to result in substantial water quality impacts.

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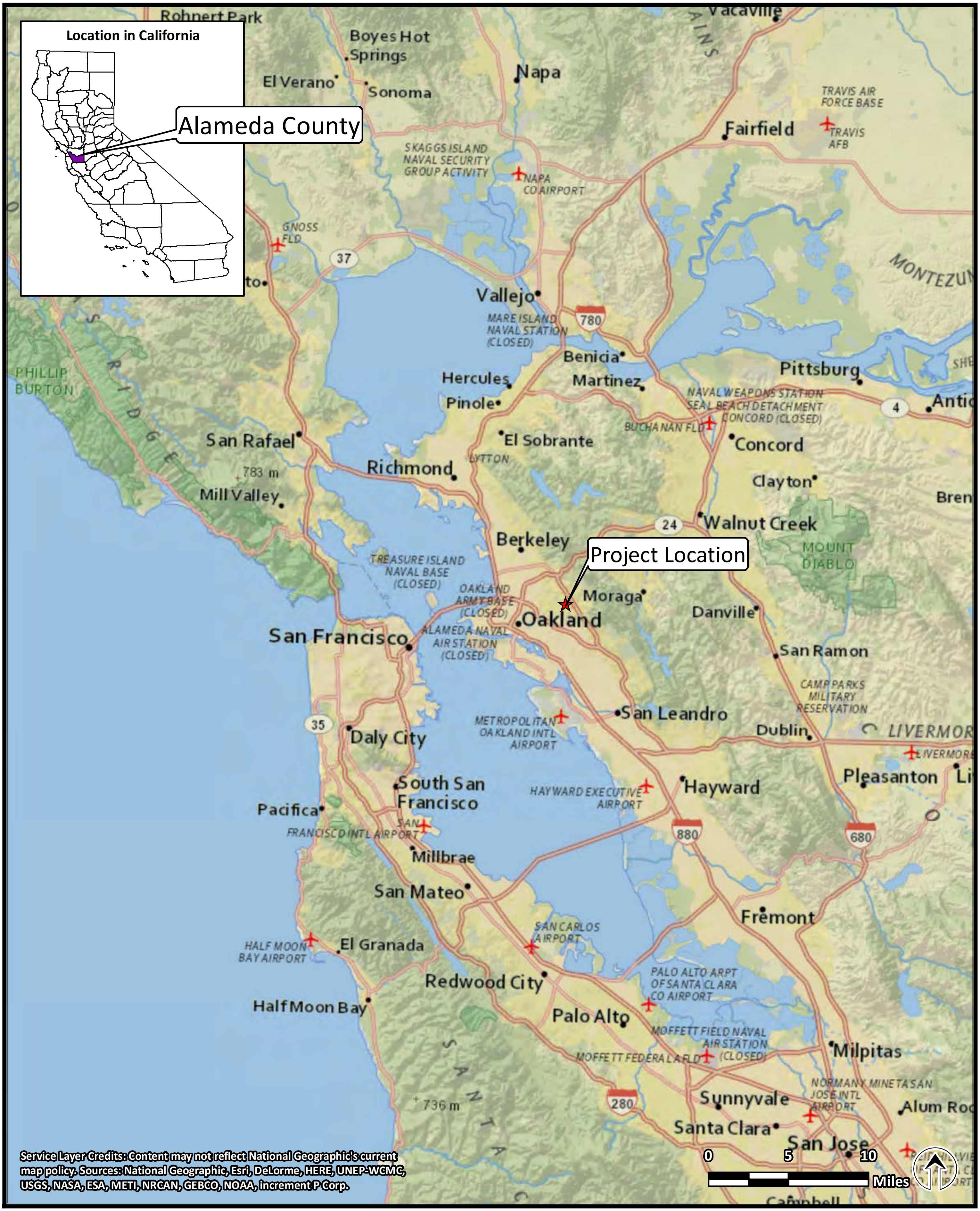
ATTACHMENT A

Regional Location

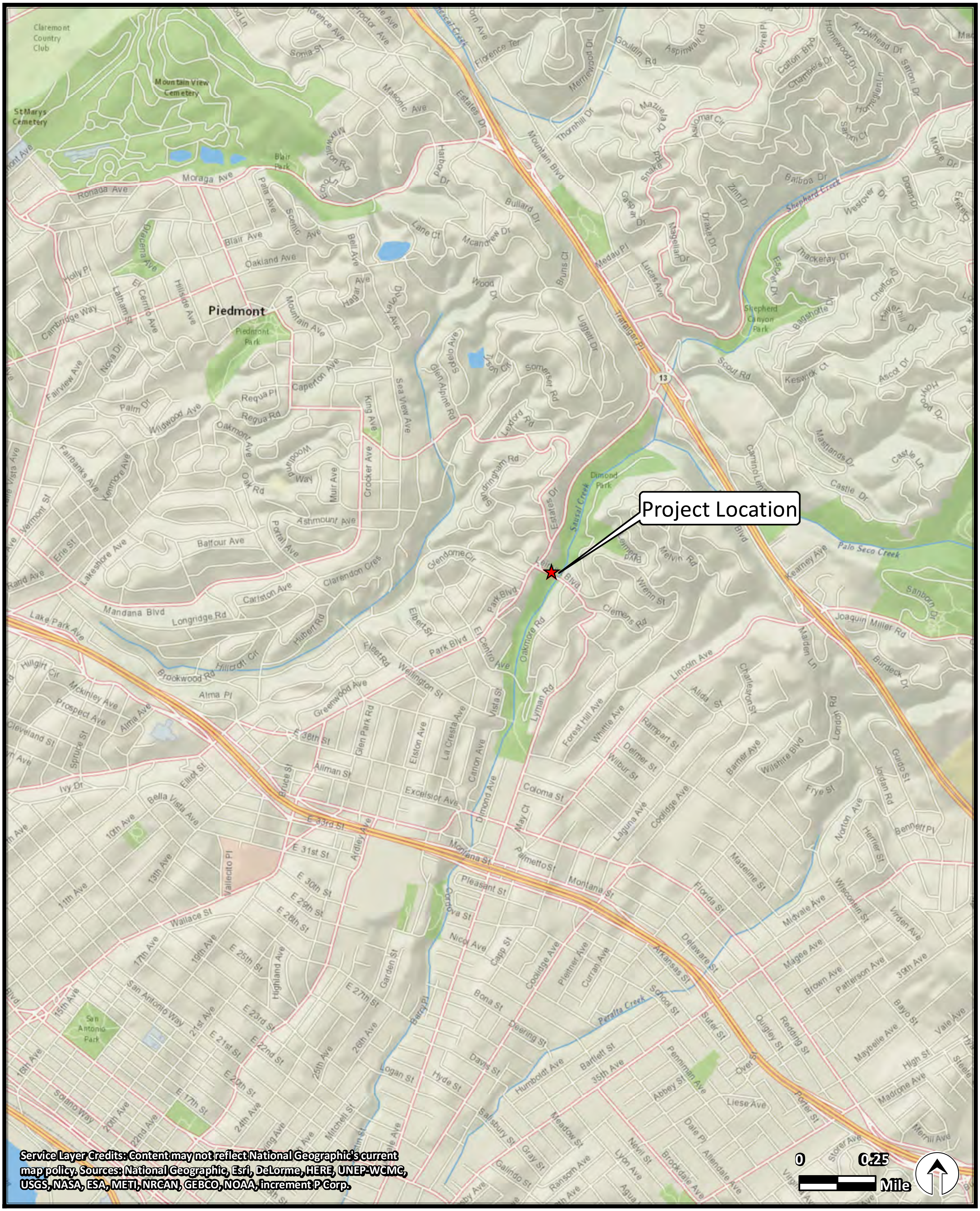


CITY OF OAKLAND

ATTACHMENT A. REGIONAL LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT B

Project Location

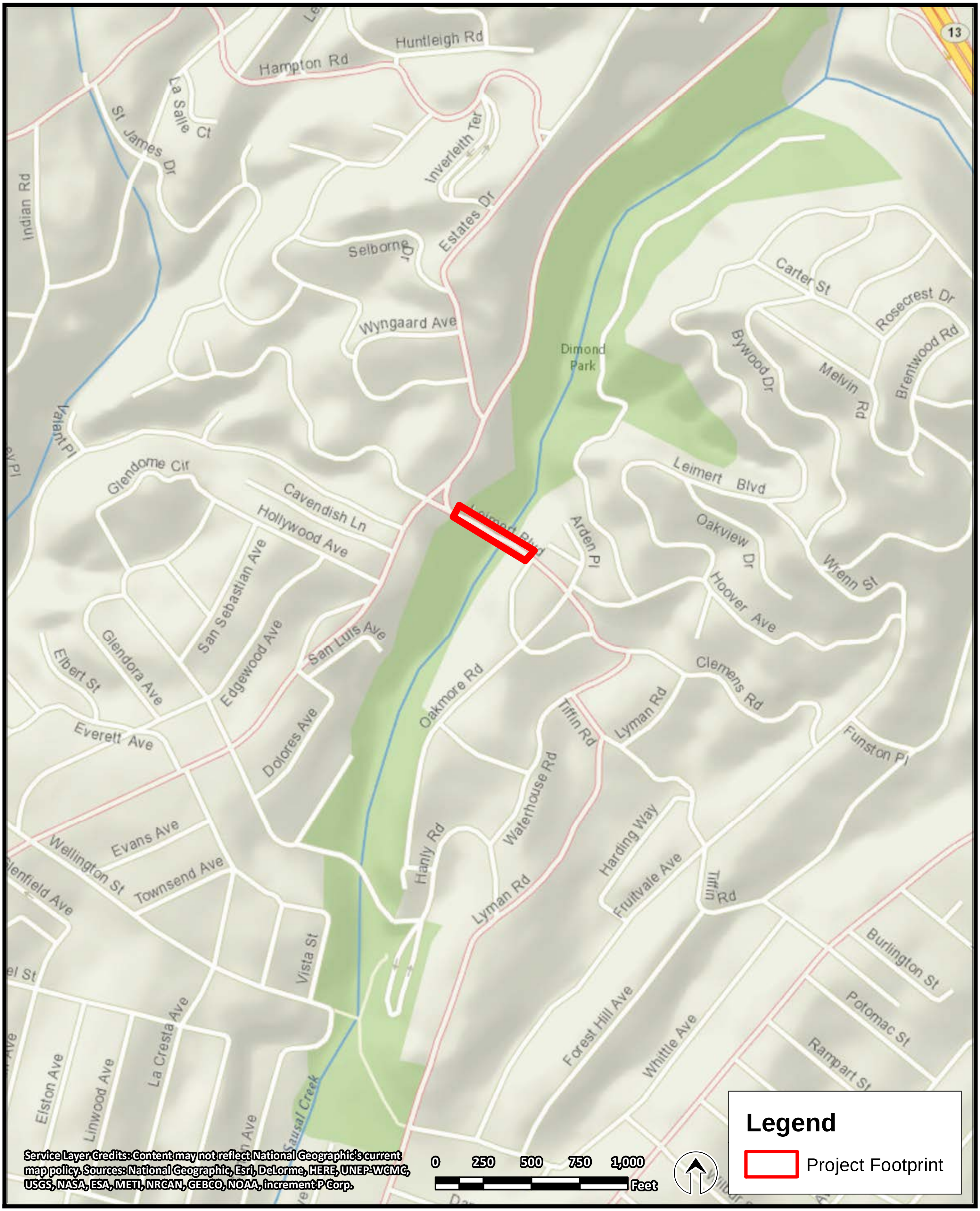


CITY OF OAKLAND

ATTACHMENT B. PROJECT LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT C

Project Footprint

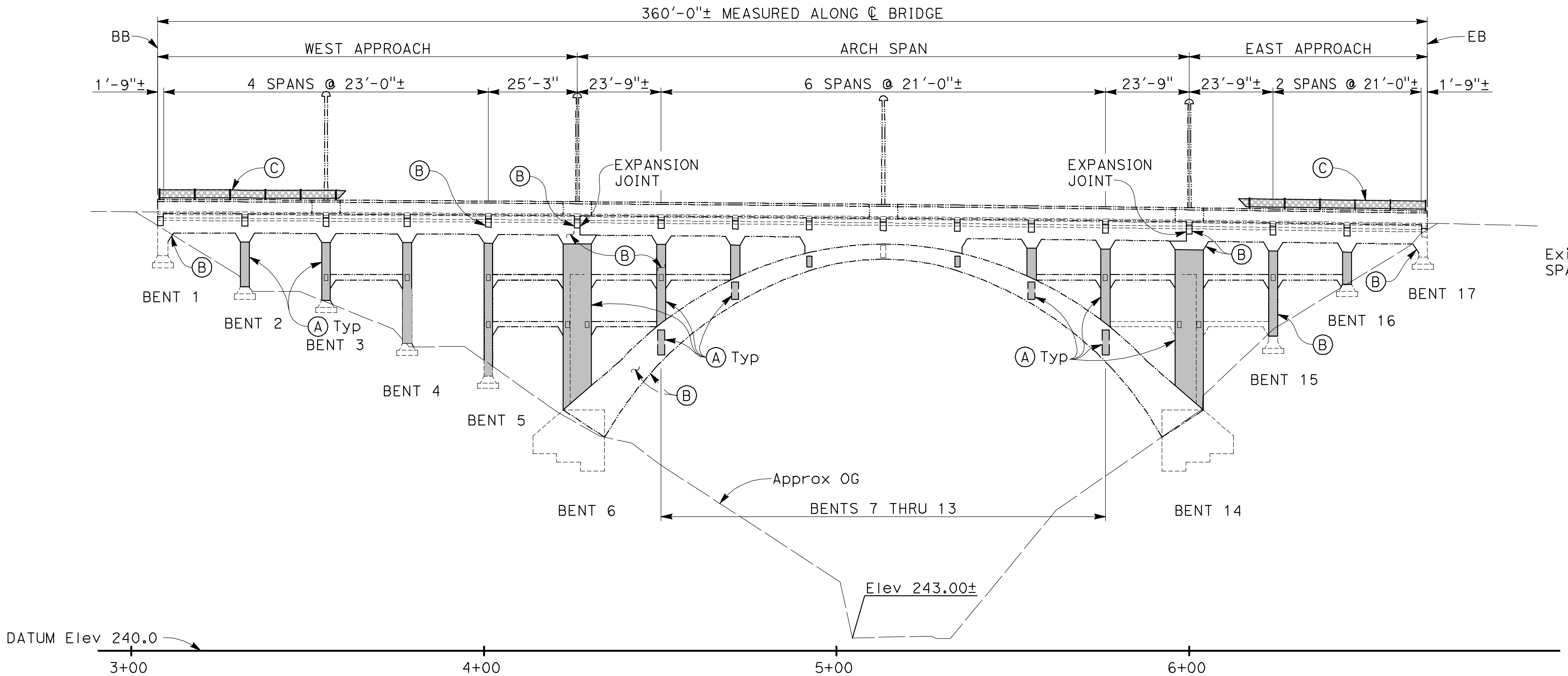


CITY OF OAKLAND

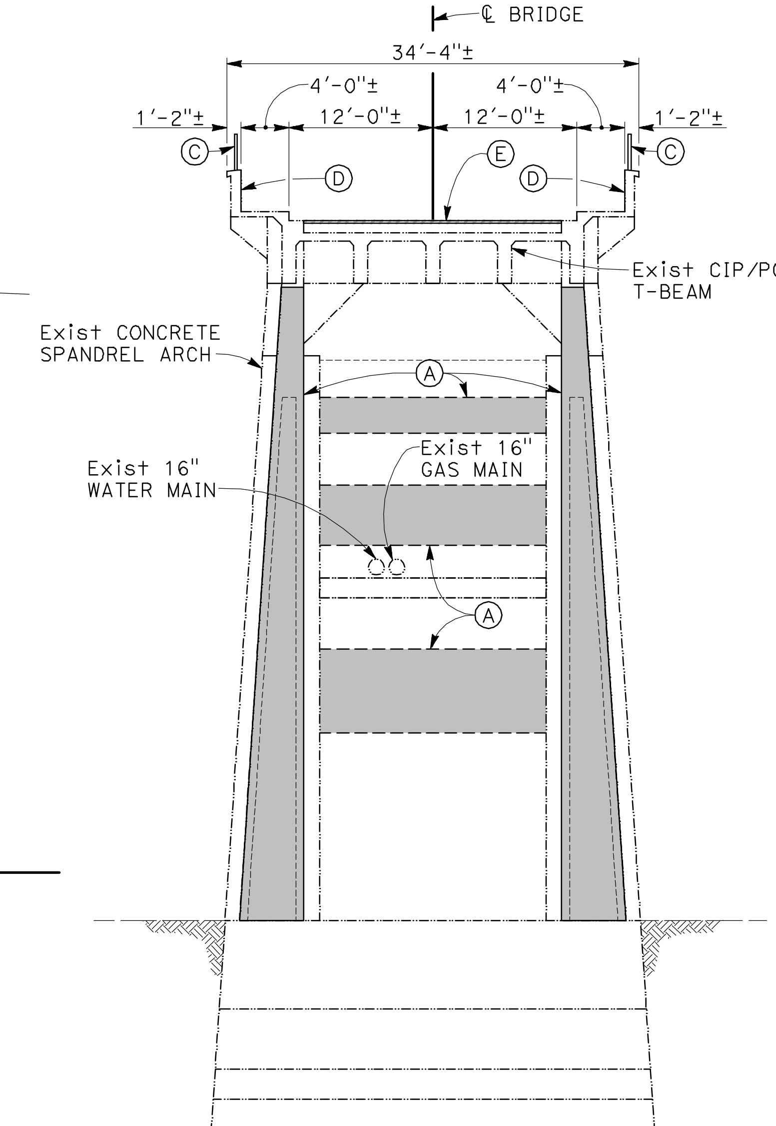
ATTACHMENT C. PROJECT FOOTPRINT
Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT D

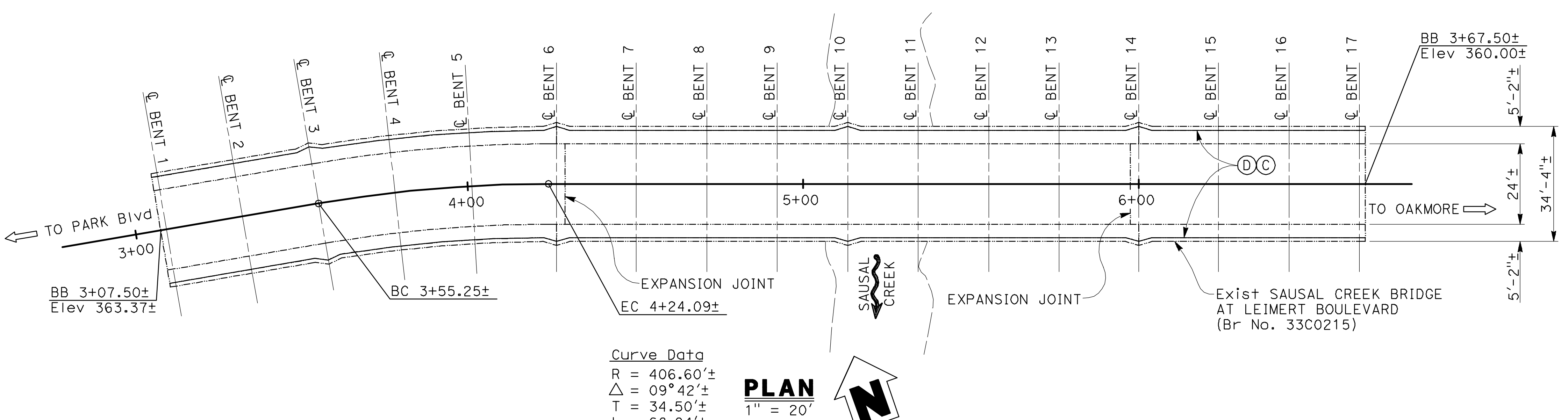
Engineering Drawings



DEVELOPED ELEVATION
1" = 20'



TYPICAL SECTION
1/8" = 1'-0"



Curve Data
R = 406.60'±
Δ = 09°42'±
T = 34.50'±
L = 68.84'±

PLAN
1" = 20'

NOTES:
(A) Indicates limits of carbon fiber reinforced polymer composite casing system
(B) Repair spalled surface area
(C) Repair exist chain link railing
(D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating
(E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:
Indicates Existing Structure
Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

CITY OF OAKLAND
DEPARTMENT OF ENGINEERING AND CONSTRUCTION
250 FRANK H. OGAWA PLAZA, SUITE 4314
OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/3/17)

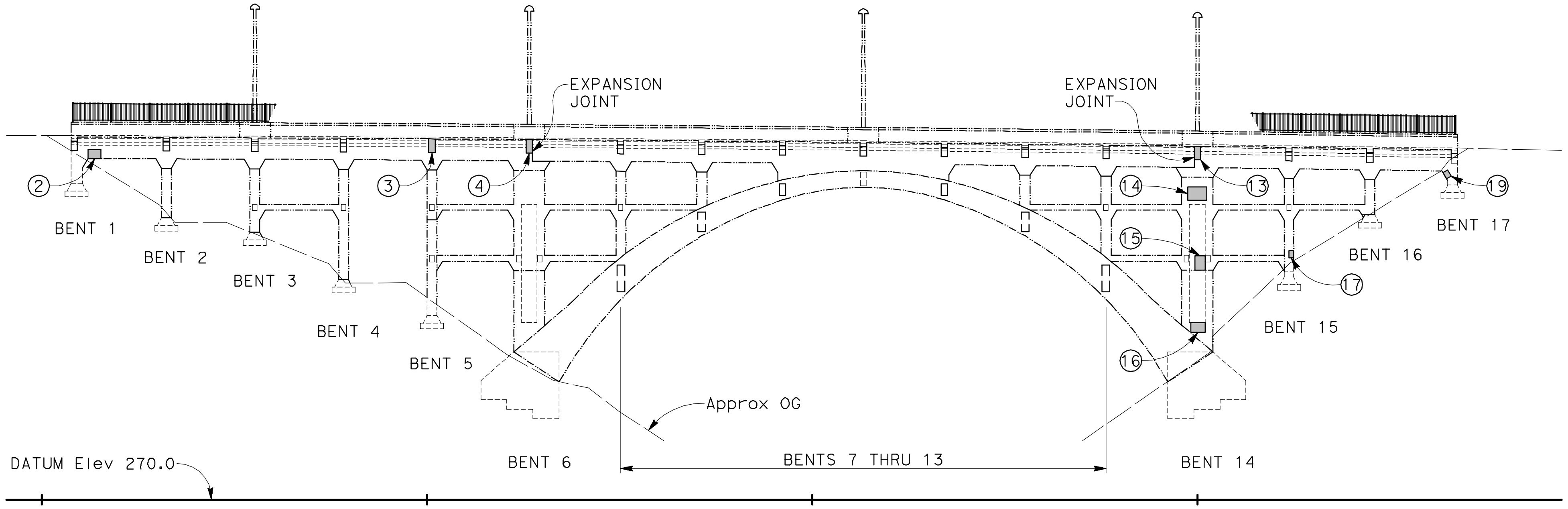
DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

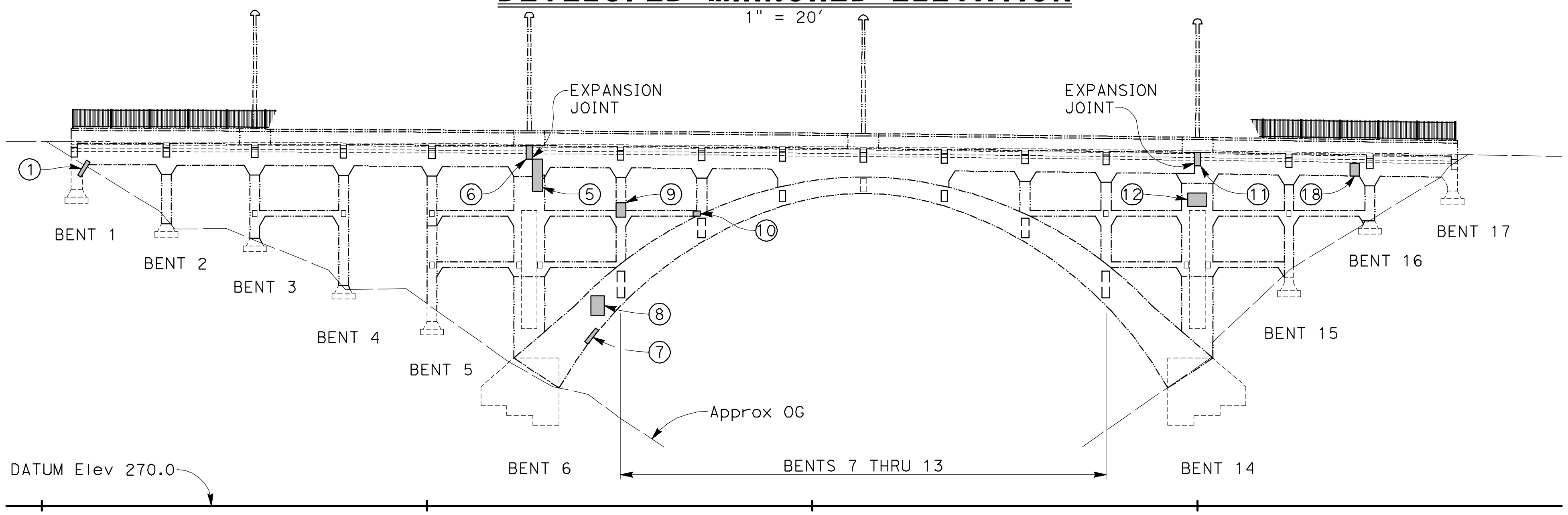
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

GENERAL PLAN
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

SHEET NUMBER
S-1
OF SHEETS
DRAWING NO.
2016051-1
2016051 (2016051S1)



DEVELOPED MIRRORED ELEVATION
1" = 20'



DEVELOPED ELEVATION
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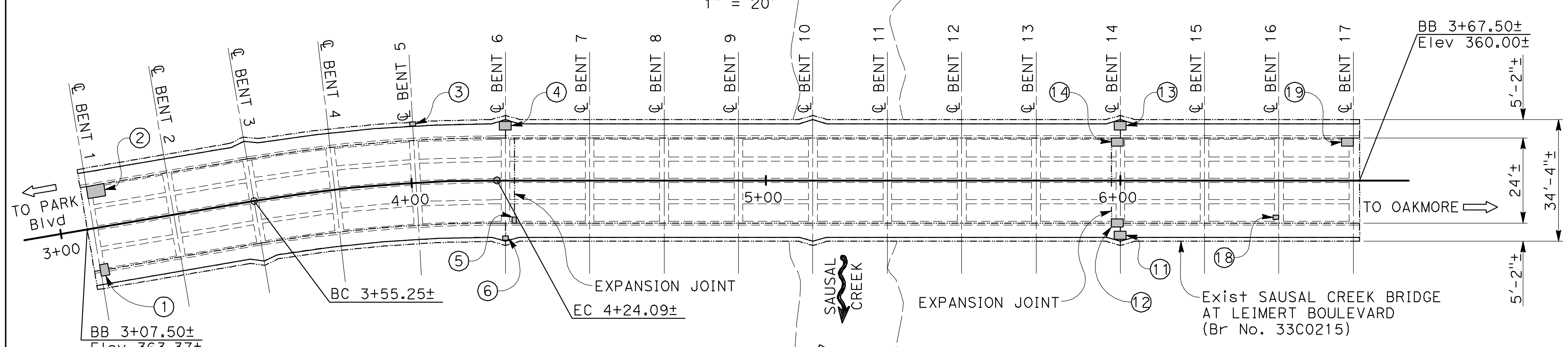

PLAN
1" = 20'

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

SUMMARY OF SPALLED SURFACE AREAS

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD

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OAKLAND, CA 94612
(510) 238-3437
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PLAN CHECK SET/NOT FOR CONSTRUCTION (2/22/17)

DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

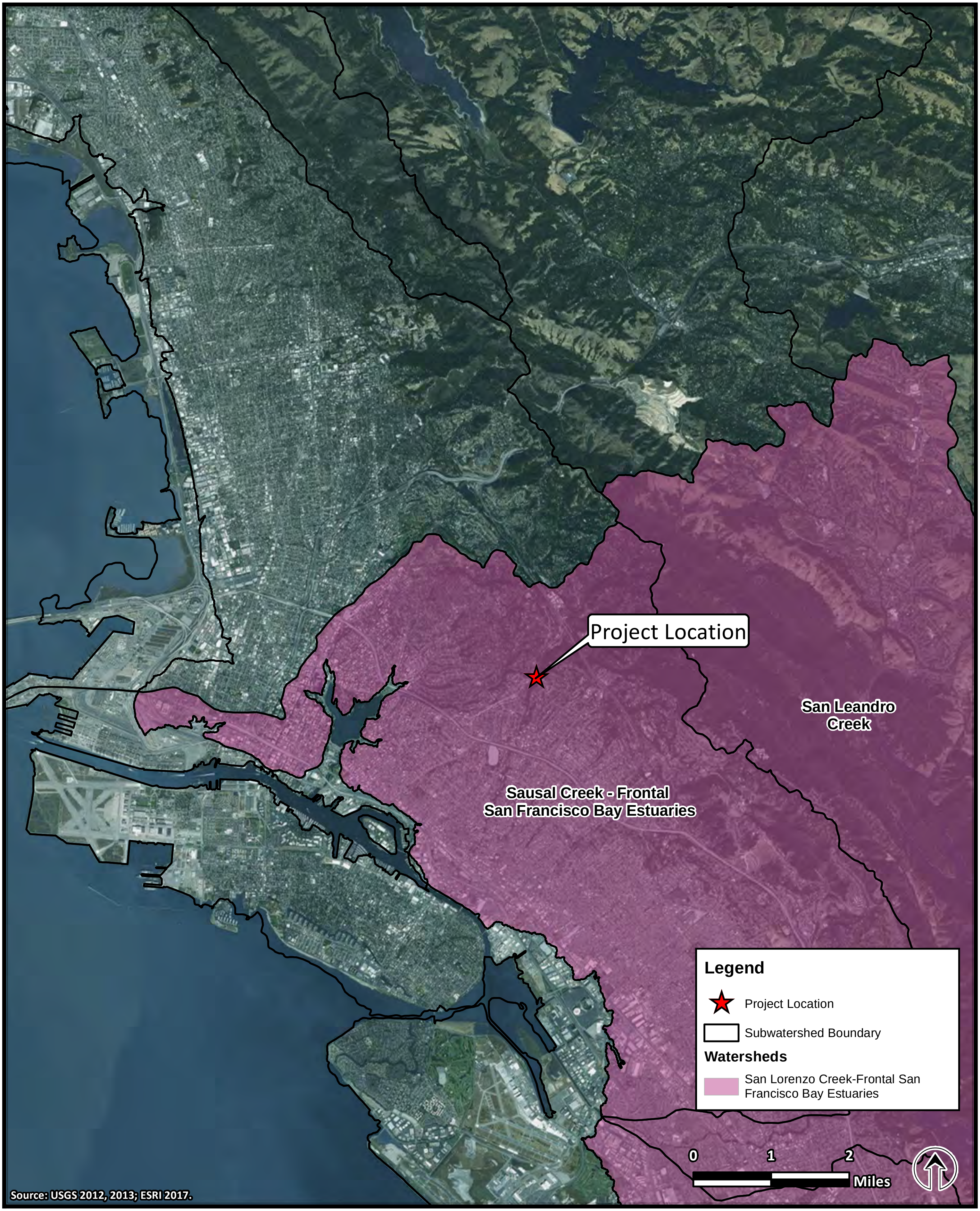
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA
2016051 (2016051S2)

SHEET NUMBER
S-2
OF SHEETS
DRAWING NO.
2016051-2

ATTACHMENT E

Watershed

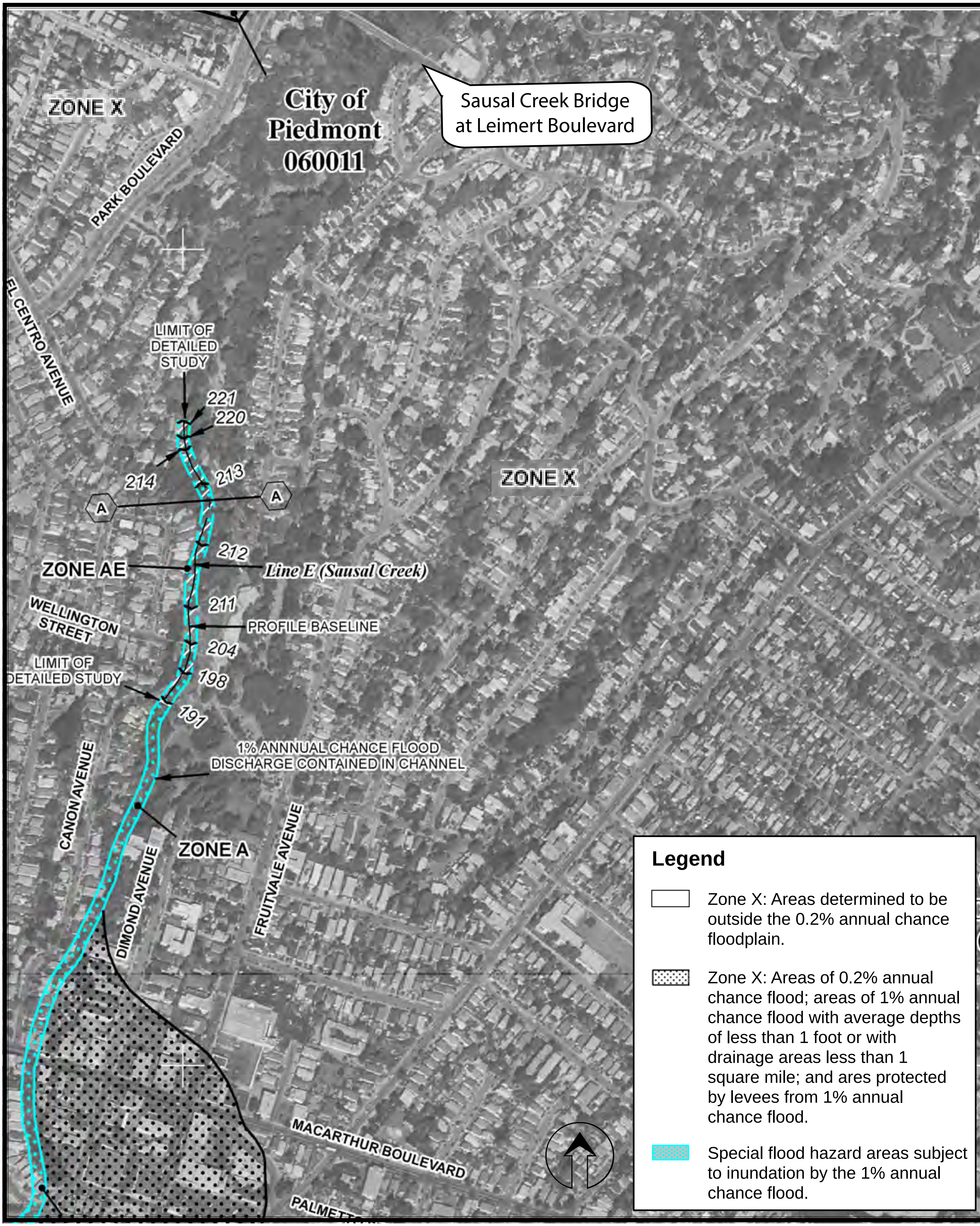


CITY OF OAKLAND

ATTACHMENT E: WATERSHED
Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT F

FEMA FIRM



CITY OF OAKLAND

ATTACHMENT F. FEMA FIRM
Leimert Boulevard Bridge Seismic Retrofit Project

Attachment H: Construction Traffic Memorandum

CITY OF OAKLAND

Memorandum

To: **Tom Holstein**
Caltrans, District 4
111 Grand Avenue
Oakland, CA 94612

Date: March 30, 2018

File No.: Leimert Boulevard Bridge Seismic Retrofit Project
04-Alameda-Leimert Boulevard
Bridge No. 33C0215
Federal Project No. STPLZ-5012(124)

From: Melissa Logue
Senior Associate Environmental Planner
GPA Consulting
2600 Capital Avenue, Suite 100
Sacramento, CA 95816
(310) 792-2624

For: Mohammad Barati
City of Oakland
250 Frank Ogawa Plaza, Suite 4314
Oakland, CA 94612
(510) 238-7280

Subject: **Leimert Boulevard Bridge Seismic Retrofit Project – Construction Traffic Memorandum**

This memorandum (memo) includes a discussion of the project, as well as a description of anticipated traffic closures and a traffic control plan required to accommodate construction activities for the project.

Project Description

Introduction

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see **Attachment A**, Regional Location). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area) (see **Attachment B**, Project Location and **Attachment C**, Project Footprint).

The bridge is a 357-foot long open spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock.

The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, include primarily residences, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge.

The bridge was designed by George Posey, who designed notable structures in Oakland. The bridge was constructed in 1926, and was designated as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB). The bridge has also been determined eligible for listing on the National Register for Historic Places (NRHP).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Project Purpose

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Sausal Creek Bridge at Leimert Boulevard to the extent feasible.

Project Need

The project area is located in a region of relatively high seismicity, and is less than a mile southwest of the Hayward fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event.

Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete (AC) overlay, which shows heavy cracking in both longitudinal and transverse direction. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the reinforcement inside.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or materials from falling off the bridge.

Seismic retrofit of the bridge was previously proposed, and a proposed design was previously completed by URS Greiner Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements, process the environmental CEQA and NEPA clearances, certify the required right of way, and issue the project for bid. However, during the course of the environmental review, the State Historic Preservation Office (SHPO) and the LPAB concluded that the proposed bridge retrofit would have a significant impact under CEQA on the historic status of the bridge and, therefore, rejected the proposed retrofit plans. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge’s landmark status and historic integrity.

Proposed Project

The following improvements are proposed (see **Attachment D**, Engineering Drawings):

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.
- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.
- Localized "shotcrete" would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.
- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.
- Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.
- The chain link fence would be repaired or replaced.

Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane bridge closures may be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane bridge closures may be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane bridge closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic or night time hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine months, and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

- Mobilization (5 days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Clean Expansion Joint (5 days);
- Shotcrete Footing Slope Paving (5 days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (10 days).

Measures for preventing material, equipment, and debris from falling into Sausal Creek would be implemented during construction.

Regulatory Setting

California Manual on Uniform Traffic Control Devices

Pursuant to California Vehicle Code Section 21400, the Caltrans 2014 *California Manual on Uniform Traffic Control Devices* (CA MUTCD) provides uniform standards and specifications for all official traffic control devices in California (Caltrans, 2017). The manual, revised in April 2017, is based on the federal guidelines developed by the Federal Highway Administration (FHWA) and was approved for use in California. The manual includes guidelines for temporary traffic control plans, and includes standards for detours and one-lane, two-way traffic control.

Caltrans Transportation Management Plan Guidelines

The Caltrans *Transportation Management Plan Guidelines* provides strategies to minimize traffic congestion during road work activities, such as recommendations for work windows and alternatives for road closures (Caltrans, 2015). These strategies are required for all planned construction and maintenance activities in California, and were meant to address the growing need for reconstruction, rehabilitation, operation, and maintenance of existing facilities.

City of Oakland Standard Conditions of Approval

The City developed the *Standard Conditions of Approval* to achieve consistency for project approval, in accordance with CEQA Guidelines, Sections 15183 and 15183.3 (City of Oakland, 2017). The *Standard Conditions of Approval* contain Environmental Protection Measures to substantially mitigate environmental effects. In cases where a project would result in environmental impacts despite implementation of the *Standard Conditions of Approval*, the City will determine if other mitigation measures are feasible to reduce significant impacts.

Affected Environment

The existing bridge is open to two-way traffic, with one lane traveling in each direction. The bridge deck has a total width of approximately 34 feet and four inches, including a 24-foot wide roadway, in addition to two 4-foot wide sidewalks and a 1-foot, 2-inch thick concrete railing on either side of the roadway.

The bridge connects Park Boulevard, a major through road, to local streets and roads, spanning between the Piedmont and Glenview neighborhoods to the west and the Oakmore neighborhood to the east. The existing route along Leimert Boulevard that is subject to temporary road closures is approximately 0.8 mile. This stretch of roadway spans from the intersection of Park Boulevard and Leimert Boulevard to the west, to the intersection of Lincoln Avenue and Tiffin Road to the east.

According to the 2014 Bridge Inspection Records Information System (BIRIS) Maintenance Report, average daily traffic (ADT) on the bridge in 2003 was 7,335 vehicles (California Department of Transportation, 2014). In 2036, ADT on the bridge is projected to be 10,724 vehicles. During construction, which is anticipated to start in 2020, ADT is projected to be approximately 9,081 vehicles.

Construction Traffic Impacts

During the 9-month construction period, partial lane closures and traffic handling are anticipated for approximately six to nine days. Partial lane closures are anticipated for repairing the expansion joints (one day), removing the existing AC overlay (one to two days), installing the polyester concrete overlay (two to three days), as well as craning equipment from the bridge deck to and from the construction area below the bridge (two to three days). Because of the project's proximity to residential areas, no construction activities would take place during nighttime hours; however, partial lane closures during nighttime may be required to allow for the curing of the polyester concrete overlay after it is installed during daytime activities.

To crane equipment from the bridge deck to and from the construction area below the bridge, a portion of the southeast-bound lane would be closed to traffic and used as a work zone. The work zone on the bridge would be approximately 18 feet wide and demarcated by traffic delineators and barricades. The northwest-bound lane would be used as a two-way traffic lane. The two-way traffic lane would feature a minimum clearance width of 10 feet, and one sidewalk would remain open to pedestrians. Similarly, to stage the construction on the deck for repair of the expansion joints, and installation of the polyester concrete overlay, a two-way traffic lane on the bridge would be required. However, the two-way traffic lane will also need to be staged and switched from the northwest-bound lane to the southeast-bound lane to accommodate the construction over the entire width of the bridge.

As required by the City's *Standard Conditions of Approval*, a Traffic Control Plan is proposed to maintain vehicle access during construction. The Traffic Control Plan would include proposed construction traffic handling, which would consist of a single-lane two-way traffic lane (see **Attachment E**, Traffic Control). Traffic handling would consist of flaggers stationed at each end of the work zone to direct traffic during the removal of the existing AC overlay and replacement with polyester concrete overlay. The flaggers would alternately allow traffic to travel from either direction (i.e., vehicles approaching the work area may be required to stop while vehicles coming from the opposite direction travel on the two-way traffic lane). With implementation of the Traffic Control Plan, minor delays to travel times are anticipated. To notify motorists of possible delays, advance notice signs would be installed on each end of the bridge at least two weeks before lane closures are implemented.

In addition, movement of construction equipment on the two-way traffic lane may require vehicles traveling from both directions to stop for up to several minutes. However, these road closures would be minimized during peak hours (6 a.m. to 10 a.m. and 3 p.m. to 7 p.m. during weekdays).

Temporary, short-term partial lane closures may result in temporary increases to emergency service provider response times; however the project would comply with the guidelines outlined in the CA MUTCD to minimize these impacts.

Despite the potential for delays, the two-way traffic lane would maintain access through the construction area for local residents, emergency vehicles, and other travelers. The use of the two-way traffic lane would be limited to approximately six to nine days during the 9-month construction period. In addition, traffic delays would be temporary and short-term. Any lane closures allowing for the travel of construction equipment on the two-way traffic lane would be brief and limited to off-peak hours. Therefore, partial lane closures are not anticipated to result in substantial impacts related to traffic.

Avoidance and Minimization Measures

The project would comply with the City's *Standard Conditions of Approval* during construction to avoid or minimize adverse effects related to construction traffic, described below.

The following condition applies to City construction projects:

68. Construction Activity in the Public Right-of-Way

b. Traffic Control Plan Required

Requirement: In the event of obstructions to vehicle or bicycle travel lanes, the contractor shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The contractor 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 contractor shall implement the approved Plan during construction.

c. Repair of City Streets

Requirement: The contractor 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.

Conclusion

During project construction, partial road closures would be required. Traffic handling would be temporary and short-term, and would result in minor delays to travel time. Any additional delays from brief partial road closures would be limited to off-peak hours. As required by the City's *Standard Conditions of Approval*, a Traffic Control Plan would be implemented during construction to maintain one-lane two-way traffic for the partial lane closure.

Because access in the project area would be maintained, and delay times would be minor, adverse effects related to construction would be avoided or minimized. Therefore, construction of the project is not anticipated to result in substantial impacts related to traffic.

References

California Department of Transportation. (2014). *Bridge Inspection Report (Bridge Number 33C0215).* Oakland: California Department of Transportation.

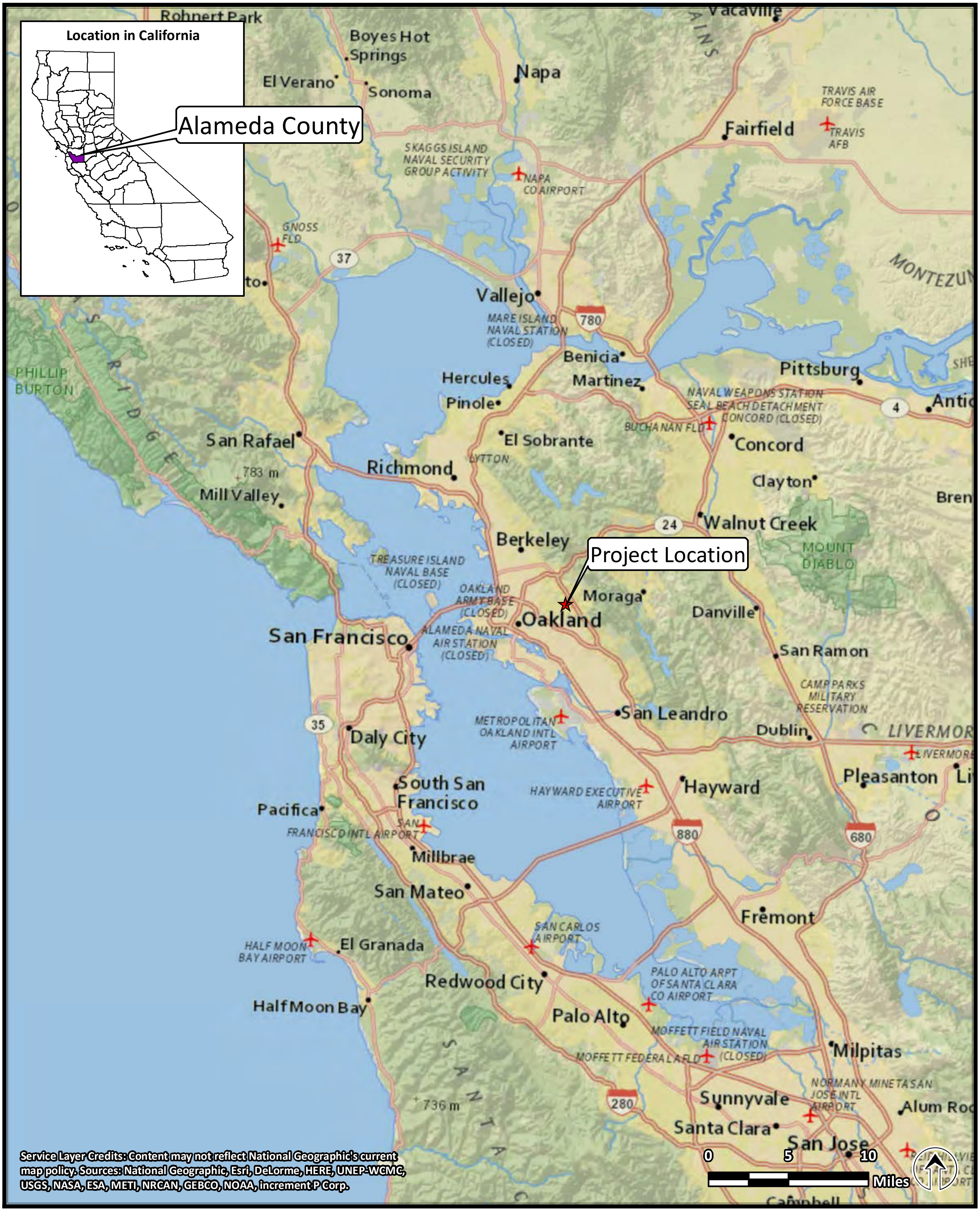
Caltrans. (2015, November). *Transportation Management Plan Guidelines.* Retrieved from Caltrans: http://www.dot.ca.gov/trafficops/tm/docs/TMP_Guidelines.pdf

Caltrans. (2017, April 7). *California Manual on Uniform Traffic Control Devices.* Retrieved from Caltrans: http://www.dot.ca.gov/trafficops/camutcd/docs/2014r2/CAMUTCD2014_rev2.pdf

City of Oakland. (2017). *Standard Conditions of Approval.* Oakland: Department of Planning and Building, Bureau of Planning.

ATTACHMENT A

Regional Location

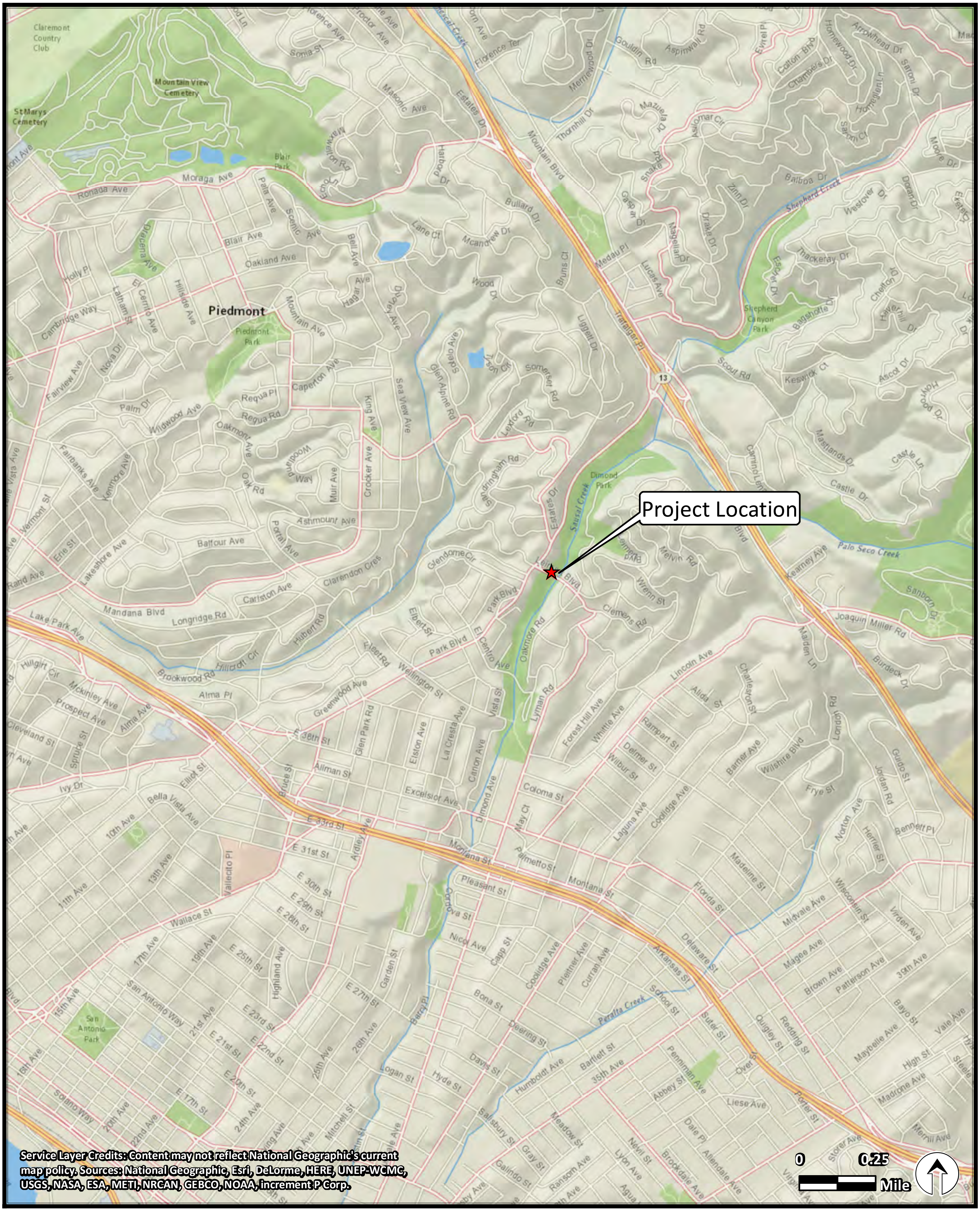


CITY OF OAKLAND

ATTACHMENT A. REGIONAL LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT B

Project Location

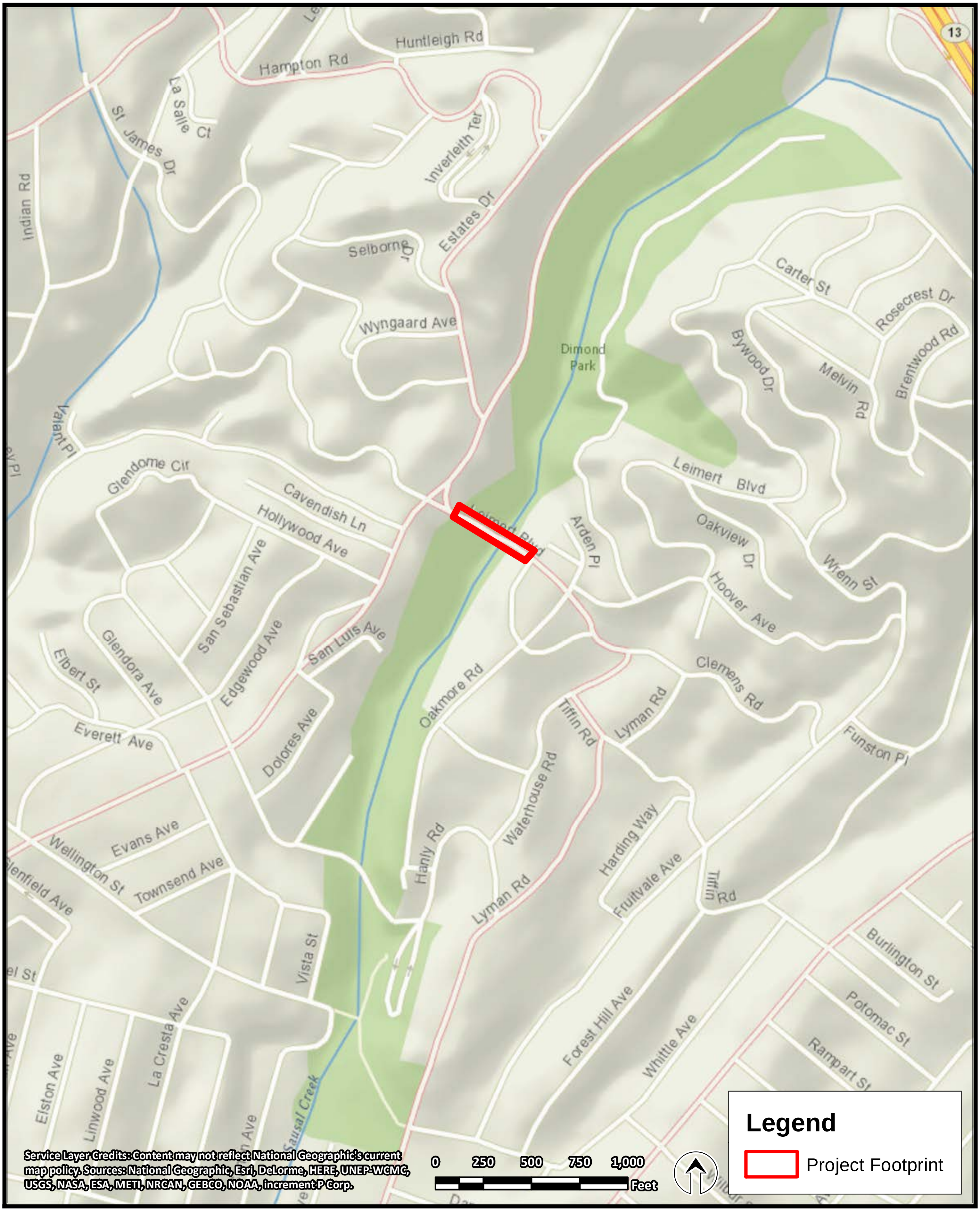


CITY OF OAKLAND

ATTACHMENT B. PROJECT LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

ATTACHMENT C

Project Footprint



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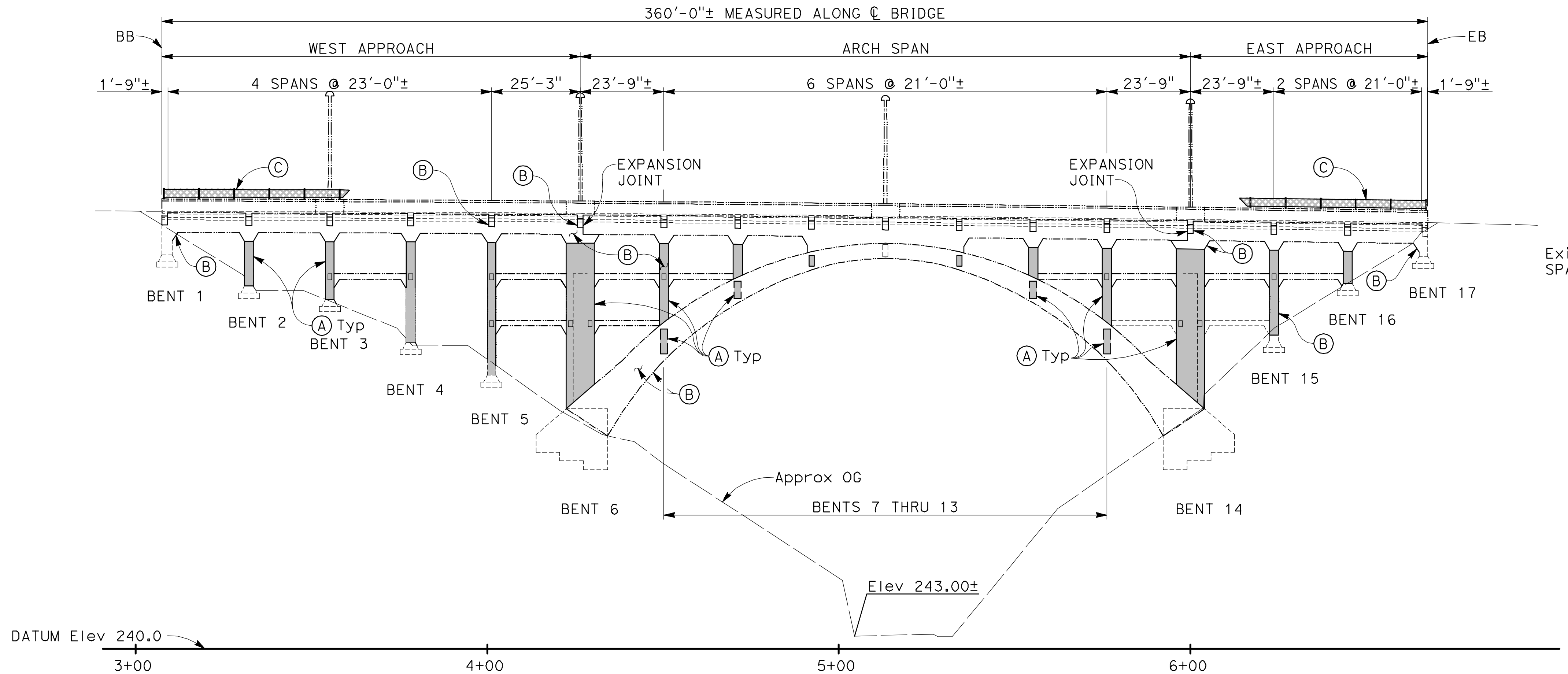
ATTACHMENT C. PROJECT FOOTPRINT
Leimert Boulevard Bridge Seismic Retrofit Project

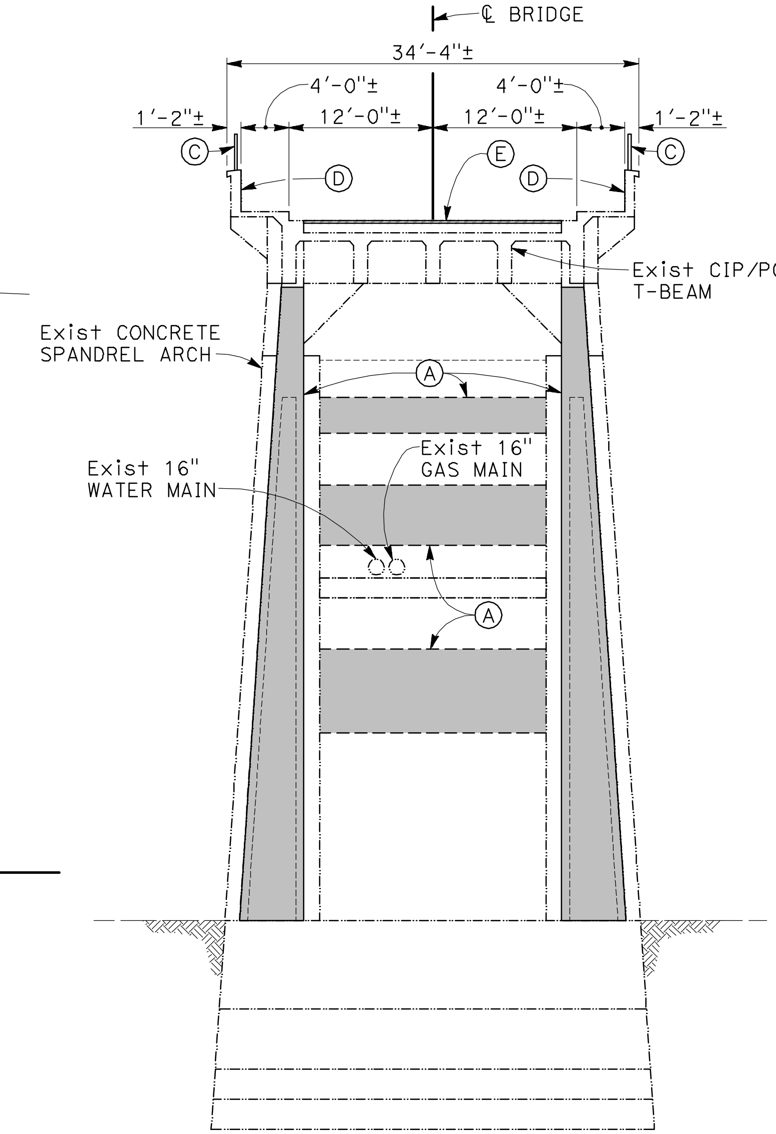
ATTACHMENT D

Engineering Drawings



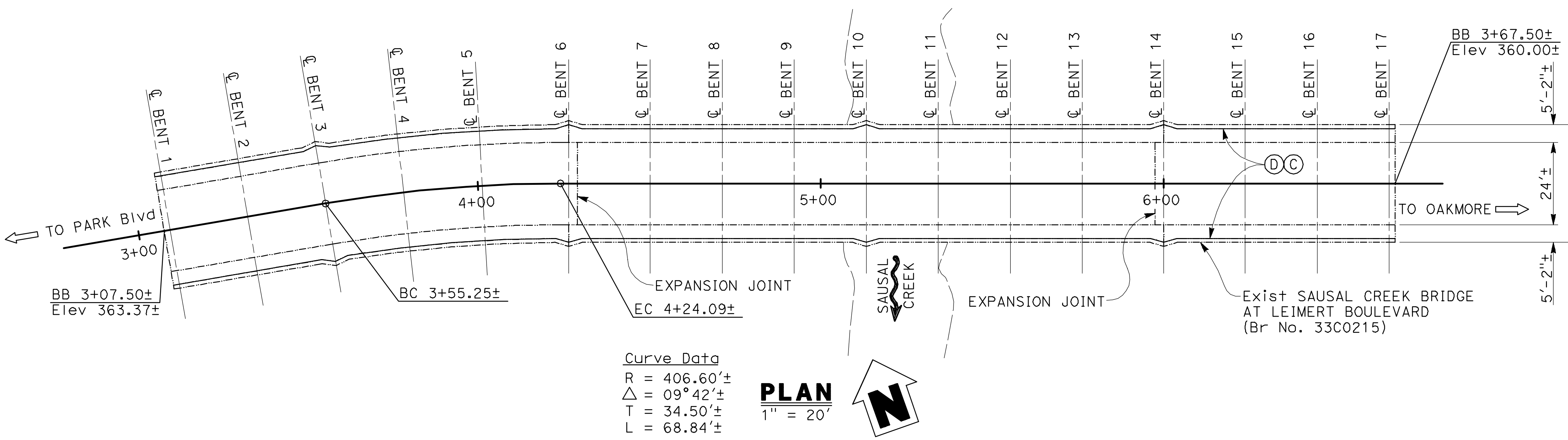
DEVELOPED ELEVATION

1" = 20'



TYPICAL SECTION

1/8" = 1'-0"



Curve Data
R = 406.60'±
Δ = 09°42'±
T = 34.50'±
L = 68.84'±

PLAN

1" = 20'

NOTES:

- (A) Indicates limits of carbon fiber reinforced polymer composite casing system
- (B) Repair spalled surface area
- (C) Repair exist chain link railing
- (D) Repair spalled surface area and remove existing paint on barrier and apply anti-grafitti coating
- (E) Indicates limits of removal of asphalt concrete overlay, and replace with polyester concrete overlay

LEGEND:

- Indicates Existing Structure
- Indicates Traffic Direction

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

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DEPARTMENT OF ENGINEERING AND CONSTRUCTION
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OAKLAND, CA 94612
(510) 238-3437
FAX (510) 238-7227

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/3/17)

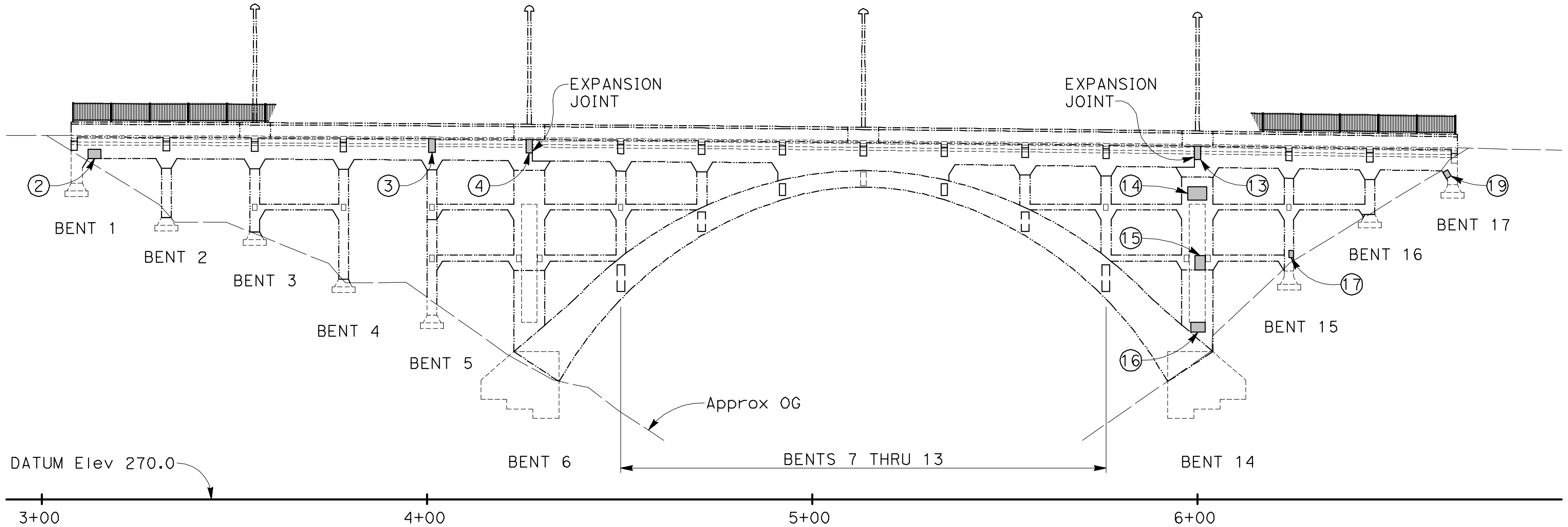
DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

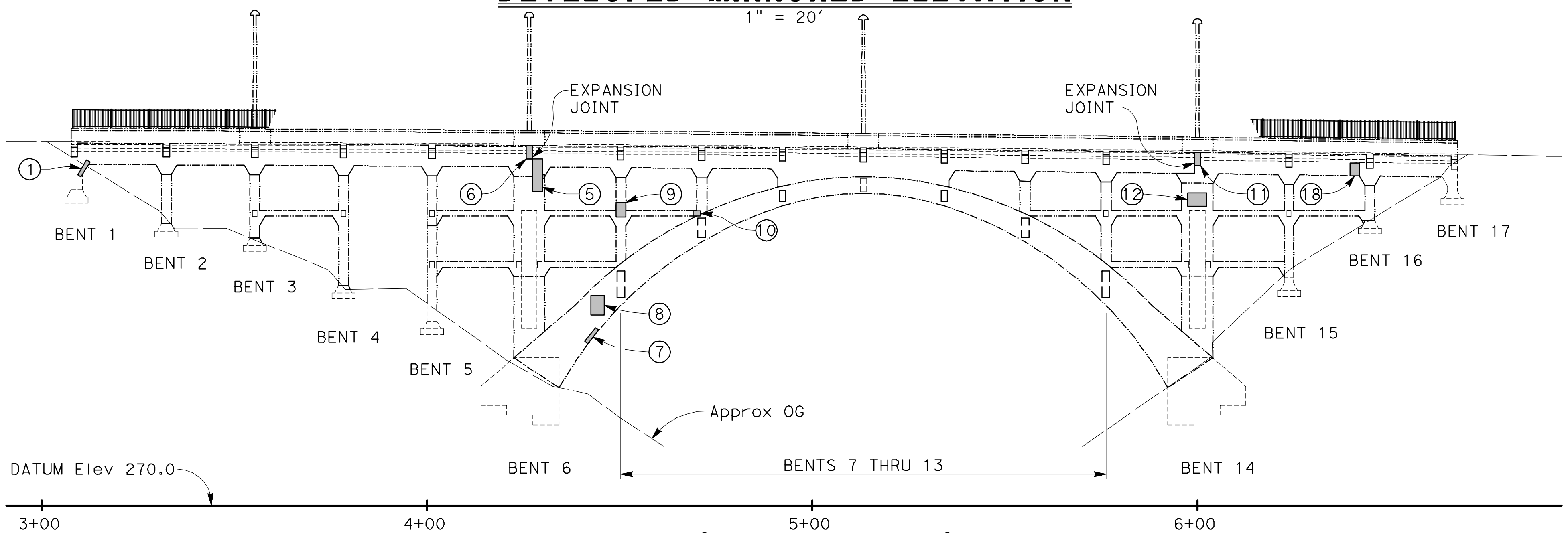
GENERAL PLAN
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

SHEET NUMBER
S-1
OF SHEETS
DRAWING NO.
2016051-1
2016051 (2016051S1)



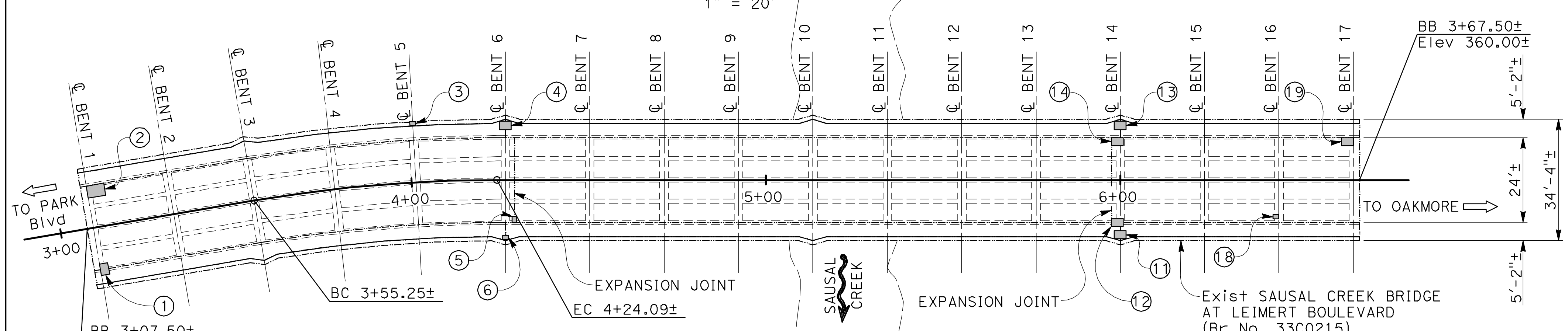
DEVELOPED MIRRORED ELEVATION

1" = 20'



DEVELOPED ELEVATION

1" = 20'



PLAN

1" = 20'

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

SUMMARY OF SPALLED SURFACE AREAS

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. AREA (SF)
1	South girder fillet near Bent 1	2
2	North girder near Bent 1	4
3	North overhang bracket at Bent 5	3
4	North overhang bracket at Bent 6	4
5	Bent 6 diaphragm	2
6	South overhang bracket at Bent 6	4
7	Underside of arch	5
8	South face of arch	10
9	Bent 7 south face of column	10
10	Corner of longitudinal brace	1
11	South overhang bracket at Bent 14	5
12	Bent 14 diaphragm	4
13	North overhang bracket at Bent 14	4
14	Bent 14 diaphragm	4
15	Corner of Bent 14 at longitudinal brace	2
16	Corner of Bent 14 at base of column	2
17	Corner of Bent 15	3
18	Girder at face of Bent 16 diaphragm	1
19	North girder fillet at Bent 17	6

SUMMARY OF INJECT CRACK (EPOXY)

LOCATION DESIGNATION	LOCATION DESCRIPTION	APPROX. LENGTH (LF)
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD
TBD	TBD	TBD

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PLAN CHECK SET/NOT FOR CONSTRUCTION (2/22/17)

DESIGNED BY: RKY
DRAWN BY: SMH
CHECKED BY:
SCALE: AS SHOWN

REV.	DATE	DESCRIPTION	BY
0			

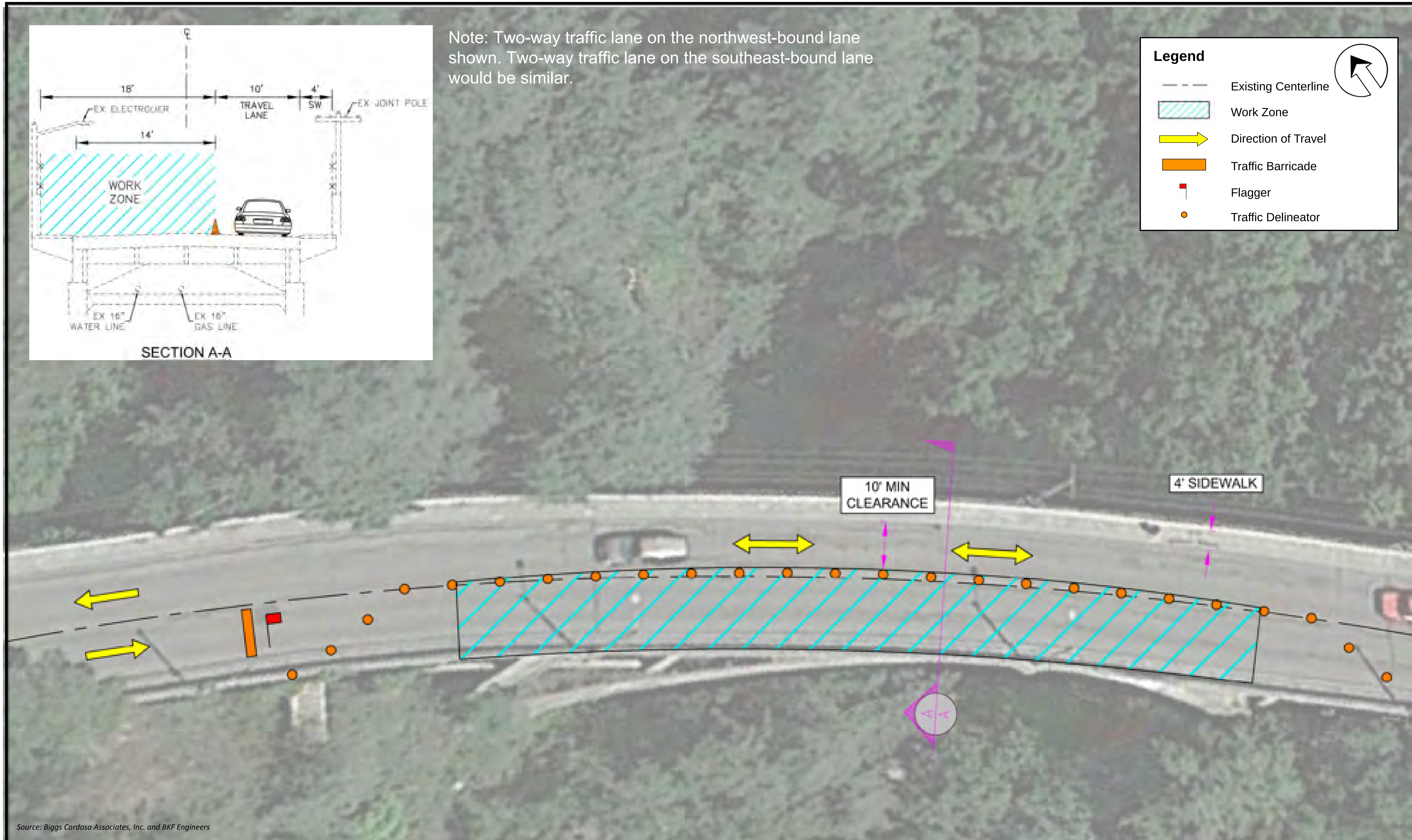
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
1111 Broadway, Suite 1510
Oakland, California 94607
510-625-9900

SPALLED SURFACE AREA AND CRACK LOCATIONS
SAUSAL CREEK BRIDGE AT LEIMERT BOULEVARD
OAKLAND CALIFORNIA

SHEET NUMBER
S-2
OF SHEETS
DRAWING NO.
2016051-2
2016051 (2016051S2)

ATTACHMENT E

Traffic Control



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ATTACHMENT E. TRAFFIC CONTROL
Leimert Boulevard Bridge Seismic Retrofit Project

Attachment I: Noise Documentation (Noise Memorandum; Construction Noise Management Plan)

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TECHNICAL MEMORANDUM

Date:	July 5, 2018
To:	Melissa Logue, Senior Associate Environmental Planner GPA Consulting 2600 Capital Avenue, Suite 100 Sacramento, CA 95816
From:	Kurt Legleiter, Principal
Subject:	**Construction Noise & Groundborne Vibration Technical Memorandum – Leimert Boulevard Bridge Rehabilitation Project**

INTRODUCTION

This memorandum provides an assessment of construction noise and groundborne vibration impacts associated with the Leimert Boulevard Bridge Rehabilitation Project (project). The project would not increase the roadway capacity and would not change the bridge or roadway alignment. Therefore, the proposed project would not result in long-term increases in ambient noise levels, nor would the project result in the relocation of vehicle traffic closer to existing noise-sensitive receptors. As a result, evaluation of long-term noise impact is not included in this assessment.

PROPOSED PROJECT SUMMARY

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (refer to Figure 1, Project Location and Nearby Land Uses).

The project includes the following proposed improvements (refer to Figure 2, General Project Construction Plan):

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.
- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a

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Figure 1. Project Location & Nearby Land Uses

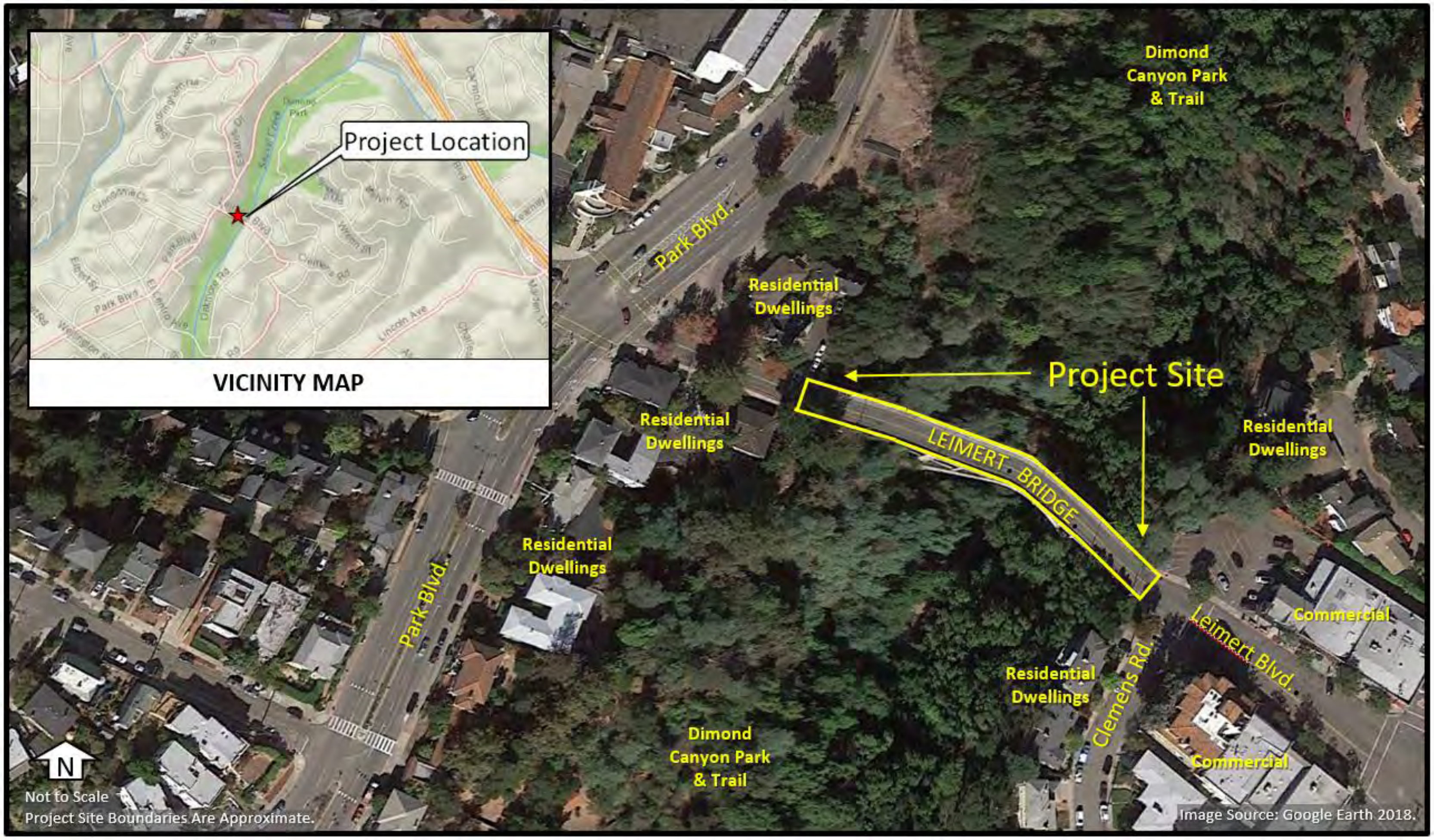

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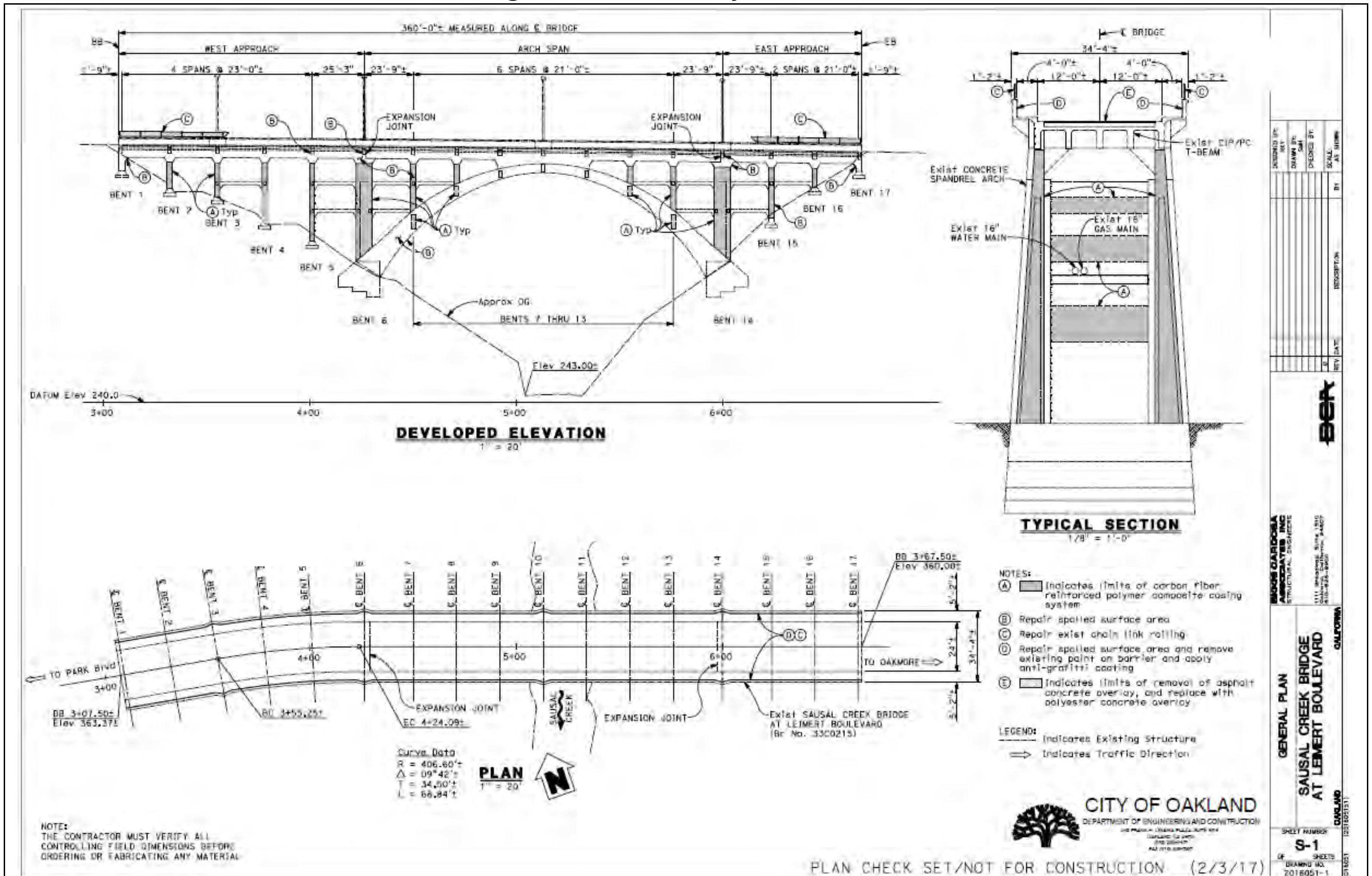
Figure 2. General Project Construction Plan



Source: Biggs Cardosa Associates, Inc. 2017

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significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.

- Localized "shotcrete" would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.
- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.
- Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.
- The chain link fence would be repaired or replaced.

Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane closures may be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane closures may be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily

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supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine to ten months and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

- Mobilization (5 days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Remove Scaffolding (10 days);
- Clean Expansion Joint (5 days);
- Shotcrete Footing Slope Paving (10 days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (15 days).

Regulatory Framework

Noise

City of Oakland

The City has established *CEQA Thresholds of Significance Guidelines*, which include noise standards for construction-related activities. These standards are consistent with the noise performance standards identified in the City's noise control ordinance (Planning Code, Chapter 17.120, Section 17.120.050)[1]. The City's thresholds are to be used in conjunction with the City's *Standard Conditions of Approval*[2], which are incorporated into projects regardless of a project's environmental determination, pursuant, in part, to CEQA Guidelines sections 15183 and 15183.3. The City's thresholds related to construction activities are summarized in Table 1.

[1] City of Oakland. *Planning Code, Chapter 17.120, Performance Standards, Section 17.120.050-Noise*. Available at website url: https://library.municode.com/ca/oakland/codes/planning_code?nodeId=TIT17PL_CH17.120PEST_17.120.050NO.

[2] City of Oakland. *Standard Conditions of Approval*. Available at website url: http://www2.oaklandnet.com/oakca1/groups/ceda/documents/agenda/oak065148.pdf

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Table 1. City of Oakland Construction Noise Standards at Receiving Property Line

Receiving Land Use	Maximum Allowable Noise Level (dBA)	
	Weekdays	Weekend
	7:00 a.m. – 7:00 p.m.	9:00 a.m. – 8:00 p.m.
Less than 10 Days		
Residential	80	65
Commercial, Industrial	85	70
More than 10 Days		
Residential	65	55
Commercial, Industrial	70	60

Notes: If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.
Source: City of Oakland 2016

The City's *CEQA Thresholds of Significance Guidelines* also identify criteria for the assessment of groundborne vibration impacts. The City's recommended significance criteria for groundborne vibration are based on criteria recommended by the Federal Transit Administration (FTA). The FTA's recommended impact criteria for evaluation of activity interference and building damage are summarized in Tables 2 and 3, respectively.

Table 2. FTA Groundborne Vibration Impact Criteria for Interference

Land Use Category	Vibration Decibels (VdB)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations	65[4]	65[4]	65[4]
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83

1. More than 70 vibration events of the same source per day.
2. Between 30 and 70 vibration events of the same source per day.
3. Less than 30 vibration events of the same source per day.
4. The criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels. Ensuring low vibration levels in a building requires special design of HVAC systems and stiffened floors.

Source: FTA. 2006. Transit Noise and Vibration Impact Assessment Guidelines. Available at website url: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

Table 3. FTA Construction Vibration Impact Criteria for Building Damage

Building Category	Vibration Decibels	
	PPV (in/sec)	VdB (1 micro-inch/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA. 2006. Transit Noise and Vibration Impact Assessment Guidelines. Available at website url: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

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Caltrans Standard Specifications Section 14-8.02

Caltrans Standard Specifications Section 14-8.02, Noise Control, requires the following mandatory noise abatement measures:

- Per Section 14-8.02, Noise Control, do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Each internal combustion engine, used for any purpose on the job, or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler.

EXISTING SETTING

Existing Land Uses

Nearby land consists of a mix of residential and commercial uses. The nearest noise-sensitive receptors in the project area consist of residential dwellings. The nearest residential dwellings are located west of the bridge, along Leimert Boulevard, and southeast of the bridge, along Clemens Road. The Dimond Canyon Park and Trail, as well as, the Old Canyon Trail are located below the bridge (refer to Figure 1).

Existing Noise Environment

To document existing ambient noise levels in the project area, short-term ambient noise measurements were conducted on December 22, 2017 using a Larson Davis Laboratories, Type I, Model 820 integrating sound-level meter. The meter was calibrated before use and is certified to be in compliance with ANSI specifications.

Measured noise levels are summarized in Table 4. As depicted, measured average-hourly noise levels at residential uses located near Leimert Bridge ranged from the upper 50's to the lower 60's. Intermittent noise levels ranged from 70 to 72 dBA L_{max}. Measured noise levels were primarily influenced by vehicle traffic on Leimert Boulevard.

Table 4. Summary of Measured Ambient Noise Levels

Location	Time	Noise Level (dBA)[1]	
		Average-Hourly (L_{eq})	Maximum (L_{max})
1705 Clemens Road (East of Leimert Bridge), Approximately 15 feet from Leimert Blvd. centerline.	11:00 - 11:10	59.2	71.8
	15:00 – 15:10	61.4	72.1
1321 Leimert Boulevard (West of Leimert Bridge), Approximately 15 feet from Leimert Blvd. centerline	11:30 - 11:45	60.7	70.4
	15:30 – 15:40	62.3	71.3
Measurements conducted using a Larson Davis Model 820 Type I sound level meters on December 22, 2017.			

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CONSTRUCTION NOISE & GROUNDBORNE VIBRATION IMPACT ANALYSIS

Thresholds of Significance

In accordance with the City of Oakland's *CEQA Thresholds of Significance Guidelines* (2016), the project would have a significant impact on the environment if it would:

1. Generate noise in violation of the City's construction noise standards (refer to Table 1).
2. Generate noise in violation of the City of Oakland nuisance standards (Oakland Municipal Code section 8.18.020) regarding persistent construction-related noise;
3. Expose persons to or generate groundborne vibration that exceeds the criteria established by the FTA (refer to Table 2).

Construction Noise

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 5 summarizes noise levels produced by construction equipment commonly used on roadway and bridge rehabilitation projects.

Table 5. Construction Equipment Noise

Equipment	Noise Level (dBA at 50 feet)	
	L_{max}	L_{eq}
Auger Drill	84	77
Backhoe	78	74
Chainsaw	84	77
Compressor	78	74
Concrete Saw	90	83
Crane	81	73
Drum Mixer	80	77
Dump Truck	77	73
Excavator	81	77
Front End Loader	79	75
Man Lift	75	68
Pneumatic Tool	85	82
Paver	77	74
Pavement Scarifier	90	83
Pump	81	78
Roller	80	73
Single-Nozzle Blaster	96	89

Based on measured instantaneous noise levels (L_{max}), average equipment usage rates, and calculated average-hourly (L_{eq}) noise levels derived from the FHWA Road Construction Noise Model (FHWA 2008)

Based on the levels depicted in Table 5, construction equipment can be expected to generate intermittent noise levels ranging from approximately 75 to 96 dBA L_{max} at a distance of 50 feet. Average-hourly noise levels associated with the operation of individual pieces of construction equipment can range from approximately 68 to 89 dBA L_{eq}.

The nearest residential land uses are located at distance ranging from approximately 35 to 300 feet from the project area. Noise produced by construction equipment decreases at a rate of about 6 dB per doubling of distance from the source. Based on this attenuation rate, the equipment noise levels identified in Table 5, and assuming multiple pieces of equipment operating simultaneously, predicted average-hourly noise levels at the nearest residential land uses would range from approximately 63 to 93 dBA L_{eq}. Intermittent noise levels could reach levels of approximately 65 to 99 dBA L_{max} for brief periods of time. Predicted ranges in construction noise levels at varying distances to nearby land uses are summarized in Table 6. Actual noise levels will vary depending on various factors, including the type and number of pieces of equipment used, duration of use, distance from the source, and shielding provided by intervening structures and terrain. Refer to Appendix B for noise prediction modeling assumptions and results. In addition, park and trail users located below the bridge may be exposed to construction-generated noise levels. However, exposure to park and trail users would be short-term (e.g., minutes) and limited to the period that trail users are in the vicinity of the bridge.

Based on the preliminary construction noise modeling conducted, construction-generated noise levels at nearby land uses would exceed the City's applicable noise standards. Furthermore, in comparison to ambient daytime noise levels, which generally range from the upper 50's to the lower 60's (in dBA L_{eq}), construction-generated noise levels at the nearest residential dwellings would be detectable.

Construction Noise Abatement Measures

1. Except with prior approval by the City, 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.
2. Except with prior approval by the City, 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.
3. Except with prior approval by the City, 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.

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Table 6. Predicted Construction Noise Levels at Nearby Land Uses

Construction Activity	Average Distance to Nearby Land Uses (feet)	Estimated Activity Duration (Days)	Range of Average-Hourly Noise Levels (dBA L_{eq})	Range of Maximum Instantaneous Noise Levels (dBA L_{max})	Maximum Allowable Noise Standard	Exceeds Noise Standard
Mobilization	35 – 300	5	67 – 86	69 – 88	80	Yes
Clearing & Grubbing	35 – 300	10	68 – 87	69 – 88	80	Yes
Construct Scaffolding	35 – 300	20	70 – 88	70 – 88	65	Yes
Concrete Crack and Spall Repair	35 – 300	20	75 – 93	80 – 99	65	Yes
CFRP Wrap Installation	35 – 300	100	75 – 93	80 – 99	65	Yes
Remove Scaffolding	35 – 300	10	70 – 88	70 – 88	80	Yes
Clean Expansion Joint	50 – 285	5	68 – 83	70 – 85	80	Yes
Shotcrete Footing Slope Paving	50 – 285	10	63 – 78	65 – 81	80	Yes
AC Removal and Polycrete Overlay	50 – 300	15	70 – 86	74 – 90	65	Yes
Misc. Repairs	35 – 300	15	74 – 93	80 – 99	65	Yes

1. Noise Levels were calculated using the FHWA Road Construction Noise Model, version 1.1, based on estimated equipment use and average distances from anticipated construction locations to nearby residential land uses. Assumes up to three pieces of the loudest equipment operating simultaneously without shielding from intervening structures or terrain. Actual noise levels will vary depending on various factors, including the equipment used, location, distance from the source, and shielding provided by intervening structures or terrain.
2. Based on the City of Oakland's daytime noise standard for residential land uses and estimated activity duration. Exposure levels for commercial land uses are 5 dB higher. Refer to Table 1 for City of Oakland noise standards.

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.

When Required: During construction
Initial Approval: Bureau of Building
Monitoring/Inspection: Bureau of Building

4. Property owners and occupants located within 300 feet of the construction activities shall be notified in writing at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the contractor 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: Prior to construction
   Initial Approval: Bureau of Building
   Monitoring/Inspection: Bureau of Building

5. A Construction Noise Management Plan (CNMP) shall be 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 levels with the goal of achieving the City's applicable noise standards for construction activities (refer to Table 1). The contractor shall implement the approved Plan during construction. Potential attenuation 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. Erect temporary plywood noise barriers around construction activities, on temporary scaffolding, and/or adjacent to residential buildings;

When Required: Prior to approval of construction-related permit
Initial Approval: Bureau of Building
Monitoring/Inspection: Bureau of Building

The recommended mitigation measures would require incorporation of measures to reduce construction-generated noise levels, as well as development of a CNMP to further reduce construction noise levels once more detailed construction equipment, activities, and locations have been identified. Implementation of the above construction noise abatement measures, as well as, enforcement of the City's Noise Control Ordinance and Caltrans Standard Specifications Section 14-8.02, would reduce noise impacts associated with construction of the proposed project.

Construction Vibration

As shown in Table 2, the vibration impact criteria for activity interference at residential land uses would range from 72 to 80 VdB, depending on the activity being conducted. The criteria commonly applied for structural damage is 94 VdB (refer to Table 3). Groundborne vibration levels commonly associated with construction equipment used on roadway and bridge rehabilitation projects are summarized in Table 7. As indicated, the highest groundborne vibration levels would be associated with the use of vibratory rollers, which would generate groundborne vibration levels of 94 VdB at 25 feet. Other construction equipment, such as bulldozers, hoe rams, jackhammers, and trucks, typically generate vibration levels of approximately 87 VdB, or less, at 25 feet.

The nearest residential structures are located approximately 35 feet, or more, from the proposed construction areas. Assuming a minimum distance of 35 feet and the upper range of vibration levels for vibratory rollers (i.e., 94 VdB), the highest predicted groundborne vibration levels at the nearest residences would be approximately 65 VdB. Based on this same distance, groundborne vibration levels associated with other construction equipment (e.g., drills, tractors, hoe rams, trucks, jackhammers, etc.) would be approximately 60 VdB, or less. Predicted groundborne vibration levels associated with project construction would not exceed commonly recommended impact criteria for activity interference (72 VdB) or structural damage (94 VdB) (refer to Table 2 and 3).

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Table 7. Representative Construction Equipment Vibration Levels

Equipment	Vibration Level at 25 Feet	
	Peak Particle Velocity (ppv, in/sec)	VdB (micro-inch/second)
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Caisson Drill	0.089	87
Large Bulldozers	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozers	0.003	58
Source: FTA 2006, Caltrans 2013		

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APPENDIX A
Acoustic Fundamentals

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ACOUSTIC FUNDAMENTALS

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB, rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 decibels for each doubling of distance from a point source.

Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 decibels for each doubling of distance from a line source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Typical A-weighted noise levels are depicted in Table A-1.

Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3-dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the midfrequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound, would generally be perceived as barely detectable.

Common Noise Descriptors

Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used for the analysis of construction-generated noise:

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- **Equivalent Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. The 1-hour A-weighted equivalent sound level ($L_{eq}^{[h]}$) is the energy average of A-weighted sound levels occurring during a one-hour period.
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured.

Table A-1. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013b.

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APPENDIX B
Construction Noise & Groundborne Vibration Modeling

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CONSTRUCTION VIBRATION LEVELS

REFERENCE NOISE LEVELS (FTA 2006)

	PPV IN/SEC AT 25 FT	VdB AT 25 FT
VIBRATORY ROLLER	0.21	94
HOE RAM	0.089	87
LARGE BULLDOZER	0.089	87
CAISSON DRILLING	0.089	87
LOADED TRUCKS	0.076	86
JACKHAMMER	0.035	79
SMALL BULLDOZER	0.003	58

SOURCE:	VIBRATORY ROLLER	
REFERENCE LEVEL:	0.21	94
ATTENUATION RATE*:	1.1	1.1
DISTANCE	35	35
PREDICTED GROUND-BORNE VIBRATION LEVEL:	0.145	65

SOURCE:	HOE RAM, DRILLING, LG DOZER/TRACTOR	
REFERENCE LEVEL:	0.089	87
ATTENUATION RATE*:	1.1	1.1
DISTANCE	35	35
PREDICTED GROUND-BORNE VIBRATION LEVEL:	0.061	60

SOURCE:	SMALL DOZER/TRACTOR	
REFERENCE LEVEL:	0.003	58
ATTENUATION RATE*:	1.1	1.1
DISTANCE	60	40
PREDICTED GROUND-BORNE VIBRATION LEVEL:	0.001	35

*USE 1.1 FOR MORE CONSERVATIVE ANALYSIS WHEN SOIL CONDITIONS ARE UNKNOWN; UP TO 1.4 DEPENDING ON SOIL TYPE.

Caltrans 2013

Construction Noise Management Plan

Leimert Boulevard Bridge Rehabilitation Project

July 2018

Prepared By:

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SECTION 1.0 BACKGROUND

1.1 Introduction

The purpose of this Noise Management Plan (NMP) is to provide a framework for construction noise management associated with the Leimert Boulevard Bridge Rehabilitation Project and to ensure that noise levels at neighboring land uses remain within reasonable limits throughout the construction process.

1.2 Project Overview

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (refer to Figure 1, Project Location and Nearby Land Uses). The project includes the following proposed improvements (refer to Figure 2, General Project Construction Plan):

1. Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.

   A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.

2. Localized “shotcrete” would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.

3. The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.

4. Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.

5. The chain link fence would be repaired or replaced.

Figure 1. Project Location & Nearby Land Uses

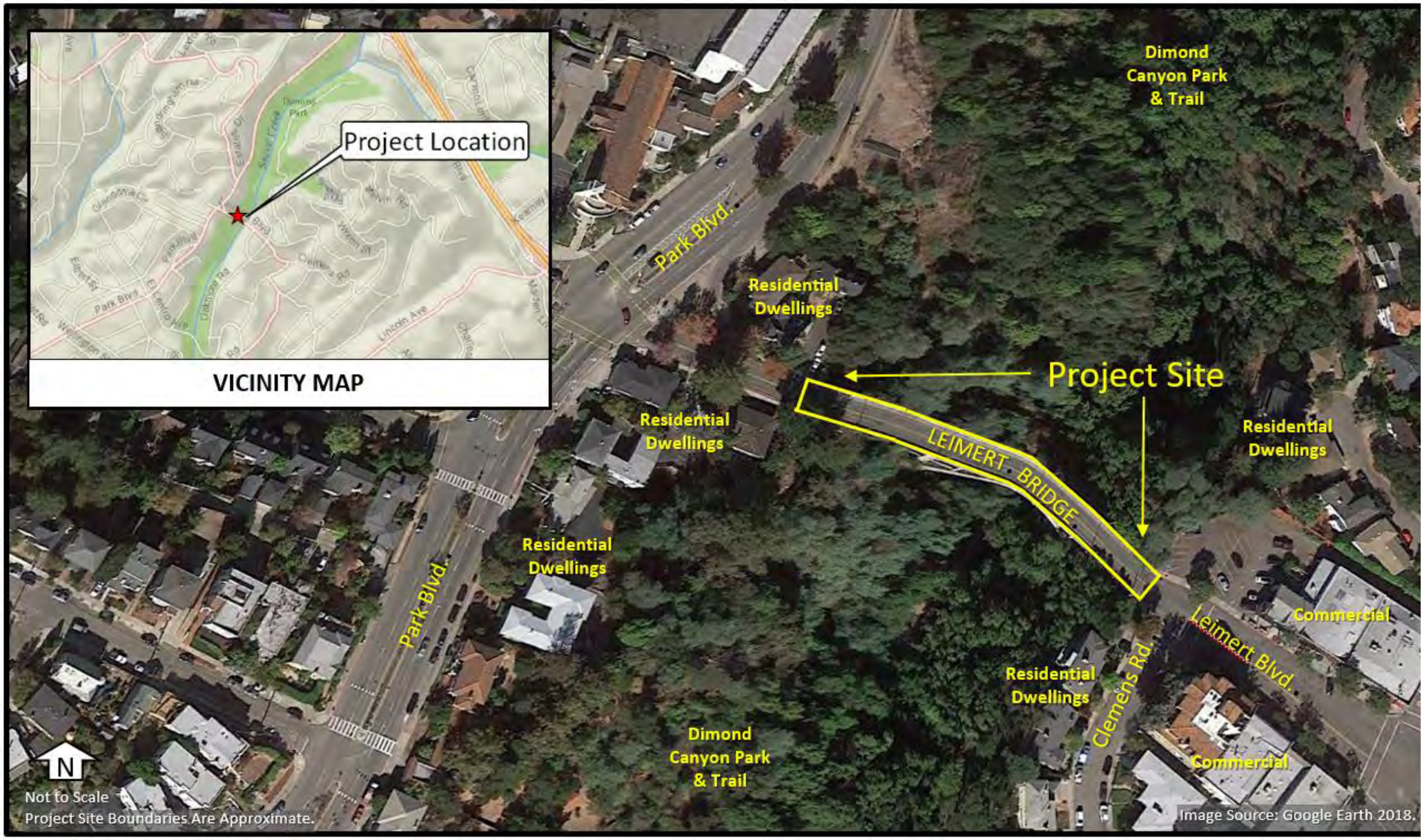
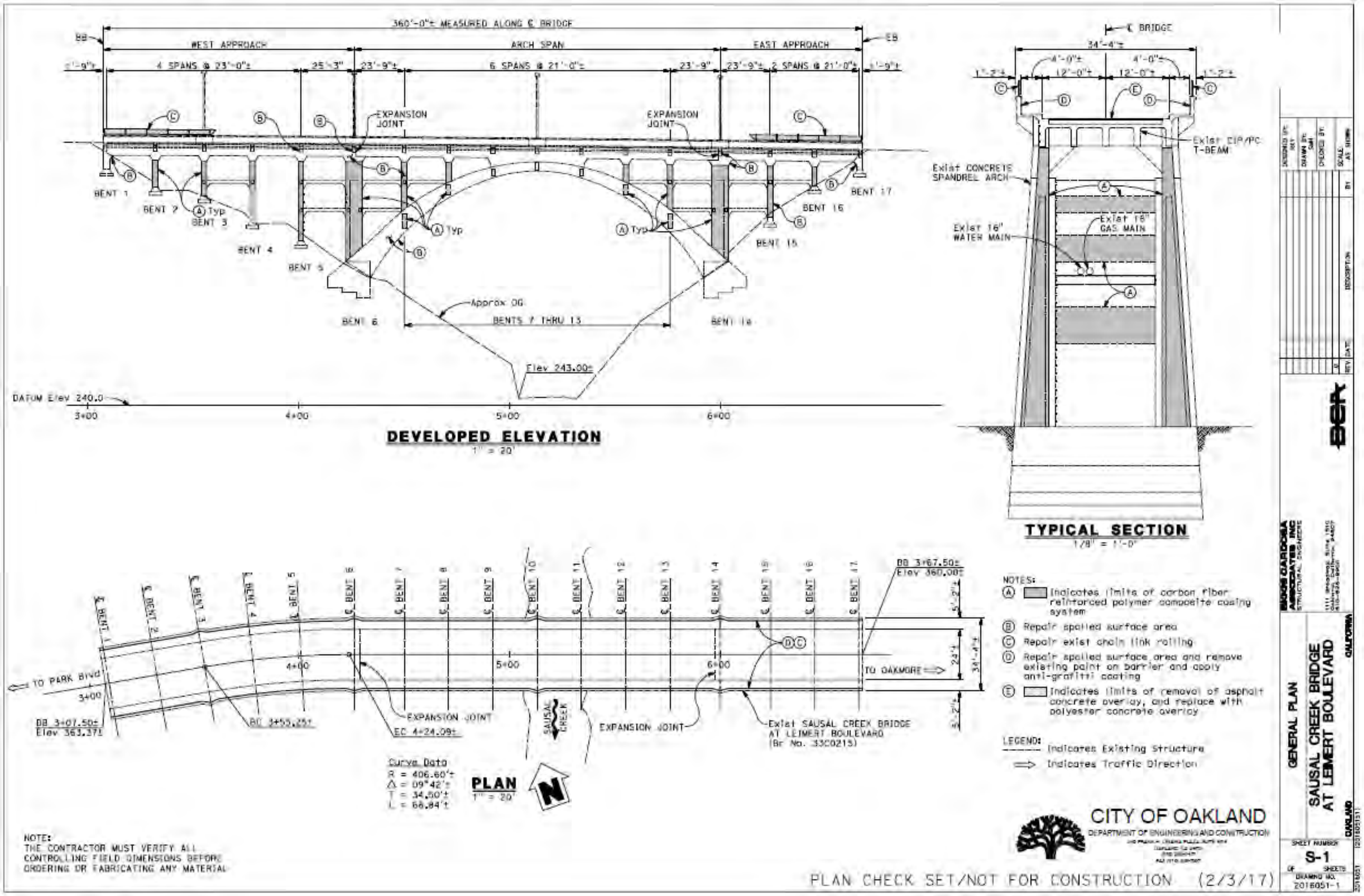


Figure 2. General Project Construction Plan



Source: Biggs Cardosa Associates, Inc. 2017

1.3 Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane closures may be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane closures may be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily supported during construction. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine to ten months and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

1. Mobilization (5 days);
2. Clearing and Grubbing (10 days);
3. Construct Scaffolding (20 days);
4. Concrete Crack and Spall Repair (20 days);
5. CFRP Wrap Installation with Board-Formed-Finish (100 days);
6. Remove Scaffolding (10 days);
7. Clean Expansion Joint (5 days);
8. Shotcrete Footing Slope Paving (10 days);
9. AC Removal and Polyester Concrete Overlay Installation (15 days); and
10. Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (15 days).

1.4 Applicable Noise Standards

City of Oakland

The City has established *CEQA Thresholds of Significance Guidelines*, which include noise standards for construction-related activities. These standards are consistent with the noise performance standards identified in the City's noise control ordinance (Planning Code, Chapter 17.120, Section 17.120.050)[1]. The City's thresholds are to be used in conjunction with the City's *Standard Conditions of Approval*[2], which are incorporated into projects regardless of a project's environmental determination, pursuant, in part, to CEQA Guidelines sections 15183 and 15183.3. The City's thresholds related to construction activities are summarized in Table 1.

Table 1. City of Oakland Construction Noise Standards

Receiving Land Use	Maximum Allowable Noise Level (dBA) Weekdays 7:00 a.m. – 7:00 p.m.	Maximum Allowable Noise Level (dBA) Weekend 9:00 a.m. – 8:00 p.m.
Less than 10 Days		
Residential	80	65
Commercial, Industrial	85	70
More than 10 Days		
Residential	65	55
Commercial, Industrial	70	60

Notes: If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level. Standards are applied at the property line of the receiving land use.
Source: City of Oakland 2016

Caltrans Standard Specifications Section 14-8.02

Caltrans Standard Specifications Section 14-8.02, Noise Control, requires the following mandatory noise abatement measures:

- Per Section 14-8.02, Noise Control, do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Each internal combustion engine, used for any purpose on the job, or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler.

1.5 Nearby Noise-Sensitive Receptors

Noise-sensitive receptors are generally considered to include land uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are also considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also examples of noise-sensitive receptors.

Noise-sensitive receptors located in the project area consist predominantly of residential dwellings. The nearest residential dwellings are located west of the bridge, along Leimert Boulevard, and southeast of the bridge, along Clemens Road. The Dimond Canyon Park and Trail, as well as, the Old Canyon Trail are located below the bridge (refer to Figure 1).

[1] City of Oakland. *Planning Code, Chapter 17.120, Performance Standards, Section 17.120.050-Noise*. Available at website url: https://library.municode.com/ca/oakland/codes/planning_code?nodeId=TIT17PL_CH17.120PEST_17.120.050NO.

[2] City of Oakland. *Standard Conditions of Approval*. Available at website url: http://www2.oaklandnet.com/oakca1/groups/ceda/documents/agenda/oak065148.pdf

1.6 Ambient Noise Levels

To document existing ambient noise levels in the project area, short-term ambient noise measurements were conducted on December 22, 2017 using a Larson Davis Laboratories, Type I, Model 820 integrating sound-level meter. The meter was calibrated before use and is certified to be in compliance with ANSI specifications.

Measured noise levels are summarized in Table 2. As depicted, measured average-hourly noise levels at residential uses located near Leimert Bridge ranged from the upper 50's to the lower 60's. Intermittent noise levels ranged from 70 to 72 dBA L_{max}. Measured noise levels were primarily influenced by vehicle traffic on Leimert Boulevard.

Table 2. Summary of Measured Ambient Noise Levels

Location	Time	Noise Level (dBA)[1]	
		Average-Hourly (L_{eq})	Maximum (L_{max})
1705 Clemens Road (East of Leimert Bridge), Approximately 15 feet from Leimert Blvd. centerline.	11:00 - 11:10	59.2	71.8
	15:00 – 15:10	61.4	72.1
1321 Leimert Boulevard (West of Leimert Bridge), Approximately 15 feet from Leimert Blvd. centerline	11:30 - 11:45	60.7	70.4
	15:30 – 15:40	62.3	71.3
Measurements conducted using a Larson Davis Model 820 Type I sound-level meters on December 22, 2017.			

SECTION 2.0 CONSTRUCTION NOISE LEVELS & CONTROL METHODS

2.1 Preliminary Construction Noise Levels

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 3 summarizes noise levels produced by construction equipment commonly used on roadway and bridge rehabilitation projects.

Table 3. Typical Construction Equipment Noise

Equipment	Noise Level (dBA at 50 feet)	
	L_{max}	L_{eq}
Auger Drill	84	77
Backhoe	78	74
Chainsaw	84	77
Compressor	78	74
Concrete Saw	90	83
Crane	81	73
Drum Mixer	80	77
Dump Truck	77	73
Excavator	81	77
Front End Loader	79	75
Man Lift	75	68
Pneumatic Tool	85	82
Paver	77	74
Pavement Scarifier	90	83
Pump	81	78
Roller	80	73
Single-Nozzle Blaster	96	89
Based on measured instantaneous noise levels (L_{max}), average equipment usage rates, and calculated average-hourly (L_{eq}) noise levels derived from the FHWA Road Construction Noise Model (FHWA 2008)		

Based on the levels depicted in Table 3, construction equipment can be expected to generate intermittent noise levels ranging from approximately 75 to 96 dBA L_{max} at a distance of 50 feet. Average-hourly noise levels associated with the operation of individual pieces of construction equipment can range from approximately 68 to 89 dBA L_{eq}.

The nearest residential land uses are located at distance ranging from approximately 35 to 300 feet from the project area. Noise produced by construction equipment decreases at a rate of about 6 dB per doubling of distance from the source. Based on this attenuation rate, the equipment noise levels identified in Table 3, and assuming multiple pieces of equipment operating simultaneously, predicted average-hourly noise levels at the nearest residential land uses would range from approximately 63 to 93 dBA L_{eq}. Intermittent noise levels could reach levels of approximately 65 to 99 dBA L_{max} for brief periods of time. Predicted ranges in construction noise levels at varying distances to nearby land uses are summarized in Table 6. Actual noise levels will vary depending on various factors, including the type and number of pieces of equipment used, duration of use, distance from the source, and shielding provided by intervening structures and terrain. In addition, park and trail users located below the bridge may be exposed to construction-generated noise levels. However, exposure to park and trail users would be short-term (e.g., minutes) and limited to the period that trail users are in the vicinity of the bridge. Based on the preliminary construction noise modeling conducted, unless noise control methods identified in this Construction Noise Management Plan are implemented, construction-generated noise levels at nearby land uses could potentially exceed the City's noise standards.

2.2 Common Noise Control Methods

To reduce potential for nuisance to nearby noise-sensitive receptors, construction activities are often limited to the less noise-sensitive daytime hours. Additional noise control methods commonly employed to reduce construction-generated noise are discussed as follows:

Temporary Noise Barriers & Shielding

Noise levels associated with mobile equipment at the receiver tend to vary considerably, not only as the speed and power of the equipment varies, but also as the equipment is constantly changing in terms of its distance from the receivers and its relative location. Temporary noise barriers can be a very effective method of managing construction noise. Common options for construction noise control are depicted in Figure 3.

To be effective, noise barriers should be of solid construction (i.e., no holes, gaps or cracks that might provide bypass for sound), constructed at sufficient height and length to block line-of-sight between the noise source and the receiver, and placed as close to the noise source or receiver as possible. Barriers should be constructed to a height that, at a minimum, breaks line-of-sight between the receptor and construction activities/construction equipment engine sources (i.e., intake, exhaust or casing). Construction barriers can provide approximately 5 to 15 dBA of noise reduction depending on multiple factors, including the activities conducted, site conditions, barrier design and composition, and distance between the barrier and the noise source/receiver. The use of sound curtains on scaffolding and relocation of construction equipment and staging areas to areas removed from direct public exposure, such as below bridge overpasses, can also substantially reduce construction noise.

Selection of Quieter Equipment

One of the most effective methods of diminishing the noise impacts caused by individual equipment is to select quieter construction equipment or processes. By specifying and/or using quieter equipment, the impacts produced can be reduced or, in some cases, eliminated.

Most construction noise originates from internal combustion engines. A large part of the noise emitted is due to the air intake and exhaust cycle. Specifying the use of equipment fitted with noise enclosures and the use of adequate muffler systems, in accordance with manufacturers' specifications, can substantially reduce engine noise from stationary construction equipment. Mobile equipment can also benefit from the use of engine shrouds, mufflers, and enclosure systems. Examples are depicted in Figure 3.

Use of Stationary Equipment Enclosures & Shielding

Whenever possible, positioning stationary noise sources such as generators and compressors as far away as possible from noise sensitive areas should be considered. To the extent necessary, temporary barriers can be employed and/or enclosures can be utilized to shield noisy equipment. These techniques can significantly reduce noise levels and, in many cases, are relatively inexpensive. Temporary barriers can typically be constructed on the work site from common construction building material (plywood, block, stacks, or

Figure 3. Example Construction Noise-Control Methods

Temporary Equipment/Activity Barriers

Scaffolding Noise-Control Blankets

Plywood Noise Barriers

Portable/Relocatable Barriers

Existing Structural Shielding

Quieter Equipment

Muffler systems

Equipment Enclosures

Source: FHWA 2006.

spoils). Commercial noise-reduction panels or curtains can be added to achieve increased noise reductions. To be effective, the length of a barrier should be greater than its height, the noise source should not be visible, and any barrier should be located as close as possible to either the noise source or the receiver.

Noise Control Measures to be Implemented and Anticipated Noise-Level Reductions

Noise level reductions associated with construction activities will be achieved through a combination of the above noise-reduction measures. Reducing noise at the source, through the selection of quieter equipment and use of equipment noise control devices (e.g., muffler systems, shrouds and enclosures) could potentially reduce equipment noise levels by approximately 15 dB, or more. Actual reductions achieved will be dependent on multiple factors, including the type, size, and operational characteristics of the equipment used. In some instances additional noise control strategies may be implemented. Such strategies may include limitations on the duration of activity and/or equipment operation within any given hour, distance limitations from nearby land uses for the location of onsite stationary equipment (e.g., power generators), and limitations on the number of pieces of equipment allowed to operate simultaneously within a specific area.

The specific measures to be implemented will depend on multiple factors, including the type, size and number of pieces of construction equipment required, distance from onsite construction activities to nearby noise-sensitive receptors, and the specific noise control measures/strategies implemented. Selection of the specific noise-control measures/strategies to be implemented for various onsite construction activities would be determined as more detailed construction information becomes available during the construction process. Because specific construction processes and equipment requirements have not yet been clearly defined, detailed calculation of predicted noise levels and associated noise-level reductions cannot be conducted at this time.

2.3 Project Noise Control, Notification & Reporting Requirements

The following section identifies recommended noise-control measures, notification, and reporting requirements.

Hourly and Daily Restrictions

1. Except with prior approval by the City, 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.
2. Except with prior approval by the City, 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.
3. Except with prior approval by the City, 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.

When Required: During construction

Monitoring/Inspection: Bureau of Building

Noise-Control Measures

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. Erect temporary plywood noise barriers around construction activities, on temporary scaffolding, and/or adjacent to residential buildings;

When Required: During Construction

Monitoring/Inspection: Bureau of Building

Notification Requirements

4. Property owners and occupants located within 300 feet of the construction activities shall be notified in writing at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the contractor 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: Prior to construction

Monitoring/Inspection: Bureau of Building

Reporting

- The construction contractor shall notify the Bureau of Building within 24 hours of any complaints received, a report that documents the complaints and the strategy for resolution of any noise complaints. The Bureau of Building will verify implementation of any agreed upon noise-control strategy to be implemented in response to noise complaints. An example reporting form is included in Appendix B.

When Required: During construction

Monitoring/Inspection: Bureau of Building

SECTION 3.0 NOISE MONITORING PROGRAM

The primary purpose of the noise monitoring program is to help ensure that the City's noise standards are maintained. Monitored noise levels will also aid in the selection of specific noise mitigation measures to be implemented, in the event that monitored noise levels exceed applicable noise standards. The objectives of the noise monitoring program are to:

- Monitor the noise levels at the site perimeter and nearby receptors during construction activities to determine if noise-control measures are necessary;
- Determine the effectiveness of noise-control measures implemented; and
- Investigate/evaluate noise complaints received from the public.

The following sections describe the noise monitoring program planned for the project. The specific monitoring protocols to be used may vary, depending on the specific activities being performed.

3.1 Construction Activity Noise Monitoring

Monitoring will be conducted by a person(s) technically trained and experienced in conducting noise measurements. The noise levels will be monitored at primarily affected noise-sensitive land use(s) for each major noise-generating construction activity (i.e., clearing/grubbing, concrete crack and spall repair, CFRP wrap installation, cleaning of expansion joints, shotcrete footing slope paving, AC removal and polyester concrete overlay installation, etc.). Noise monitoring may also be conducted in response to noise-related complaints, to the extent necessary. Noise measurements will be conducted for a period sufficient to document source noise levels (i.e., point at which a fluctuation of less than 0.5 dBA L_{eq} is achieved). For construction activities for which monitoring demonstrates compliance with applicable noise standards, as identified by City staff, additional noise monitoring for these activities will not be required, with the exception of the following:

- Changes in construction activity, including equipment used and duration of use;
- Relocation of construction activities closer to nearby noise-sensitive land uses;
- Changes in site conditions/shielding;
- Significant changes in meteorological conditions;
- Instrument or operator error;

In accordance with commonly applied industry standards, noise measurements will not be taken when one or more of the following conditions exists:

- Sustained wind speeds of more than 10 mph;
- Manufacturers' recommendations for acceptable temperature and humidity ranges for equipment are exceeded. Typically these range from 14 to 122 degrees Fahrenheit and 5 to 90 percent relative humidity;
- Rain or wet pavement conditions.

3.2 Monitoring Equipment Specifications & Procedures

Specifications

At a minimum, noise monitoring equipment will meet the following requirements:

- The sound-level meter will meet American National Standards Institute (ANSI) requirements for Type 1 sound-level meters. It is recommended that a data-logging integrating sound-level meter be used, which is capable of automatically logging sound levels and event data over a period of time and calculating maximum and time-weighted averages (e.g., L_{max}, L_{eq}).
- The sound-level meter will be equipped with an A-weighted filter.
- An acoustical calibrator (accuracy within ± 0.5 dB).

Procedures

Instrument Setup

- At least one instrument will be established at the primarily affected noise-sensitive land use(s) for each major noise-generating construction activity (i.e., clearing/grubbing, concrete crack and spall repair, CFRP wrap installation, cleaning of expansion joints, shotcrete footing slope paving, AC removal and polyester concrete overlay installation, etc.). The locations and number of sound-level meters to be employed will be chosen in the field based on observed site conditions at the time of monitoring. Following each noise survey, the results will be documented, in accordance with the procedures identified later in this section.
- Microphones will be placed at a height of 5 feet above ground level and at least ten feet from reflective surfaces (e.g., building facades, walls, etc.). Microphones will be fitted with windscreens.
- The sound-level meter will be set for the A-weighting network. The sound-level meter will be set to slow response, with the exception of impulsive noise event measurements (e.g., jack hammering). For measurement of impulsive noise events, the sound-level meter will be set to fast response.
- Not more than one person, other than the sound-level meter operator will be within 6 feet of the measuring microphone. Noise monitoring individuals will be located directly behind the sound-level to avoid shielding of construction noise levels.

Field Calibration

- Sound-level meters will be calibrated according to manufacturer's recommendations.
- The sound-level meter calibration will be performed prior to and upon completion of each sampling event.

Documentation

All data from the monitoring activities will be recorded including manually recorded sound level data (i.e., L_{eq}, L_{max}), instruments used (i.e., manufacturer model number and serial number), equipment calibration information, monitoring locations, monitoring time, and monitoring duration at each location, and sound-level operator name(s). Site conditions (i.e., intervening terrain, barriers, etc.) and meteorological conditions (i.e., temperature, humidity, wind speed, wind direction, and sky conditions/cloud cover) will be noted on the monitoring data sheets for each monitoring event. Primary noise sources observed during the monitoring event will be noted.

Monitoring data sheets will be submitted to the construction contractor, or designated representative. Records of monitoring activities, complaint investigations, and corrective actions implemented will be maintained by the construction contractor or designated representative until project completion. Noise monitoring reports will be maintained on site and made available to City/Bureau of Building staff, upon request. An example noise monitoring data form has been included in Appendix A.

3.3 Monitoring Data Review and Corrective Action Implementation

The results of the noise monitoring will be reviewed to determine if resultant construction noise level are in compliance with applicable noise standards and requirements (refer to Section 1.3). To the extent necessary, noise-reduction measures will be implemented to reduce construction noise levels. Noise control strategies will be approved by the City prior to implementation. Noise-reduction measures installed will remain in good working order for the duration of the noise-making activity. Additional noise monitoring may be conducted, to the extent necessary, to verify the effectiveness of noise-reduction measures implemented. Records of monitoring activities, complaint investigations, and corrective actions implemented will be maintained by the construction contractor or designated individual until project completion. An example noise complaint/resolution form is included in Appendix B.

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Federal Highway Administration (FHWA). 2008. *Roadway Construction Noise Model (RCNM), Version 1.1.*

Federal Transit Administration (FTA). May 2006. *Transit Noise and Vibration Impact Assessment Guidelines*. Available at website url: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

GLOSSARY OF COMMON ACOUSTICAL TERMS

A-weighted Sound Level
Some frequencies of noise are more noticeable than others. To compensate for this fact, different sound frequencies are weighted more heavily (A-weighted) so that the response of the average human ear is simulated.

Decibel (dB)
Unit of measurement of sound level.

Equivalent Sound Level (L_{eq})
Environmental noise often fluctuates over time. To be able to describe this in a practicable manner the L_{eq} was developed. L_{eq} is the A-weighted steady sound level that contains the same total acoustical energy as the actual fluctuating sound level. The L_{eq} noise level is commonly used to represent average-hourly noise levels.

Fast response
A setting for a sound-level meter that will allow the meter to respond to noise events of less than one second. Used for evaluating impulsive/impact noise events (e.g., pile/post driving, jackhammering).

Impulsive Noise
Any single noise event or a series of single noise events, which causes a high peak noise level of short duration (one second or less), measured at a specific location. Examples include, but are not limited to, a gun shot, an explosion or a noise generated by construction equipment (e.g., pile/post driving, jackhammering). Impulse and impact noise are measured using the fast response setting on a sound-level meter.

Noise Sensitive Land Use or Receptor
Any residence, hospital, school, hotel, resort, library, or similar facility where quiet is an important attribute of the environment.

Maximum Sound Level (L_{max})
The highest sound level reached when measuring noise with a sound-level meter using the A-weighted network and slow time weighting. The maximum sound level is equivalent to the industry standard known as L_{max}.

Slow response
A setting for sound-level meters in which the meter does not register events of less than about one second. Used for evaluating continuous and average noise levels (i.e., non-impulsive noise events).

APPENDIX A
Example Noise Monitoring Form

CONSTRUCTION PHASE:			
DATE:			
NAME OF SLM OPERATOR:			
INSERT OR ATTACH MAP *Depict Construction Activity/Equipment Location, Noise-Sensitive Land Uses, and Monitoring Locations.*			
☐ Ambient	☐ General Construction	☐ Impulsive Construction (e.g., Post Driving)	☐ Operation
METEOROLOGICAL CONDITIONS			
Temperature	Humidity	Wind Speed	Wind Direction
SITE CONDITIONS			
Sky / Cloud Cover		Ground Conditions	
MEASUREMENT EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER
Sound Level Meter:			
Calibrator:			
Microphone:			
Calibrated Prior To/Upon Completion of Monitoring?: ☐ Yes ☐ No			

MEASUREMENT DATA					
Monitoring Location Number and Description	Start Time / End Time	LEQ	LMAX	LMIN	Sources Noted/Comments
Additional Notes (Attach additional sheets if necessary):					

**Actual form used may differ from the example provided.*

APPENDIX B
Example Complaint Documentation/Resolution Form

Date Received	
Description of Complaint	

Complainant Information

Name	Location/Address of Noise	Phone

Noise Complaint Investigation

Noise Monitoring Conducted?: ☐ Yes ☐ No
Indicate if noise monitoring has been conducted as part of the noise complaint investigation and attach noise monitoring form, if applicable.

Noise Levels Found to Exceed Applicable Noise Standards? ☐ Yes ☐ No

Recommended Noise Reduction Strategy (If Applicable)

City Notification Information

Name	Phone	Date Notified	Comments/Notes	Noise Control Strategy Approved by City (if applicable)?
				☐ Yes ☐ No

Noise-Control Strategy Verification/Monitoring Performed?: ☐ Yes ☐ No
Indicate if noise monitoring was performed to verify the effectiveness of implemented noise-control strategies and attach noise monitoring form, if applicable.

Controlled Noise Levels Exceed Standard?: ☐ Yes ☐ No
Indicate if controlled noise levels exceed applicable City noise standards. If applicable noise standards are still exceeded, attach additional form, including description of additional noise-reduction strategies to be implemented, notification and verification information.

Report Preparer

Signature: ____

Name/Title: ____

Contact Information/Phone: ______________________________________ Date: ____________________

**Actual form used may differ from the example provided.*

Attachment J: Visual Impact Assessment Memorandum

MINOR VISUAL IMPACT ASSESSMENT MEMORANDUM

Leimert Boulevard Bridge Seismic Retrofit Project

October 2018

City of Oakland

04, Alameda, Leimert Boulevard

Bridge No. 33C0215

Federal Project No. STPLZ-5012(124)

Prepared by: ______________________ **Date:** 10/22/18

Jennifer Johnson
GPA Consulting

Approved by: ______________________ **Date:** 25 Oct 2018

Tom Holstein
Senior Environmental Planner
Caltrans Office of Local Assistance
District 4

Statement of Compliance: Produced in compliance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements, as appropriate, to meet the level of analysis and documentation that has been determined necessary for this project.

MINOR VISUAL IMPACT ASSESSMENT MEMORANDUM

Leimert Boulevard Bridge Seismic Retrofit Project

PURPOSE OF STUDY AND ASSESSMENT METHOD

The purpose of this minor visual impact assessment memorandum (Minor VIA Memo) is to briefly document potential visual impacts caused by the proposed project and propose measures to lessen any detrimental impacts that are identified. Visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to or perceive those changes.

PROJECT DESCRIPTION

The City of Oakland (City), in cooperation with the California Department of Transportation (Caltrans), proposes to seismically retrofit the Sausal Creek Bridge at Leimert Boulevard (bridge) in Oakland, Alameda County, California as part of the Highway Bridge Program (project) (see **Figure 1**, Regional Location). The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area) (see **Figure 2**, Project Location).

The bridge is a 357-foot long open spandrel concrete arch structure and carries two lanes of traffic (one lane in each direction). The superstructure curb-to-curb width is approximately 24 feet wide. The bridge has two 4-foot wide sidewalks on both sides as well as a 1-foot, 2-inch thick concrete railing, giving the bridge a total width of approximately 34 feet, four inches. The entire structure contains 17 bents supporting the roadway, nine of which are directly located over the concrete arch. The arch and the bents that are not supported by the arch are supported on spread footings founded on bedrock.

The bridge is located over 100 feet above the bottom of Dimond Canyon. Dimond Canyon is very steep and heavily vegetated. One 16-inch diameter gas main and one 16-inch water main run underneath the bridge. Developed land uses above Dimond Canyon, and adjacent to the bridge along Leimert Boulevard, include primarily residences, with some commercial and retail uses nearby. Residences overlook the bridge to the east, and views from the bridge include Dimond Canyon to the north and south of the bridge.

The bridge was designed by George Posey, who designed notable structures in Oakland. The bridge was constructed in 1926, and was designated as a landmark in 1980 by the City Landmarks Preservation Advisory Board (LPAB). The bridge has also been determined eligible for listing on the National Register for Historic Places (NRHP).

The City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

Project Purpose

The purpose of the project is to provide a safe, functional, and reliable crossing over Dimond Canyon between Park Boulevard and the Oakmore Highlands neighborhood, while preserving the historic integrity of the Sausal Creek Bridge at Leimert Boulevard to the extent feasible.

Project Need

The project area is located in a region of relatively high seismicity, and is less than a mile southwest of the Hayward fault. Seismic retrofit of the structure is needed to ensure that the bridge will not collapse as a result of a major seismic event.

Per the current Structure Inventory and Appraisal Report prepared for the bridge, the bridge qualifies for rehabilitation funding under the Highway Bridge Program because the bridge has a Sufficiency Rating of 52.3 and is flagged as Functionally Obsolete. The following deficiencies have been observed:

- The spread footing at Bent 15 is undermined by the instability of the steep canyon slope surface and general weathering. Repair of this bent is needed to prevent further undermining.
- The current bridge deck has a 2.5-inch thick layer of asphalt concrete (AC) overlay, which shows heavy cracking in both longitudinal and transverse direction. The deck soffit (i.e., underside) also displays cracks with efflorescence (i.e., crystalline deposits of salts). Repairs to the deck and soffit are needed to protect the integrity of the bridge deck.
- The existing concrete barriers on the bridge have spalls (i.e., chipped material from corrosion, weathering, impacts, etc.) on the inside face of the barrier, and have also been painted on the inside faces, possibly to cover up graffiti. Other areas of the bridge also have spalls in the concrete. Removal of the paint and patching of spalling is needed to restore the natural concrete appearance of the bridge, and to prevent further damage to the concrete and corrosion of the reinforcement inside.
- The chain link fence that is on top of the concrete barriers is damaged in at least two locations. Repair or replacement of the chain link fence is needed to improve the bridge appearance and provide barriers to prevent people or materials from falling off the bridge.

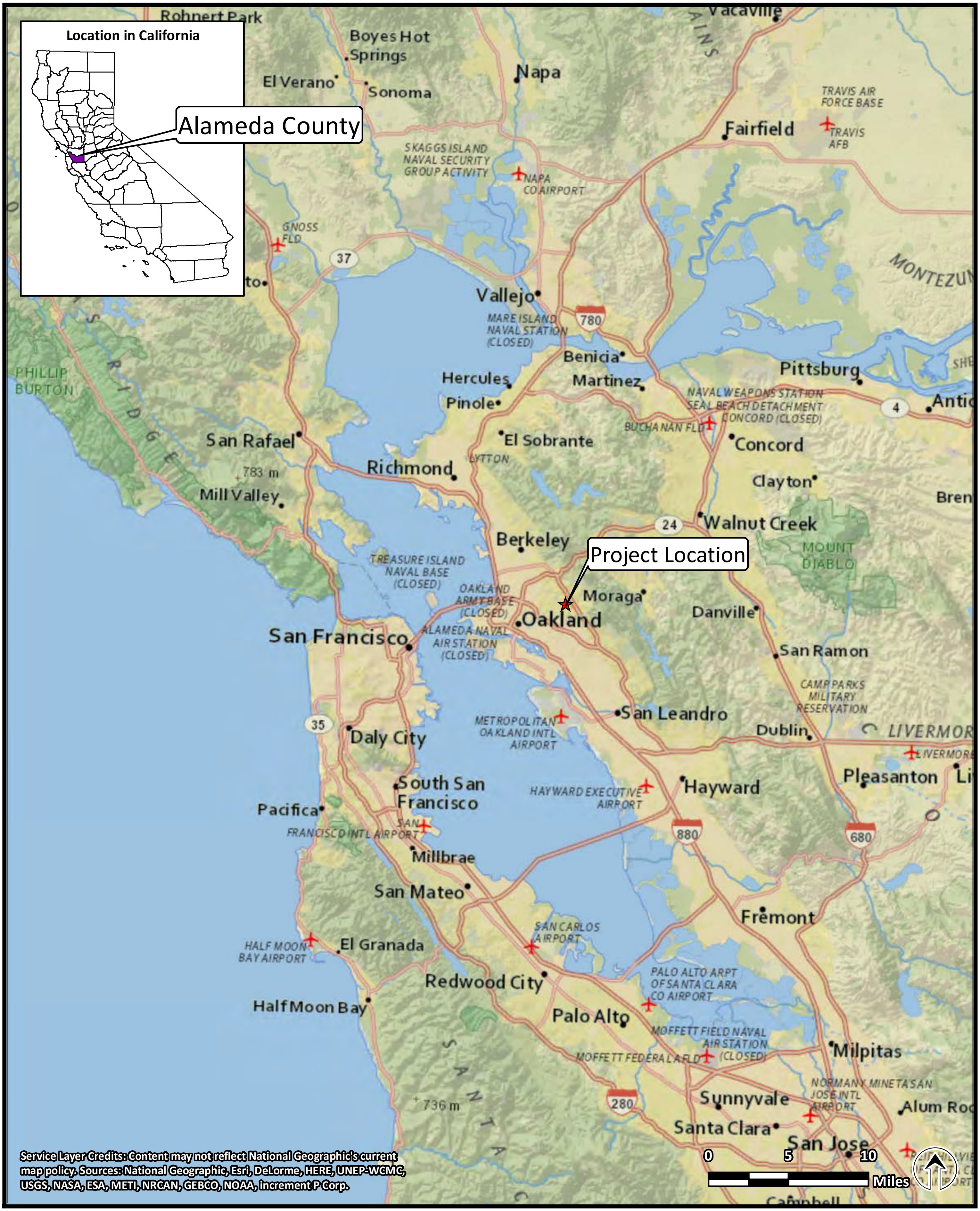

FIGURE 1. REGIONAL LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

CITY OF OAKLAND

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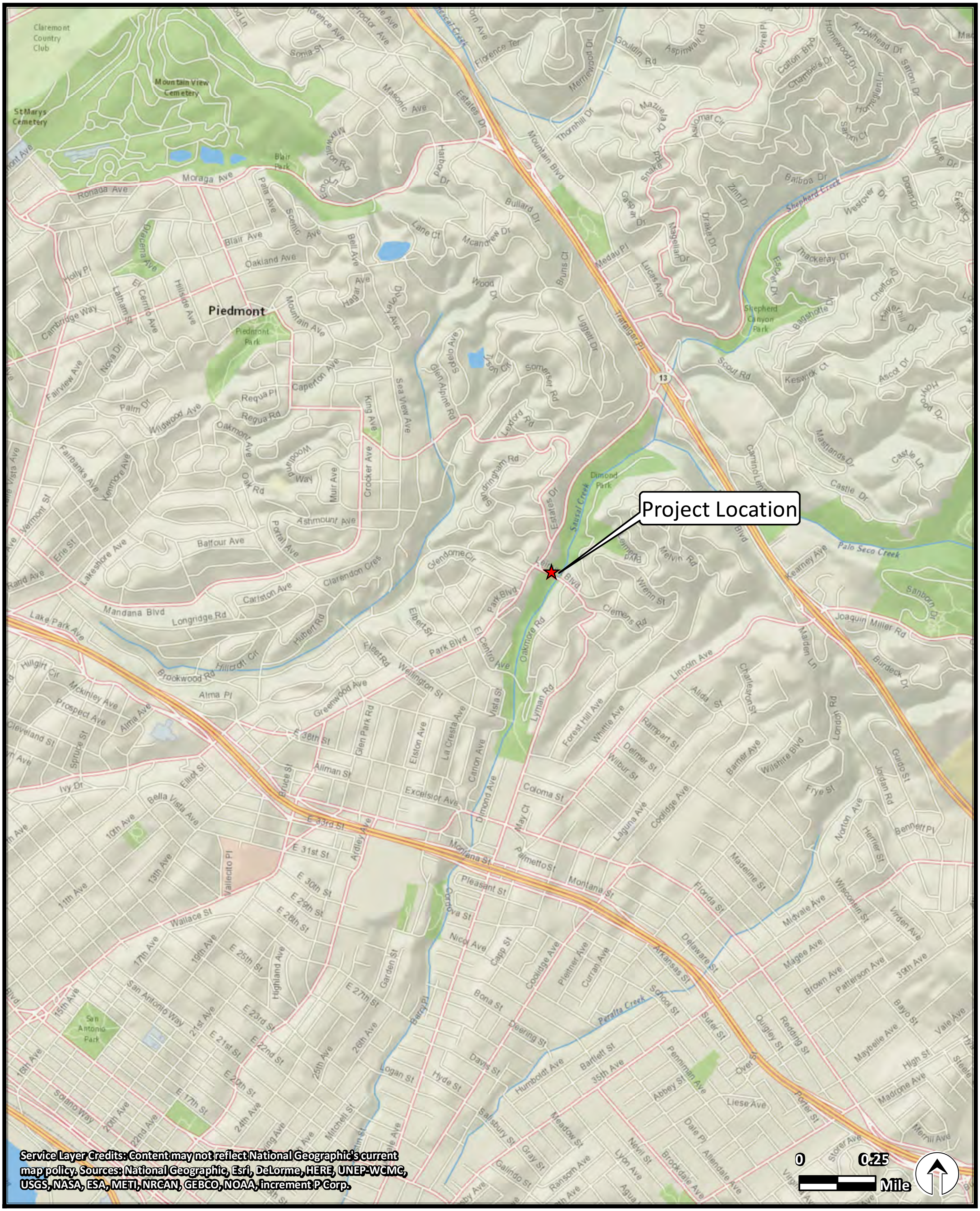

CITY OF OAKLAND

FIGURE 2. PROJECT LOCATION
Leimert Boulevard Bridge Seismic Retrofit Project

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Seismic retrofit of the bridge was previously proposed, and a proposed design was previously completed by URS Greiner Inc. in 1997 under the Caltrans Seismic Retrofit Program after the 1989 Loma Prieta Earthquake. After the completion of this original retrofit design, Caltrans issued the plans to the City to incorporate additional City requirements, process the environmental CEQA and NEPA clearances, certify the required right of way, and issue the project for bid. However, during the course of the environmental review, the State Historic Preservation Office (SHPO) and the LPAB concluded that the proposed bridge retrofit would have a significant impact under CEQA on the historic status of the bridge and, therefore, rejected the proposed retrofit plans. Consequently, the City reissued the project and is pursuing a seismic retrofit design that would avoid significant impacts under CEQA on the bridge's landmark status and historic integrity.

Proposed Project

The following improvements are proposed:

- Carbon fiber reinforced polymer (CFRP) would be wrapped around concrete members to increase the structural capacity of the bridge. The use of CFRP wrap would allow the retrofit to maintain the same size and shape of the original bridge structure, which is one aspect required to maintain the historic integrity of the structure.
- A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed-finish and maintain the current aesthetics of the structure. The board-formed-finish is a significant feature of the historic structure because it reflects the construction method of the time period in which the bridge was built (i.e., the use of board planks instead of plywood to form the concrete). The finish may include color additives that would match the color of the existing concrete portions that are not receiving the CFRP wrap.
- Localized "shotcrete" would be applied around the base of Bent 15 to stabilize the slope surface to prevent further weathering and undermining of the footing. It is anticipated that minor excavation to a depth of about three feet around the bent footing would be required to prepare the ground surface for the application of the shotcrete.
- The existing AC overlay would be removed and replaced with a polyester concrete overlay to protect the integrity of the bridge deck.
- Graffiti paint would be removed and spalled concrete would be patched. The use of sandblasting would be restricted in order to preserve the existing board-formed-finish and concrete surfaces. Alternatively, graffiti paint would be removed using chemical strippers approved by the Caltrans Pre-Qualified Products List for Graffiti Removal and Preventative Products. A water pressure wash would be conducted within a containment system, and all water and paint runoff would be collected and disposed of in accordance with all applicable laws and regulations.
- The chain link fence would be repaired or replaced.

Anticipated Construction Schedule and Methods

Because of the relatively steep slopes and densely vegetated terrain beneath the bridge structure, construction access would be limited. Access to areas under the bridge is anticipated by entering the canyon below the bridge from the top of the slopes, and/or equipment would need to be lowered from the bridge structure to the construction work area beneath the bridge. The majority of work below the bridge deck is anticipated to be performed from suspended scaffolding attached to the existing bridge columns and underside of the bridge deck. Temporary scaffolding may be placed over the Dimond Canyon Trail that traverses under the bridge. The scaffolding would extend over the Sausal Creek low flow channel to serve as a working platform and to provide access over the channel for workers during construction. Some vegetation removal and minor grading under and adjacent to the bridge may be required to accommodate construction activities. All proposed retrofit work would be performed above the 100-year flood elevation.

Partial lane closures would be required to allow equipment to be moved from the bridge deck, over the barrier railing, to the underside of the bridge. Additionally, partial lane closures would be required to remove AC pavement and expose the existing expansion joints, so that the existing expansion joints may be inspected. Partial lane closures would be short-term in nature (up to several hours at a time) and would be limited to off-peak traffic hours whenever feasible.

The 16-inch diameter water main that runs underneath the bridge is anticipated to remain in place during construction, but its attachment points at the transverse arch braces/struts of the bridge would need to be temporarily removed to accommodate the CFRP wrap, and thus the utility would need to be temporarily supported during construction. Following the temporary accommodation of the water main during construction of the proposed project, the water main owner, East Bay Municipal Utility District (EBMUD), may upgrade the water main supports to comply with current standards. The 16-inch diameter casing containing a PG&E gas main that runs underneath the bridge, and rests directly on top of some of the transverse arch braces/struts of the bridge, is anticipated to be temporarily relocated to accommodate the CFRP wrap around these transverse arch braces/struts. The PG&E gas line may be reinstalled in its original location once the CFRP installation is completed.

Project construction is anticipated to take approximately nine months, and would be completed in the order and durations listed below. All days are in work days with an assumed 20 work days per month. The following estimated time durations are approximate, and some of these tasks may be completed concurrently with each other:

- Mobilization (5 days);
- Clearing and Grubbing (10 days);
- Construct Scaffolding (20 days);
- Concrete Crack and Spall Repair (20 days);
- CFRP Wrap Installation with Board-Formed-Finish (100 days);
- Clean Expansion Joint (5 days);

- Shotcrete Footing Slope Paving (5 days);
- AC Removal and Polyester Concrete Overlay Installation (15 days); and
- Miscellaneous (fence repair, barrier concrete repair, and barrier anti-graffiti coating) (10 days).

Measures for preventing material, equipment, and debris from falling into Sausal Creek would be implemented during construction.

PROJECT LOCATION AND SETTING

The project location and setting provides for the context for determining the type of changes to the existing visual environment. The proposed project is located on Leimert Boulevard Bridge in Oakland, Alameda County, California. The bridge (Bridge No. 33C0215) connects the Oakmore Highlands neighborhood in the east to Park Boulevard in the west, spanning over Dimond Canyon, which includes Sausal Creek, as well as Dimond Canyon Park and the Dimond Canyon trail (project area) (see **Figure 2**, Project Location and **Figure 3**, Project Footprint). The project area is in the central portion of the San Francisco Bay Area of California and is surrounded by the Oakland Hills to the east and the San Francisco Bay to the west.

The landscape is characterized by steep, densely vegetated canyon slopes of Dimond Canyon and residential development adjacent to Dimond Canyon. The land use within the project corridor is primarily residential with some commercial and retail uses nearby, and Dimond Canyon is used for recreational use. The project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance.

There are no designated scenic resources in the project area; however, the Leimert Boulevard Bridge is a visually distinctive and historic bridge. Leimert Boulevard is not considered a scenic highway or route in the Scenic Highways Element of the Oakland Comprehensive Plan (City of Oakland, 1974).

The City developed California Environmental Quality Act (CEQA) Thresholds of Significance Guidelines in October 2016 to help clarify and standardize analysis and decision making in the environmental review process (City of Oakland, 2016). The project would have a significant impact on the environment if it were to meet the following thresholds:

- Have a substantial adverse effect on a public scenic vista. Only impacts to scenic views enjoyed by members of the public generally (but not private views) are potentially significant;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, located within a state or locally designated scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area;
- Cast shadow that substantially impairs the beneficial use of any public park or quasi-public park, lawn, garden, or open space;

- Cast a shadow on a 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 listed in the NRHP, Local Register of historical resources, or a historical resource survey form (DPR Form 523) with a rating of 1-5; and
- 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 to the General Plan, Planning Code, and Uniform Building Code addressing the provision of adequate light related to appropriate uses.

The CEQA Thresholds are to be used in conjunction with the City's *Standard Conditions of Approval*. The City developed the *Standard Conditions of Approval* to achieve consistency for project approval, in accordance with CEQA Guidelines sections 15183 and 15183.3. The *Standard Conditions of Approval* contains Environmental Protection Measures to substantially mitigate environmental effects. In cases where a project will result in environmental impacts despite implementation of the *Standard Conditions of Approval*, the City will determine if there are other feasible mitigation measures to reduce significant impacts.

VISUAL RESOURCES AND RESOURCE CHANGE

Visual resources of the project setting are defined and identified below by assessing *visual character* and *visual quality* in the project corridor. *Resource change* is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after the construction of the proposed project.

Visual character includes attributes such as form, line, color, texture, and is used to describe, not to evaluate; these attributes are neither considered good nor bad. However, a change in visual character can be evaluated when it is compared with the viewer response to that change. Changes in visual character can be identified by how visually compatible a project would be with the existing condition by using visual character attributes as an indicator. The following attributes were considered for the project:

Form: Visual mass or shape

Line: Edges or linear definition

Color: Reflective brightness (light, dark) and hue (red, green)

Texture: Surface coarseness

Dominance: Position, size, or contrast

Diversity: Variety of visual patterns

Continuity: Uninterrupted flow of form, line, color, or textural pattern

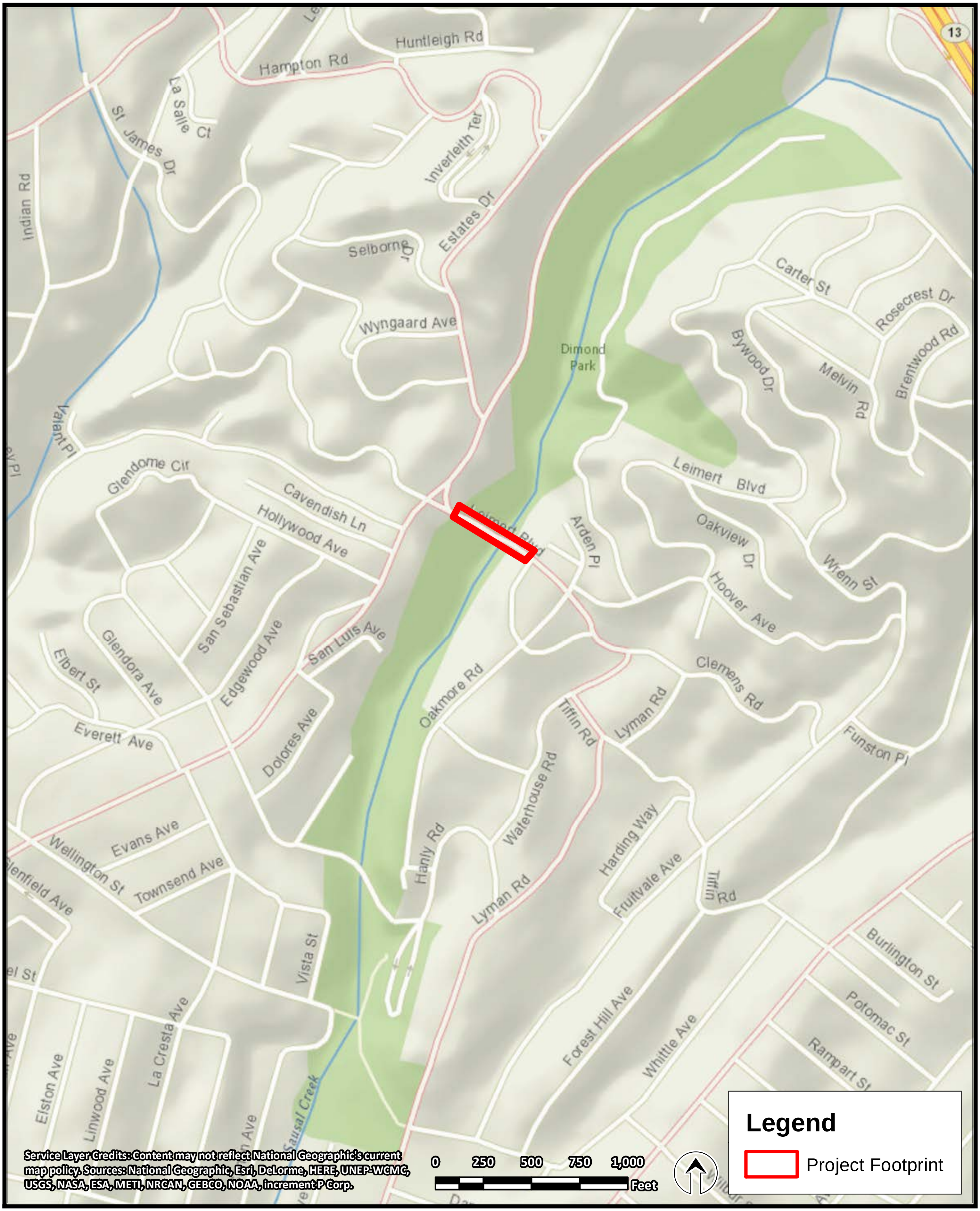

FIGURE 3. PROJECT FOOTPRINT
Leimert Boulevard Bridge Seismic Retrofit Project

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The visual character of the proposed project would be compatible with the existing visual character of the corridor. As viewed on the bridge deck, the dominant features in the landscape are of the paved roadway, concrete walls, chain link fence (see **Figure 4**). Dense vegetation can be seen on the slopes of Dimond Canyon below the bridge, although views into the canyon from the bridge deck are limited for vehicular users of the bridge; views of the vegetated canyon can be more readily seen by pedestrian and bicycle users of the bridge. The straight lines, solid color, and texture of the bridge structure provide contrast to the varying colors of green and texture of the vegetation surrounding the bridge. From the bridge, visual diversity and continuity would be considered moderate. The project would include removing the AC on the roadway and replacing it with a polyester concrete overlay, repairing or replacing the chain-link fence in-kind, and repairing the concrete barriers and applying an anti-graffiti coating. The bridge deck, concrete barriers, and chain-link fence would remain consistent with the visual attributes of the existing bridge (see **Figure 5**).

The bridge is located over 100 feet above the bottom of Dimond Canyon. From below the bridge, views of the bridge are largely obscured by the dense vegetation (California bay (*Umbellularia californica*) and silver wattle acacia (*Acacia delbata*) are the dominant species) growing within Dimond Canyon. Sections of the arch structure of the bridge can be seen through openings in the tree canopy; the bridge bents can also be seen from under the bridge (see **Figure 6**). The smooth lines and solid color of the bridge structure provide contrast to the varying greens and texture of the vegetation. The graffiti on the bridge adds color and additional texture to the landscape. From below the bridge, the visual diversity would be considered high and the continuity would be considered low.

The proposed project would retrofit the bridge with a carbon fiber reinforced polymer (CFRP) that would allow the retrofit to maintain the same size and shape of the original bridge structure. A mortared finish would be applied over the CFRP wrap to resemble the existing board-formed finish and maintain the current aesthetics of the structure. In addition, graffiti paint on the bridge would be removed on the portions of the bridge where CFRP wrap would be applied and bring those areas of the bridge back to its original finish condition (see **Figure 7**). Graffiti paint would remain unchanged in areas where CFRP would not be applied. It is anticipated that graffiti paint would eventually return to the portions of the bridge where CFRP wrap will be applied. Therefore, after the project is complete the bridge would have a similar appearance (size, shape, color, and texture) as the existing bridge structure.

Visual quality is evaluated by identifying the vividness, intactness, and unity in the existing visual setting. Public attitudes validate the assessed level of quality and predict how changes to the project corridor can affect these attitudes. This process assists with identification of appropriate measures to address visual impacts that may result from a project. The three criteria for evaluating visual quality are defined below:

Vividness: The extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements;

Intactness: The integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions; and

Unity: is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

The visual quality of the existing corridor would not be substantially altered by the proposed project. From the bridge, the views consist of the roadway, glimpses of the adjacent residences, and vegetation associated with Dimond Canyon. The chain link fence allows a line of sight past the roadway; however, the dense vegetation limits views into the distance. Therefore, the vividness of the landscape is considered moderate. Although there are limited intrusions across the roadway corridor, there are elements along the edges of the corridor that interrupt the continuity of the viewshed; therefore, intactness would be considered moderate. The lines of the roadway, bridge barriers, and chain-link fence lead the eye down the corridor and provide a coherency to the landscape; therefore, the unity within this viewpoint would be considered moderate. The project would not introduce any new elements to the landscape and would not result in changes to the vividness, intactness, or unity of the viewshed from the bridge; therefore, the visual quality of the existing corridor would not be altered by the project.

From below the bridge, the views consist mainly of the trees and vegetation within Dimond Canyon and there are limited views of the bridge. Vegetation does not stand out from other views along the Dimond Canyon corridor and would not be considered more memorable than other views in the viewshed. Therefore, vividness would be considered moderately low. Views of the bridge consist only of portions of the arch structure as users of the trail below approach the bridge; therefore, intactness would be considered moderately high. The vegetation within the Dimond Canyon is mostly uniform and the bridge structure is the only element that detracts from the unity of the corridor; therefore, unity would be considered moderately high. Some vegetation and tree trimming and removal would be required for the project; however, tree removal would be limited (approximately eight trees would be trimmed and seven would be removed,) and the vegetation removal would be a temporary change to the viewshed as it is anticipated that vegetation, such as ivy and shrubs, would quickly return to the project area. Of the trees to be removed, five are native species (coast live oak (Quercus agrifolia)) with a diameter at breast height (dbh) greater than nine inches, and two are non-native species (Acacia sp.). No trees with a dbh of 36 inches or greater would be removed by the project. **Figure 8** shows the location of trees that are anticipated to be removed by the project. Five new 24-inch box size coast live oaks would be planted within the project vicinity to mitigate for removal of the native trees, in order to comply with the requirements of the City of Oakland Tree Protection Ordinance (Oakland Municipal Code 12.36). It is anticipated that the replacement trees would be planted within the footprint of the construction area for the project. No tree replacement would be required for the removal of the non-native species. The project would not introduce new elements to the landscape or result in changes to the vividness, intactness, or unity of the viewshed from the bridge; therefore, the visual quality of the existing corridor would not be substantially altered by the project.

The project would retrofit the existing bridge structure and would substantially maintain the current aesthetics of the structure. The bridge deck, concrete barriers, and chain-link fence would remain consistent with the visual attributes of the existing bridge. Therefore, the project would not result in a substantial change to the visual character or visual quality (resource change) of the landscape.

Source: GPA Consulting, 2017

Figure 4. View of the Bridge Deck Before Project

Source: GPA Consulting, 2018

Figure 5. View of the Bridge Deck After Project

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Source: GPA Consulting, 2017

Figure 6. View from Below the Bridge Before Project

Source: GPA Consulting, 2018

Figure 7. View from Below the Bridge Before Project

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FIGURE 8. POTENTIAL TREE REMOVAL
Leimert Boulevard Bridge Seismic Retrofit Project

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VIEWERS AND VIEWER RESPONSE

There are two major types of viewer groups for roadway projects: roadway neighbors and roadway users. Each viewer group has their own particular level of viewer exposure and viewer sensitivity, resulting in distinct and predictable visual concerns for each group which help to predict their responses to visual changes.

Roadway neighbors are people who have views “to” the road. They can be subdivided into different viewer groups by land use. For example, residential, commercial, industrial, retail, institutional, civic, educational, recreational, and agricultural land uses may generate roadway neighbors or viewer groups with distinct reasons for being in the corridor and therefore having distinct responses to changes in visual resources. For this project the following roadway neighbors were considered:

Residents/Business Owners/Employees: This viewer group includes residents adjacent to the project area and business owners/employees of the adjacent businesses. The nearest residence is directly adjacent to the bridge; however, views of the bridge are limited by vegetation.

Visitors/Recreational Users: This viewer group includes visitors or recreational users within the project area using the Dimond Canyon trails below the bridge.

Roadway users are people who have views “from” the road. They can be subdivided into different viewer groups in two different ways—by mode of travel or by reason for travel. For example, subdividing roadway users by mode of travel may yield pedestrians, bicyclists, transit riders, car drivers and passengers, and truck drivers. Dividing highway users or viewer groups by reason for travel creates categories like tourists, commuters, and haulers. It is also possible to use both mode and reason for travel simultaneously, creating a category like bicycling tourists, for example. For this project the following roadway users were considered:

Residents/Business Owners/Employees: This viewer group includes residents or business owners/employees of the adjacent businesses traveling along Leimert Boulevard.

Viewer response is a measure or prediction of the viewer’s reaction to changes in the visual environment and has two dimensions, viewer exposure and viewer sensitivity. Viewer exposure is a measure of the viewer’s ability to see a particular object. Viewer exposure has three attributes: location, quantity, and duration. “Location” relates to the position of the viewer in relationship to the object being viewed. The closer the viewer is to the object, the more exposure. “Quantity” refers to how many people see the object. The more people who can see an object or the greater frequency an object is seen, the more exposure the object has to viewers. “Duration” refers to how long a viewer is able to keep an object in view. The longer an object can be kept in view, the more exposure it has. High viewer exposure helps predict that viewers will have a response to a visual change.

Viewer sensitivity is a measure of the viewer’s recognition of a particular object. Viewer sensitivity has three attributes: activity, awareness, and local values. “Activity” relates to the pre-occupation of viewers, whether they are preoccupied, thinking of something else, or are they truly engaged in observing their surroundings. The more they are actually observing their surroundings, the more sensitivity viewers will have of changes to visual resources. “Awareness” relates to the focus of view, whether the focus is wide and the view general or the focus is narrow and the view specific. The more specific the awareness, the more sensitive a viewer is to change. "Local values" and attitudes also affect viewer sensitivity.

If the viewer group values aesthetics in general or if a specific visual resource has been protected by local, state, or national designation, it is likely that viewers will be more sensitive to visible changes. High viewer sensitivity helps predict that viewers will have a high concern for any visual change.

Neighbors and roadway users would not be substantially affected by the proposed project. Residents directly adjacent to the bridge would have high exposure to the project area; however, viewers would be minimal. Residents further from the bridge would have moderate exposure to the project area, as views would be short-term in duration as residents are leaving or returning to their homes. Therefore, exposure for residents would be moderately high. Business owners and employees would have short-term exposure to views in the project area when arriving or leaving businesses; however, exposure would be often, potentially daily. Overall exposure of residents and business owners/employees would be moderately high.

Awareness of the existing visual setting and sensitivity to visual changes would be high for residents because they would be near their homes and more focused on their surroundings. Awareness of the visual setting would be moderate for business employees and patrons who would be more focused on their business, but may be moderately high for business owners who are concerned with the visual surroundings of their businesses. Therefore, overall sensitivity of this viewer group to visual changes in the project area would be considered moderately high.

The Dimond Canyon trail is a moderately trafficked hiking path. Because of the dense vegetation within Dimond Canyon, visitors and recreational users of the Dimond Canyon trail would have short-term and intermittent exposure to views of the bridge. Overall exposure for this viewer group would be moderately low. Awareness of the visual setting would be high because viewers would be engaged in passive activities, and would be more focused on their surroundings. Therefore, the sensitivity of visitors and recreational users to visual changes in the project area would be considered high.

Most viewers from the bridge would be traveling to or from work or home. There would be a moderate number of viewers in this viewer group, since the bridge would likely be used primarily by local residents and business owners/employees, who are relatively limited in number. This viewer group would have moderate exposure to views in the project area when traveling across the bridge; exposure would be higher for pedestrians and passengers than drivers. Overall exposure for this viewer group would be moderately high. Awareness of the visual setting would be moderate for drivers since the speed limit on Leimert Boulevard is low, and would be high for passengers and pedestrians who would be engaged in passive activities and would be focused on their surroundings. However, viewers would have short-term exposure to views in the project area because of the relatively short length of the bridge and the dense vegetation surrounding the bridge. Therefore, overall sensitivity of this viewer group to visual changes in the project area would be considered moderate.

The narrative descriptions of viewer exposure and viewer sensitivity for each viewer group were merged to establish the overall viewer response of each group to visual changes resulting from the project (see **Table 1**). It is anticipated that the average response of all viewer groups would be moderate to moderately high.

Table 1. Predicted Viewer Response

Viewer Group	Exposure	Sensitivity	Viewer Response
Roadway Neighbors (Views to the Road)			
Residents/Business Owners/Employees	Moderately High	Moderately High	Moderately High
Visitors/Recreational Users	Moderately Low	High	Moderate
Roadway Users (Views from the Road)			
Residents/Employees	Moderately High	Moderate	Moderately High

VISUAL IMPACT

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. Two alternatives were assessed: the No Build Alternative and the Build Alternative. The No Build Alternative would not include any improvements to the existing bridge, other than routine maintenance; therefore, the No Build Alternative would not result in any direct changes to existing visual resources or visual impacts. The Build Alternative would require tree and vegetation removal/trimming in order to construct a temporary access path from the top of Dimond Canyon down the side of the canyon to allow construction crews to access the underside of the bridge. Although, the average viewer response of all viewer groups would be moderate to moderately high, the project would result in a low change to visual character and quality (resource change); therefore, the visual impacts would be considered moderate to moderately low. During construction, suspended scaffolding would be temporarily placed around the existing bridge columns and underside of the bridge deck, and may be placed over the Dimond Canyon Trail. Construction is anticipated to last approximately nine months, and the majority of impacts would be limited to this period. Five new 24-inch box size coast live oaks will be planted within the project vicinity to mitigate for removal of the native trees. Vegetation removal would result in impacts lasting for a longer period until the vegetation is reestablished.

The bridge retrofit would include wrapping CFRP around the concrete members of the bridge and applying a mortared finish to resemble the existing board-formed finish. In addition, graffiti paint on the bridge structure would be removed and the natural concrete appearance of the bridge would be restored, resulting in a beneficial visual impact. The Build Alternative would maintain the same size and shape of the original bridge structure and the current aesthetics of the structure would remain the same. Therefore, the project would not result in impacts on the visual character of the existing bridge.

There are no designated scenic resources in the project area and Leimert Boulevard is not considered a scenic highway; however, the Leimert Boulevard Bridge is a visually distinctive and historic bridge. The project would maintain the current aesthetics of the existing bridge and would preserve the historic integrity of the bridge.

The existing sources of lighting in the project area are primarily associated with roadway vehicles and street lamps on the bridge. The project would consist of retrofitting the bridge with materials that would match the color and texture of the existing bridge, without graffiti paint, and would not create new sources of light or glare that would affect day or nighttime views in the area.

The project would maintain the existing visual character and visual quality of the landscape, but would result in a temporary visual impact from tree trimming and vegetation removal and graffiti removal. Therefore, the overall visual impacts of the project would be moderately to moderately low and would be reduced over time as the vegetation is reestablished. Removal of graffiti would be considered an improvement to the visual quality of the bridge; however, it is anticipated that graffiti would be reapplied to the structure over time.

AVOIDANCE AND MINIMIZATION MEASURES

This section describes avoidance and minimization measures to address specific visual impacts. The following measure to avoid or minimize visual impacts would be incorporated into the project:

- Tree and vegetation trimming would be minimized to the extent feasible.
- Five new 24-inch box size coast live oaks will be planted within the project vicinity to mitigate for removal of the native trees. Replacement tree species would consist of *Sequoia sempervirens* (Coast Redwood), Coast Live Oak, *Ancutus merciesii* (Madrone), *Aesculus californica* (California Buckeye) or California Bay Laurel.

The following avoidance and minimization measures would be implemented during construction per the City's *Standard Conditions of Approval* (City of Oakland, 2017) to avoid or minimize adverse effects on visual resources:

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 principals 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).

With compliance with the City's Standard Conditions of Approval listed above, the project would not be expected to result in substantial impacts on visual resources.

CONCLUSIONS

Visual impacts resulting from operation of the project are anticipated to be moderate to moderately low from tree trimming and vegetation removal and graffiti removal. Minimization measures would be incorporated into the project to minimize temporary impacts resulting from construction activities, including vegetation removal and staging. These minimization measures would reduce temporary project impacts as seen from Leimert Boulevard and the Dimond Canyon trail. With implementation of the avoidance and minimization measures, moderate short-term visual impacts would remain from tree trimming and vegetation removal and graffiti removal, until the vegetation has reestablished.

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