

# Appendix D

## Initial Site Assessment

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**INITIAL SITE ASSESSMENT  
HAMNER AVENUE WIDENING PROJECT  
FROM SCHLEISMAN ROAD TO CITRUS STREET AND  
FROM DETROIT STREET TO SIXTH STREET  
EASTVALE AND NORCO, CALIFORNIA  
COUNTY PROJECT NO. 09-0019**

Prepared for

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11870 Pierce Street, Suite 265  
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Prepared by

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GDC Project No. EN723  
February 2020

CNS Engineers, Inc  
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February 2020  
Group Delta Project: EN723

Attention: James Lu, PE, SE

Subject: Initial Site Assessment  
Hamner Avenue Widening Project  
from Schleisman Road to Citrus Street and from Detroit Street to Sixth Street  
Eastvale and Norco, California

Dear Mr. Lu:

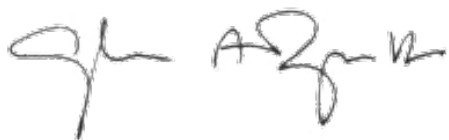
Group Delta Consultants, Inc. is pleased to submit this Initial Site Assessment report for the Hamner Avenue Widening Project from Schleisman Road to Citrus Street and from Detroit Street to Sixth Street (Project). The purpose of the report is to assist the Project proponents in understanding whether significant environmental liabilities regarding hazardous waste or Recognized Environmental Conditions exist on the Project. This report discusses our purpose and scope of work, execution of work, conclusions, and recommendations for the Project. Group Delta Consultants, Inc. has interpreted the American Society for Testing and Materials E1527-13 as the guidance documents for this Initial Site Assessment and used their provisions to the extent deemed appropriate for this report.

We appreciate your selection of Group Delta Consultants, Inc. for this Project and look forward to assisting you further on this and other projects. If you have any questions, please do not hesitate to contact us.

Should you have any questions regarding this report, please feel free to call us at (949) 450-2100.

Sincerely,

**GROUP DELTA CONSULTANTS, INC.**



Glenn Burks, Ph.D., P.E.  
Principal, Director of Environmental Services  
Environmental Professional



Tomo Demers  
Project Scientist

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## EXECUTIVE SUMMARY

Hamner Avenue is a north-south arterial road in the City of Norco (Norco) and the City of Eastvale (Eastvale). Riverside County Transportation Department (RCTD) in cooperation with the Cities of Norco and Eastvale are proposing to widen two segments of Hamner Avenue from Detroit Street to Sixth Street/Norco Drive and from Schleisman Road to Citrus Street (Project), to six lanes (3 lanes in each direction) in anticipation of the Hamner Avenue Bridge (Replace) County Project No. B7-0754 that will widen Hamner Avenue Bridge over the Santa Ana River from 2 to 6 lanes. The limits of the Hamner Avenue Bridge (Replace) County Project No. B7-0754 are from Detroit Street to Citrus Street. Once constructed, these projects will help to meet the current and future traffic demands improving the traffic operation for this corridor. The purpose of this project is to provide street improvements to achieve 3-lanes of travel way in each direction on Hamner Avenue and eliminate the lane reduction bottleneck that would occur north of Sixth Street and south of Schleisman Street with the completion of the Hamner Avenue Bridge (Replace) County Project No. B7-0754 improvements between Detroit Street and Citrus Street.

The purpose of the ISA was to review, evaluate, and document present and past land uses and practices, and visually examine Project conditions to identify Recognized Environmental Conditions (RECs). A REC is defined as the presence or likely presence of any hazardous substances or petroleum hydrocarbons on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the Project.

Group Delta Consultants, Inc. (Group Delta) has interpreted the Caltrans ISA Guidance Document (Geomatrix Consultants, 2006) and the American Society for Testing and Materials (ASTM) E1527-13 as the guidance documents for this ISA and used their provisions to the extent deemed appropriate for this report.

**Findings and Conclusions** – The focus of the ISA was the Hamner Avenue Widening Project from Schleisman Road to Citrus Street and from Detroit Street to Sixth Street. This assessment has revealed no RECs associated with the proposed project.

The following items are not considered RECs, but may warrant further investigation or implementation of special provisions during Project construction:

- Yellow striping exists along the roadways within the northern segment of the Project area. It is assumed that the striping contains lead and chromium. Elevated concentrations of lead, likely meeting the criteria for Federal Resource Conservation and Recovery Act (RCRA) Hazardous Waste were detected in yellow striping along the Hamner Avenue Bridge (Replace) County Project No. B7-0754.
- ADL is a common contaminant along unpaved shoulders of highways and arterial roadways. Based upon the results of an ADL Site Investigation conducted for the Hamner Avenue Bridge (Replace) County Project No. B7-0754, ADL was not present at regulated

concentrations in unpaved soil on this adjacent project. These results indicate it is unlikely ADL will be present at regulated concentrations along the Project alignment.

- Neighboring gas stations identified in Section 5.1.2 are not considered RECs to the Project. Although it is impossible to definitively determine contamination will not be encountered without supplemental site investigation, there is no evidence that impacted soil may be encountered during Project construction activities based upon the documents reviewed. Supplemental site investigation does not appear warranted.

**Recommendations** – Based on the findings of this ISA, Group Delta provides the following recommendations:

- Yellow striping/thermoplastic striping will need to be appropriately managed as described in Section 11. Riverside County can elect to conduct a striping site investigation prior to construction to determine the disposition of yellow striping along the Project Alignment, and associated management requirements. Alternatively, it can be assumed the striping is hazardous, similar to the Hamner Avenue Bridge (Replace) County Project No. B7-0754, and the striping can be managed using Caltrans Standard Special Provisions.



## **1.0 INTRODUCTION**

### **1.1 Background and Project Description**

Hamner Avenue is a north-south arterial road in the City of Norco (Norco) and the City of Eastvale (Eastvale). Riverside County Transportation Department in cooperation with the Cities of Norco and Eastvale are proposing to widen two segments of Hamner Avenue from Detroit Street to Sixth Street/Norco Drive and from Schleisman Road to Citrus Street, to six lanes (3 lanes in each direction) in anticipation of the Hamner Avenue Bridge (Replace) County Project No. B7-0754 that will widen Hamner Avenue Bridge over the Santa Ana River from 2 to 6 lanes. The limits of the Hamner Avenue Bridge (Replace) County Project No. B7-0754 are from Detroit Street to Citrus Street. Once constructed, these projects will help to meet the current and future traffic demands improving the traffic operation for this corridor. The purpose of this project is to provide street improvements to achieve 3-lanes of travel way in each direction on Hamner Avenue and eliminate the lane reduction bottleneck that would occur north of Sixth Street and south of Schleisman Street with the completion of the Hamner Avenue Bridge (Replace) County Project No. B7-0754 improvements between Detroit Street and Citrus Street.

The Project vicinity is shown in Figure 1.

### **1.2 Purpose**

The purpose of the Initial Site Assessment (ISA) was to review, evaluate, and document present and past land uses and practices, and visually examine Project conditions to identify Recognized Environmental Conditions (RECs). A REC is defined as the presence or likely presence of any hazardous substances or petroleum hydrocarbons on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the subject property. The REC term does not include *de minimis* conditions that generally do not present a threat to human health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

### **1.3 Detailed Scope of Work**

Group Delta Consultants, Inc. (Group Delta) has interpreted the American Society for Testing and Materials (ASTM) E1527-13 as the guidance documents for this ISA and used their provisions to the extent deemed appropriate for this report. In general, the scope of work for the ISA included:

- Review of information provided by client;
- Review of available information to describe the general geology and hydrogeology at the Site and adjacent areas;

- Review of on-line available data including databases maintained by the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB);
- Review of historic aerial photographs, historic topographic maps, Sanborn® fire maps, City Directories, and a radius map database search provided by Environmental Data Resources, Inc. (EDR);
- Reconnaissance of the Site and the immediately surrounding area to identify indicators of the existence of hazardous materials or RECs;
- Attempts to interview an owner representative for the Site;
- Attempts at completing the Caltrans User Questionnaire;
- Development of conclusions and findings, and;
- Preparation of a report describing the assessment and presenting the results and findings.

A statement of interpretive limitations is contained in Section 1.5 of the report.

#### **1.4 Significant Assumptions**

As stated in the previous section, this ISA was conducted in general accordance with ASTM E1527-13 to the extent deemed appropriate. This was done to identify and analyze environmental conditions that constitute existing, past, or potential environmental risks associated with the Site. Performance in accord with this standard is intended to reduce, but not eliminate uncertainty with respect to the potential for RECs associated with the Site.

#### **1.5 Limitations and Exceptions**

This ISA report is intended for the sole use of the Client and on the specific project identified. Our services have been performed under mutually agreed-upon terms and conditions. If other parties wish to rely on this report, please have them contact us so that a mutual understanding and agreement of the terms and conditions for our services can be established prior to their use and reliance of this report and the information it contains.

The findings and opinions presented are relative to the dates of our project work and should not be relied on to represent conditions at substantially later dates. The opinions included herein are based on information obtained during the study and our experience. If additional information becomes available, which might impact our environmental findings, we request the opportunity to review the information, reassess the potential conditions, and modify our opinions, if warranted.

Although this assessment has attempted to identify the potential for environmental impacts to the Site, potential sources of contamination may have escaped detection due to: (1) the limited scope of this assessment; (2) the inaccuracy of public records, and/or; (3) the presence of undetected or unreported environmental incidents.

It was not within the scope of this assessment to address issues not included in ASTM E1527-13 (such as radon, lead in drinking water, naturally-occurring hazardous materials or vegetation, endangered species, wetlands, etc.). Furthermore, it was not the purpose of this study to determine the degree or extent of contamination, if any, at the Project.

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar conditions, by reputable environmental consultants practicing in this or similar localities. No other warranty, expressed or implied, is made regarding the professional information in this report.

### **1.6 User Reliance**

This assessment was performed at the request of the Client, utilizing methods and procedures consistent with good commercial or customary practices designed to conform to acceptable industry standards. The assessment and conclusions presented in this report represent the best professional judgment of the Environmental Professional based on the conditions that existed during the assessment and the information and data available to us during the course of this assignment.

Information regarding operations and conditions provided by the Client, owner, or their representative has been assumed to be correct and complete.

The report may be distributed and relied upon by the Client, its successors and assigns. Reliance on the information and conclusions presented in this report by any other party or parties is not authorized without the written consent of Group Delta.

## 2.0 SITE DESCRIPTION

### 2.1 Location and Legal Description of the Site

The Project is located along Hammer Avenue between Citrus Street and Detroit Street. Two segments of Hammer Avenue are proposed to be widened, from Schleisman Road to Citrus Street, and from Detroit Street to 6th Street/ Norco Drive. The Project length is approximately 0.37 miles and 0.34 miles, respectively.

The Project includes four Temporary Construction Easement parcels (TCEs), which will be utilized during construction as staging areas. The locations and areas of these parcels are shown on the Conceptual Design Exhibit included in Appendix A. Information pertaining to these parcels is provided as follows:

<b>Table 1 Project TCE Parcel List</b>				
<b>APN</b>	<b>General Location</b>	<b>Square footage (ft<sup>2</sup>)</b>	<b>Owner</b>	<b>Current Use</b>
131-101-001	SW of Hamner Ave and Detroit St Intersection	16,000	City of Norco	Vacant commercial land
131-101-010	NE of Hamner Ave and Taft St Intersection	20,000	Samir Patel	Vacant commercial land
152-430-050	West of Hamner Avenue near mid-point of northern segment of Project area	700	North Corona 417	Residential vacant land
152-070-001	NE of Hamner Ave and Citrus St Intersection	6,400	City of Norco	Silver Lakes Equestrian and Sports Park

### 2.2 Site and Vicinity General Characteristics

Hamner Avenue is located approximately ½ of one mile west of Interstate 15 (I-15) Freeway in the City of Eastvale and approximately 1,000 feet west of the I-15 Freeway in the City of Norco in the County of Riverside, California. Hamner Avenue is primarily located in the City of Norco and enters the City of Eastvale approximately 1,100 feet north of Citrus Street. The project’s vicinity is generally characterized by residential, commercial, recreational and vacant developments.

The existing conditions of the Project were noted as the following:

- South of Sixth Street, Hamner Avenue is striped for two lanes in each direction and has approximately 36 feet of travel way between the raised median and the existing curb and gutter.
- Between Detroit Street and Sixth Street, Hamner Avenue is striped for two lanes in each direction. Generally, there is 36 feet of pavement between the median curb and the outside curb and gutter.
- Between Detroit Street and Citrus Street Hamner narrows to one lane in each direction and crosses over the Santa Ana River on an all-weather bridge before widening to 76 feet from curb to curb fronting the recently developed athletic fields at Citrus Street.
- Between Schleisman Road and Citrus Street, Hamner Avenue is improved with curb, gutter, and sidewalk on both sides. The privately owned Silverlakes Athletic Park is on the east side and a residential housing development is on the west side. The width of Hamner Avenue varies from 76 feet to 82 feet and transitions to 110 feet at Schleisman Road meeting the County Standard for Urban Arterial Highway.
- A proposed mixed-use hotel/shopping plaza known as Hamner Place is undergoing initial development/grading east of the Schleisman Road and Hamner Avenue intersection.

### **2.3 Current Use of the Site and Adjacent Properties**

Hammer Avenue is a high-traffic arterial roadway parallel to I-15, that provides access to residential communities and commercial facilities between the city limits of Norco and Eastvale. I-15 traffic can access Hammer Avenue via Sixth St located south of the project development.

Adjacent properties to the Project include single-family residences, libraries, gasoline stations, restaurants, retail stores, parking lots, athletic fields, parks, Santa Ana River Bridge, and vacant lots.

### **2.4 Site Geology**

Geology in the vicinity of the Site can be inferred from a previous ISA for the Hamner Avenue Bridge (Replace) County Project No. B7-0754, prepared by Diaz Yourman & Associates (DYA) in September 2017. The Hamner Avenue Bridge site is located immediately north and south of the respective Project areas.

The Project area lies within the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges is a northwest trending series of ranges and valleys that are subparallel to faults branching from the San Andreas Fault. The ranges and valleys are bound to the east by the Colorado Desert and to the north by the Transverse Ranges. The Province reaches into lower California and includes the islands off the coast of California as well as the surrounding continental shelf. The Project area is mapped as Quaternary young alluvium (Qya), Quaternary

young wash (Qyw) and Quaternary older fan (Qof) deposits. Qya are described as slightly to moderately consolidated silt, sand, and gravel. Boulders might also be included in these deposits given the proximity to Qof. Qyw consists of unconsolidated sand and gravel deposits. Due to the active Santa Ana River that cuts through the wash deposits, it should be expected that cobbles and boulders may also be encountered. Qof deposits are characterized as moderately to well-consolidated silt, sand, and gravel and may include clasts up to boulder size (DYA 2017).

## **2.5 Site Hydrology**

Hydrology in the vicinity of the Site was also inferred from a previous ISA for the Hamner Avenue Bridge (Replace) County Project No. B7-0754, prepared by DYA in September 2017.

The Project area lies within the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin. The subbasin is bounded to the north by the Chino Basin, to the east by the La Sierra Hills and crystalline rocks of the El Sobrante de San Jacinto, to the south by the Elsinore Groundwater Basin, and to the west by the Santa Ana Mountains.

The groundwater gradient generally trends toward the Santa Ana River in the vicinity of the Project area; however, based on a review of online environmental databases, localized groundwater gradients have been shown to flow away from the Santa Ana River because of seasonal fluctuations. Historical groundwater levels for the area were determined from water monitoring wells in the area. Based on these wells, which are approximately ½ mile south or southeast of the Project area, groundwater ranges from approximately 19 to 31 feet below ground surface. Locations closer to the Santa Ana River will likely have shallower groundwater levels.

### **3.0 USER PROVIDED INFORMATION**

#### **3.1 Title Records**

No title records were reviewed as part of this assessment.

#### **3.2 Environmental Liens or Activity and Other Use Limitations (AUL)**

The User is not aware of any environmental liens, Activity Use Limitations (AULs), or any pending past or threatened litigation related to hazardous substances or petroleum products associated with the Project.

No reports of environmental liens or AULs were provided by the User during this ISA or identified in the title report.

#### **3.3 Specialized Knowledge and Commonly Known or Reasonably Ascertainable Information**

The ASTM Standard suggests the ISA User provide any specialized knowledge and common or reasonably ascertainable information indicative of RECs pertaining to the Site to the ISA preparer. The User did not provide any information relating to specialized knowledge of environmental liens, activity and land use limitations, obvious indicators of contamination, or commonly known nor reasonably ascertainable information that would help Group Delta identify conditions indicative of releases or threatened releases at the Project.

#### **3.4 Valuation Reduction for Environmental Issues**

The User has no information related to valuation reductions associated with acquisitions proposed for the Project.

#### **3.5 User Provided Documents**

The User provided preliminary drawings, and three previous reports conducted for an adjacent project, the Hamner Avenue Bridge (Replace) County Project No. B7-0754, which is similar in scope to the Hamner Avenue Widening Project. The information within the following reports was utilized by Group Delta when applicable to the Project and are included in Appendix A:

***Initial Site Assessment - Replacement of Hamner Avenue Bridge over Santa Ana River, prepared by DYA on September 26, 2017***

On September 26, 2017, DYA prepared an ISA for the Hamner Avenue Bridge (Replace) County Project No. B7-0754 in the Cities of Eastvale and Norco, California, which was intended to provide preliminary identification of potentially hazardous waste that may be encountered during construction of the Project. The County of Riverside Transportation Department, in cooperation

with the Cities of Eastvale and Norco and Caltrans, proposed to replace the existing Hamner Avenue Bridge over the Santa Ana River and to widen Hamner Avenue from Detroit Street to Citrus Street in the Cities of Eastvale and Norco, Riverside County, California. The Project covered approximately 0.7 miles.

This assessment revealed evidence of recognized RECs within, and adjacent to, the Project limits that were to be addressed as part of a site investigation or using Caltrans Standard Special Provisions. Those RECs and subsequent recommendations are summarized as the following:

- Former agricultural land adjacent to Project footprint presented a contaminant potential for herbicides and pesticides in soil. A Phase II Investigation should be performed at locations adjacent to the Project footprint where excavations are planned to evaluate the potential for contamination from pest and weed control chemicals in former agricultural areas
- Existing Hamner Avenue Bridge over Santa Ana River presented the potential for asbestos containing materials (ACM) and lead-based paint (LBP) in existing bridge bearing pads, hinge joint seal materials, coatings, and graffiti. Prior to demolition and disposal of the existing Hamner Avenue Bridge, an ACM and LBP survey of the potentially affected media should be performed as part of a Phase II site investigation.
- Project Right-of-way (ROW) presented a contaminant potential for lead and chromium in yellow thermoplastic striping. Yellow thermoplastic striping materials should be handled in accordance with Caltrans Standard Special Provisions.
- Project ROW presented a contaminant potential for aerially deposited lead (ADL) in soil. Unpaved soils adjacent to the existing roadway should be tested for ADL according to Caltrans ADL testing guidelines. The ADL study should include Title 22 testing of surface soils to evaluate the potential presence of other metals that may have been transported by storm water runoff. If ADL concentrations are detected in existing soils, such soils will be handled in accordance with the Caltrans Standard Special Provisions.

***Aerially Deposited Lead (ADL) Investigation Report - Replacement of Hamner Avenue Bridge over Santa Ana River, prepared by DYA on February 16, 2018***

On February 16, 2018, DYA prepared an ADL Investigation report for the Hamner Avenue Bridge (Replace) County Project No. B7-0754 in the Cities of Eastvale and Norco, California, which was intended to evaluate whether soil excavated during the construction phase of the Project will need special handling or disposal with respect to ADL.

Forty-eight soil samples were collected from 12 hollow-stem-auger borings. Soil samples were tested as follows:



- Forty-eight samples were tested for total threshold limit concentration level (TTLC) of lead.
- Based on the results of TTLC, five samples were tested for soluble threshold limit concentration level (STLC) of lead using California Waste Extraction Test using Citric Acid (CA-WET). Four samples were tested for STLC using a modified WET method that used deionized water (DI-WET).
- Based on the results of STLC and TTLC, nine samples were tested for Toxicity Characteristics Leaching Procedure (TCLP) for lead.
- Five samples were tested for pH.
- Seven samples were tested for pesticides and herbicides.

The following findings were based on review of analytical test results within the areas tested in the upper 5 feet of on-site soils for this Project:

- Statistical analyses indicated that the 95% upper confidence level (UCL) on the mean of TTLC lead was 60 milligram/kilogram (mg/kg) or less and that the 95% UCL on the mean of STLC lead was 2.6 mg/liter (mg/l) or less.
- The TCLP lead test results were 0.059 mg/l or less.
- Based on the ADL test results and the Federal Regulations (Code of Federal Regulations, Title 40) the site soils will not classify as hazardous waste.
- Based on Caltrans agreement with California Department of Toxic Substance Control, the site soils are not considered as ADL-contaminated soils.
- From the ADL perspective, there is no restriction on use of the upper 5 feet of soils excavated from the site.
- Herbicides were not detected on the soil samples tested. Only the pesticide constituents, chlordane and gamma chlordane, were detected in the soil samples tested. The detected levels were below the California Human Health Screening Levels (CHHSLs) (California Environmental Protection Agency, 2010) for nonresidential land use.

***Asbestos Survey and Lead-Based Paint Inspection Report for Hamner Avenue Bridge over Santa Ana River, prepared by American Environmental Specialists on February 19, 2018***

On February 19, 2018, American Environmental Specialists (AES) prepared an Asbestos Survey and Lead-Based Paint Inspection Report for the exterior surfaces of the Hamner Avenue Bridge located in Norco, California, which was intended to determine the presence of ACMs, LBPs, and/or Lead-Containing Materials (LCMs).

Based on the available information collected during the survey as well as the laboratory analysis results, ACMs were not identified in the areas tested; therefore, AES made no asbestos related recommendations.

Based on observations made, information collected during the x-ray fluorescence (XRF) survey and the bulk lead sampling laboratory analytical results, the following suspect LBP was identified in areas which will likely be impacted during the demolition of the Hamner Avenue Bridge:

- Black Paint located on metal mounting hardware associated with the wood sidewalk support beam (AES XRF Sample: 049) was identified by XRF as containing 1.0mg/cm<sup>2</sup>.

Based on the bulk lead laboratory analytical results, lead-containing paint was identified in the Yellow roadway centerline paint which will be impacted during the demolition of the Hamner Avenue Bridge. The laboratory analytical results for bulk lead sample PB-02 determined the lead concentration of the yellow paint to be 1,522 mg/kg.

Based on the XRF data and the laboratory analysis results, both LBP and LCPs were identified during the inspection; therefore, AES had the following recommendations during this time:

- AES recommends that if lead-based paints and/or coatings are going to be disturbed and/or removed, they must be remediated by a State of California Certified Lead- Based Paint Abatement Contractor. DOSH also requires that if LBPs with a lead concentration over 600 ppm are to be disturbed, the individuals performing the work must have proper Lead Training as well as wear Personal Protective Equipment (PPE).
- It is strongly recommended that all paints/coatings which may be impacted during the demolition/renovation of the Hamner Avenue Bridge be treated as LCP for the purpose of determining the applicability of the DOSH lead standard.
- When the lead concentration of paint is over 1.0 mg/cm<sup>2</sup>, workers trained in accordance with Title 17, Division 1, Chapter 8 California Code of Regulations Accreditation, Certifications, and Work Practices for Lead-Based Paint and CA Title 8 Section 1532.1 California Code of Regulations Lead in Construction may remove the components that contain lead above the regulated levels.

## **4.0 RECORDS REVIEW**

### **4.1 Standard Environmental Record Sources for the Project and Vicinity**

Group Delta conducted a review of reasonably ascertainable environmental regulatory agency databases to identify known or suspected environmental concerns or RECs that may be associated with the Project. A search of readily available environmental records was obtained from Environmental Data Resources (EDR) of Shelton, Connecticut (Appendix B). The purpose of the regulatory database report review was to evaluate to the extent possible whether activities, processes, operations or actions on the Site, adjoining properties, and nearby locations have the potential to adversely impact the environmental condition of the Project, are suspected sources of environmental concern, or present a REC for the Project. The regulatory database report provides information regarding current operations and prior regulatory listings for the Site and previous owners and/or operators on the Project. The presence or absence of information does not necessarily mean that there are or are not environmental issues associated with the Project.

The regulatory database report includes a list of government databases searched, a statistical profile listing the number of properties within ASTM Standard Practice specified search radii, selected detailed information from environmental regulatory agency databases, and a map illustrating the identified properties, sites, or facilities of interest.

Properties, sites, operations, and/or facilities identified in the regulatory database report were screened using site-specific criteria that took into consideration the nature of the database listing; the physical environment of the Site vicinity; and distance and position of the listed properties, sites, operations, and/or facilities relative to the Project. After applying site-specific screening criteria; the properties, sites, operations, and/or facilities that, in the judgment of the environmental professional, pose a potential environmental concern to the Project were further reviewed and the potential adverse impact to the Site discussed in this section of the report.

The regulatory database report provides a mechanism to evaluate a relatively large number of environmental regulatory agency databases and eliminate many properties, sites, operations, and/or facilities that have a low potential of adversely impacting the Project. However, it should be noted that the information included in the regulatory database report is not necessarily all-inclusive and environmental regulatory agency files may have been purged by public officials prior to release to the public. In addition, mapping errors may not reflect actual distances and directions between the Project and the properties, sites, operations, and/or facilities listed in the regulatory database report.

The regulatory database report includes information from federal, state, local, military, and tribal environmental regulatory agency databases.

#### 4.1.1 Project Records

The Project was not identified on any databases in the EDR regulatory database report.

#### 4.1.2 Project Vicinity Records Search

One hundred and four sites were listed in the EDR database radius searches for the Project vicinity. The radius search area included the Project limits and a one-mile radius from the Project limits. One hundred of these properties within these search areas were not found to pose a hazardous waste impact based on the following criteria, or a combination thereof:

- The regulatory case status of the property is identified as completed and closed;
- The type of media affected was identified as soil only, and the property is not directly adjacent to the Project alignment;
- The release was in nominal amounts or concentrations as to not present a hazardous waste impact concern to the Project;
- The listing was identified on low-hazardous risk databases (i.e., underground storage tank [UST] HAZNET, small quantity generator databases) with no reported spills, cleanups, or violations;
- The property is identified on a low-hazardous risk database as receiving one or more violations, but the nature of violations received was associated with financial, administrative, or record-keeping practices only;
- The distance of the listing to Project limits is great enough that it does not present a hazardous waste impact concern to the Project, and/or;
- The listing is down-gradient or cross-gradient from the Project limits.

Table 2 provides a summary of properties in the vicinity of the Project footprint that were further evaluated due to the potential to pose a hazardous waste impact to the Project. These properties were identified on high-hazardous risk databases (including RCRA NONGEN/NLR, UST, HIST UST, LUST, HAZNET, CERS, CERS TANKS, CERS HAZ WASTE, SWEEPS UST, FINDS, ECHO, SWEEP UST). Table 2 includes the operating business name and address associated with the listing; Map ID number indicating the location of the listing relative to the Site; the EDR regulatory database report listing number and associated database(s) on which the listing occurs; and a summary of information pertaining to the listing.

<b>Table 2 EDR Database Report – Project Findings</b>
<p><b>Norco Mobil Station/Norco Ultramar/Raouf’s Mobile Service - Current Valero Gas Norco</b></p> <p><b>3840 Hamner Ave, Norco, CA 91760</b></p>
<p>Map Key Number(s): A1-A5, A9-A14, A16-A21</p>
<p>EDR Listing of Concern and Associated Databases: RGA LUST, LUST, UST, CERS, EDR HIST AUTO, SWEEPS UST, RCRA NONGEN/NLR, FINDS, RCRA-SQG, ECHO, HAZNET, CERS TANKS, CERS HAZ WASTE,</p> <p>An adjacent property located immediately west of the Project, was listed on the databases of concern indicated above. According to available documents reviewed via GeoTracker, a leak was discovered during removal of underground storage tanks (USTs) at the adjacent facility in September 1986. The underlying soil was reportedly impacted with total petroleum hydrocarbons from gasoline (TPH-g). Between 1986 and 2013, soil investigation, groundwater monitoring, and remediation actions were performed to address soil and groundwater contamination due to leaking of the former USTs onsite. From February 2004 through September 2005, a soil vapor extraction (SVE) remediation system operated at the adjacent facility to address VOC-impacted soils. The facility was reportedly granted closure in March 2014.</p> <p>Refer to section 5.1.2 - State Water Resources Control Board for a more thorough review of information available on Geotracker.</p>
<p><b>Excelsior Farms</b></p> <p><b>7401 Hamner Ave, Eastvale, CA 91720</b></p>
<p>Map Key Number(s): A1-A3, A5-A9, A11-12, A14-A16</p>
<p>EDR Listing of Concern and Associated Databases: CIWQS, FINDS, HAZNET, RGA LUST, CA FID UST, HIST CORTESE, NPDES, LUST, HIST UST, SWEEP UST, CERS</p> <p>An adjacent property located immediately west of the Project, was listed on the databases of concern indicated above. According to available documents reviewed via GeoTracker, a leak was discovered during a removal of USTs at the adjacent facility on March 1994. The underlying soil was reportedly impacted with TPH and benzene and approximately 384 tons of soil was excavated. Between 1998 and 1999 on-going remediation efforts were made to remove free product in undelaying soil and groundwater. The facility was reportedly granted closure in by the Riverside County Department of Environmental Health on February 2003. A well abandonment report was submitted in February 2014.</p> <p>Refer to section 5.1.2 - State Water Resources Control Board for a more thorough review of information available on Geotracker.</p>

**ARCO #5556/NIMEH, Inc.**

**3700 Hamner Avenue, Norco, CA 92860**

Map Key Number(s): A24-A28

EDR Listing of Concern and Associated Databases: LUST, CERS, FINDS, RCRA NONGEN/NLR, ECHO, UST, SWEEPS UST

A neighboring facility, located approximately 132 feet southwest of the Project, was listed on the databases of concern indicated above. According to available documents reviewed via GeoTracker, a gasoline leak affecting soil and groundwater at the surrounding facility was reportedly discovered during piping upgrades in November 2002. Between October 2010 and October 2012, groundwater monitoring was performed, and remediation efforts were made during 2012 to remove free product in underlying soil and groundwater. The facility was reportedly granted closure on March 27, 2014 and a well abandonment report was submitted on January 16, 2014.

Refer to section 5.1.2 - State Water Resources Control Board for a more thorough review of information available on Geotracker.

**APRO #31/Norco Arco/Norco Mart**

**1488 Sixth St, Norco, CA 92860**

Map Key Number(s): B33-B39

EDR Listing of Concern and Associated Databases: UST, HIST UST, LUST, CERS HAZ WASTE, CERS TANKS, HAZNET, SWEEPS UST, CERS

A neighboring facility, located approximately 0.20 miles east of the Project, was listed on the databases of concern indicated above. According to available documents reviewed via GeoTracker, a gasoline leak affecting soil and groundwater at the neighboring facility was reportedly discovered during the removal of three USTs and associated piping on December 18, 1998. On March 3, 1999, an abandoned UST was removed from the adjacent facility and was witnessed by a Riverside County Department of Environmental Health (RCDEH) Inspector. From December 1998 through February 2002, soil/groundwater sampling and analyses were conducted at the facility in order to delineate contaminated soil and groundwater. SVE remediation was subsequently initiated to remediate contaminated soil and groundwater at the adjacent facility on December 2002 and was shut down in December of 2011. The facility was reportedly granted closure on May 20, 2015.

Refer to section 5.1.2 - State Water Resources Control Board for a more thorough review of information available on Geotracker.

## 4.2 Historical Use Information on the Site and Adjoining Properties

Group Delta reviewed available historical information in order to ascertain the historical uses of the Project and the adjoining properties. Reviewed information included Sanborn insurance maps, historic aerial photographs, historic topographic maps, and city directories.

### 4.2.1 Sanborn Map Review

Group Delta reviewed a certified Sanborn map report prepared by EDR. After a complete search of the Sanborn Library and fire insurance maps by EDR, fire insurance maps of the Project area were not found.

A copy of the Sanborn search findings is provided in Appendix B of this report.

### 4.2.2 Historical Aerial Photography Review

Historical aerial photographs of the Project and adjacent properties were provided by EDR and reviewed to identify historical land development. Photographs dating between 1931 and 2016 were reviewed. Tables 3A and 3B summarize the results of the aerial photographs. Copies of the aerial photographs provided by EDR are included as Appendix B.

Table 3A Summary of Historical Aerial Photography Review Northern Segment - Schleisman Road to Citrus Street			
Year	Source and Scale	Summary	
1931	Aerial Photographs 1:500	The Project appears as a primary asphalt-paved highway (Adams Avenue or previously named roadway) within an area of agricultural and undeveloped vacant land. A small stream or irrigation ditch appears to bisect the Project from the northeast to southwest, while the Santa Ana River appears further south. TCE parcel 152-070-001 appears as undeveloped vacant land, while the southwestern corner of this parcel appears to contain a portion of this adjacent fish pond the south. TCE parcel 152-430-050 appears as undeveloped vacant land.	<p>Adjacent properties appeared to be the following:</p> <p>North: Fallow agricultural land or undeveloped vacant land, while Adams Avenue (or previously named roadway) continues further north.</p> <p>East: Undeveloped vacant land, while the small stream or irrigation ditch continues further northeast.</p> <p>South: Undeveloped vacant land to the southwest, while fish ponds appear immediately southeast of the Project area and agricultural land appears further southeast.</p>

		<p>The surrounding vicinity appears to be comprised primarily of undeveloped vacant land and agricultural land.</p>	<p>Adams Avenue (or previously named roadway) continues further south.</p> <p>West: Agricultural land to the west and undeveloped vacant land to southwest, while the small stream or irrigation ditch continues further southwest.</p>
1938	<p>Aerial Photographs                      1:500</p>	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be generally consistent with the previously mapped year.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Agricultural land, while Adams Avenue (or previously named roadway) continues further north.</p> <p>East: Agricultural land to the northeast and undeveloped vacant land to the east, while the small stream or irrigation ditch continues further northeast.</p> <p>South: No significant changes noted.</p> <p>West: No significant changes noted.</p>
1948	<p>Aerial Photographs                      1:500</p>	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be generally consistent with the previously mapped year.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Agricultural land to the northwest and undeveloped vacant land in all other northern directions, while Adams Avenue (or previously named roadway) continues further north.</p> <p>East: Undeveloped vacant land in all eastern directions.</p> <p>South: Fish ponds appear to the southeast and undeveloped vacant land appear in all other southern directions.</p>



			West: Undeveloped vacant land or fallow agricultural land appear in all western directions.
1953 to 1959	Aerial Photographs 1:500	<p>No significant changes appear to the Project since the previously dated aerial photograph, with the exception of TCE parcel 152-430-050 appearing as agricultural land at this time.</p> <p>The surrounding vicinity appears to be generally consistent with the previously mapped year.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Agricultural land in all other northern directions, while Adams Avenue (or previously named roadway) continues further north.</p> <p>East: Several residential structures or agricultural support structures appear to the northeast and east of the Project area.</p> <p>South: Three fish ponds to the southeast, agricultural land to the southwest, while residential structures or agricultural support structures appear further southeast of the Project area.</p> <p>West: Agricultural land appears in all western directions, while a residential structure or agricultural support structures appear immediately west of the Project area.</p>
1967 to 1985	Aerial Photographs 1:500	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be consistent with the previously mapped year, with the exception of greater density of residential or agricultural support structures surrounding the Project area.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Agricultural land in all other northern directions, while agricultural support structures appear further north of the Project area. Hamner Avenue (or previously named roadway) continues further north.</p> <p>East: Several residential structures or agricultural support structures appear to the northeast and east of the Project area. Agricultural land comprises the remaining area</p>

			<p>immediately east of the Project area. TCE parcel 152-070-001 appears as undeveloped vacant land, while the area immediately east appears utilized as an equestrian track.</p> <p>South: No significant changes noted since the previously dated aerial photograph.</p> <p>West: No significant changes noted since the previously dated aerial photograph, with the exception of only one fish pond appearing immediately southeast of the Project area.</p>
<p>1989                  through                  1994</p>	<p>Aerial                  Photographs                  1:500</p>	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>Commercial/industrial development appears to increase in density in the surrounding vicinity to the north, east, and west.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: No significant changes, with the exception of increased commercial/industrial and/or agricultural support structures appearing to increase to the northeast and northwest of the Project area. Hamner Avenue continues further north.</p> <p>East: No significant changes noted since the previously dated aerial photograph</p> <p>South: No significant changes noted since the previously dated aerial photograph.</p> <p>West: No significant changes noted since the previously dated aerial photograph, with the exception of the fish pond no longer appearing immediately southeast. The I-15 Freeway appears further southwest of the Project area.</p>

<p>2006 through 2012</p>	<p>Aerial Photographs 1:500</p>	<p>The Site appears generally consistent with the previously mapped year. Schleisman Road appears improved at this time and meets Hamner Avenue at the northwestern boundary of the Project area, while Citrus Avenue similarly appears improved at this time and meets Hamner Avenue at the southwestern boundary of the Project area. TCE parcel 152-430-050 no longer appears as agricultural land in the year 2006. TCE parcel 152-070-001 appears undergoing redevelopment for new construction in 2012.</p> <p>The surrounding vicinity appears to be consistent with the previously mapped year</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: A tract of single-family residential homes appear northeast of the Project area, while two single-family residences appear immediately northwest of the Project area. A tract of single-family residences appears further northwest of the Project area.</p> <p>East: Agricultural land and single-family residences or agricultural support structures appear immediately northeast of the Project area, while undeveloped vacant land appears immediately east of the Project area.</p> <p>South: Undeveloped vacant land appears southeast and southwest of the Project area.</p> <p>West: A tract of single-family residential homes appear immediately west of the Project area.</p>
<p>2016</p>	<p>Aerial Photographs 1:500</p>	<p>No significant changes appear to the Project since the previously dated aerial photograph. TCE parcel 152-070-001 appears improved with a new sports complex facility.</p> <p>The surrounding vicinity appears to increase in density with single-family residential developments.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: No significant changes noted, with the exception of a church appearing further northeast of the Project area.</p> <p>East: Single-family residences appear immediately northeast of the Project area, while undeveloped vacant land and a sports complex appears immediately east of the Project area.</p> <p>South: A sports complex appears immediately southeast and</p>

			<p>southwest of the Project area, while Hamner Avenue continues further south.</p> <p>West: No significant changes noted since the previously dated aerial photograph.</p>
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Agricultural land use was identified on areas adjacent to the Project area in all directions from at least 1938 to 2006 during the historical review. Based on the Project area's redevelopment, the historic agricultural land use is not considered an environmental concern to the Project.

<b>Table 3B</b> <b>Summary of Historical Aerial Photography Review</b> <b>Northern Segment – Detroit Street to Sixth Street/Norco Drive</b>			
Year	Source and Scale	Summary	
1931	Aerial Photographs 1:500	<p>The Project appears as agricultural land within an area of agricultural and residential land.</p> <p>The surrounding vicinity appears to be comprised primarily of agricultural land, residential land, commercial/industrial buildings and undeveloped vacant land. TCE parcels 131-101-001 and 131-101-010 appear as undeveloped vacant land.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Agricultural land appears immediately north and northeast of the Project area, while undeveloped vacant land appears immediately northwest.</p> <p>East: Agricultural land, undeveloped vacant land and commercial buildings appear immediately east of the Project area. Commercial/industrial buildings and agricultural land appear further east of the Project area across Old Hamner Road (or previously named roadway).</p> <p>South: Undeveloped vacant land to the south and southwest, while agricultural land appears southeast of the Project area and agricultural land appears further southeast. Norco Avenue/6<sup>th</sup> Street (or previously named</p>

			<p>roadway) borders the Project area to the south.</p> <p>West: Acacia Street (or previously named street) appears immediately west of the Project area, while agricultural land and residential structures appear west along Acacia Street (or previously named roadway).</p>
1938	Aerial Photographs 1:500	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be generally consistent with the previously mapped year.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Undeveloped vacant land or fallow agricultural land appears in all northern directions.</p> <p>East: Undeveloped vacant land or fallow agricultural land appear immediately east, while commercial buildings appear further east of the Project area across Old Hamner Road (or previously named roadway).</p> <p>South: Undeveloped vacant land or fallow agricultural land appear in all southern directions.</p> <p>West: Acacia Street (or previously named street) appears immediately west of the Project area, while undeveloped vacant land or fallow agricultural land and residential structures appear west along Acacia Street (or previously named roadway).</p>
1948 to 1953	Aerial Photographs 1:500	<p>The Project area appears improved with a paved roadway, Hamner Avenue (or previously named roadway).</p> <p>The surrounding vicinity appears to be generally consistent with the previously mapped year.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: No significant changes noted since the previously dated aerial photograph. Hamner Avenue (or previously named roadway) continues on further north.</p>

			<p>East: Undeveloped vacant land or fallow agricultural land appear immediately east, while fewer commercial buildings appear further east of the Project area across Old Hamner Road (or previously named roadway).</p> <p>South: No significant changes noted since the previously dated aerial photograph. Hamner Avenue (or previously named roadway) continues on further south.</p> <p>West: No significant changes noted since the previously dated aerial photograph.</p>
1959	Aerial Photographs 1:500	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be generally consistent with the previously mapped year, with the exception of further residential development appearing to the north.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Single-family homes appear to the northeast, while a tract of single-family homes appears under construction to the northwest with neighborhood streets graded and housing tracts appearing sectioned at this time.</p> <p>East: No significant changes noted since the previously dated aerial photograph.</p> <p>South: No significant changes noted since the previously dated aerial photograph.</p> <p>West: No significant changes noted since the previously dated aerial photograph.</p>
1967	Aerial Photographs 1:500	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: Single-family homes appear to the northeast, while a</p>

		<p>The surrounding vicinity appears to be consistent with the previously mapped year, with the exception of greater density of residential development surrounding the Project area.</p>	<p>tract of single-family homes appears to the northwest.</p> <p>East: Several residential and/or commercial structures appear to the east of the Project area, while Old Hamner Road appears further east.</p> <p>South: No significant changes noted since the previously dated aerial photograph.</p> <p>West: No significant changes noted since the previously dated aerial photograph.</p>
<p>1975                  through                  1985</p>	<p>Aerial                  Photographs                  1:500</p>	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be consistent with the previously mapped year, with the exception of greater density of residential/commercial development surrounding the Project area.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: No significant changes, with the exception of increased residential development appearing to increase to the northeast and northwest of the Project area. Hamner Avenue continues further north.</p> <p>East: No significant changes noted since the previously dated aerial photograph</p> <p>South: No significant changes noted since the previously dated aerial photograph.</p> <p>West: No significant changes noted since the previously dated aerial photograph, with the exception of increased residential/commercial development further west of the Project area.</p>

<p>1989 through 2012</p>	<p>Aerial Photographs 1:500</p>	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be consistent with the previously mapped year, with the exception of the I-15 Freeway appearing further east of the Project area.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: No significant changes noted since the previously dated aerial photograph.</p> <p>East: No significant changes noted since the previously dated aerial photograph, with the exception of the I-15 Freeway appearing further east of the Project area.</p> <p>South: No significant changes noted since the previously dated aerial photograph.</p> <p>West: No significant changes noted since the previously dated aerial photograph.</p>
<p>1990 to 2016</p>	<p>Aerial Photographs 1:500</p>	<p>No significant changes appear to the Project since the previously dated aerial photograph.</p> <p>The surrounding vicinity appears to be generally consistent with the previously mapped year.</p>	<p>Adjacent properties appeared to be the following:</p> <p>North: No significant changes noted since the previously dated aerial photograph.</p> <p>East: No significant changes noted since the previously dated aerial photograph.</p> <p>South: A gas service station appears immediately south of the Project area, presumably ARCO (or previously named gas service station).</p> <p>West: No significant changes noted since the previously dated aerial photograph.</p>

Agricultural land use was identified on areas adjacent to the Project area in all directions from at least 1931 to circa 1938 during the historical review. Based on the Project area's redevelopment, the historic agricultural land use is not considered an environmental concern to the Project. An



adjacent gas service station, ARCO (or previously named gas service station), located at 3700 Hamner Avenue, was identified in the 1990 to 2016 aerial photographs. Refer to Section 5.1.2 for a historical/case summary review of this adjacent gas station.

#### 4.2.3 Historical Topographic Map Review

Historical topographic maps of the Project and adjoining properties were provided by EDR and reviewed to identify historical land development. Historical topographic maps dating between 1902 and 2012 were reviewed to evaluate historic land uses in the general area, evaluate changes that have occurred over time, and provide a context for development within the Project vicinity. Tables 4A and 4B summarizes the results of the topographic map review. Copies of the topographic maps provided by EDR are included as Appendix B.

<b>Table 4A</b> <b>Summary of Historical Topographic Map Review</b> <b>Northern Segment - Schleisman Road to Citrus Street</b>		
Year	Source and Scale	Summary
1902	Topographic Map 30-minute	The scale of the map is too large to discern specific details regarding the Project; however, it is assumed that the Project and surrounding vicinity appears as undeveloped or agricultural land. Previous roadways appear intersecting and traversing the Project area. The Santa Ana River appears running east to west further south of the Project area.
1942 to 1947	Topographic Maps 7.5-minute	The Project appears as a primary asphalt-paved highway (Adams Avenue) presumably within an area of agricultural and undeveloped vacant land. The primary cross-streets bordering the Project area, Schleisman Road and Citrus Avenue appear improved at this time, appearing north and south of the Project area, respectively. The Santa Ana River appears running east to west further south of the Project area. Three fish ponds appear further southeast of the Project area.
1954		Urban development appears to have begun in the surrounding vicinity of the Project area.
		The Project appears as a primary asphalt-paved highway (Hamner Avenue) within an area an area of urban development. The Santa Ana River appears running east to west further south of the Project area. Three fish ponds appear further southeast of the Project area.
		Urban development appears to have increased since the last topographic map in the surrounding vicinity of the Project area.

1967 to 1981		No significant changes appear since the previous year depicted.
2012		No significant changes appear since the previous year depicted.  The I-15 Freeway is depicted running from north to south further east of Project area.

No findings of environmental significance were revealed during review of topographic maps for this portion of the Project area.

<b>Table 4B</b>		
<b>Summary of Historical Topographic Map Review</b>		
<b>Southern Segment – Detroit Street to Sixth Street/Norco Drive</b>		
Year	Source and Scale	Summary
1902	Topographic Map 30-minute	The scale of the map is too large to discern specific details regarding the Project; however, it is assumed that the Project and surrounding vicinity appears as undeveloped or agricultural land. Previous roadways appear intersecting and traversing the Project area. The Santa Ana River appears running east to west further north of the Project area.
1942 to 1947	Topographic Maps 7.5-minute	The Project appears as a primary asphalt-paved highway (Adams Avenue) presumably within an area of agricultural and undeveloped vacant land. The primary cross-streets bordering the Project area, Sixth Street/Norco Drive (or previously named) and Detroit Street (or previously named) appear improved at this time, appearing north and south of the Project area, respectively. The Santa Ana River appears running east to west further north of the Project area.  Urban development appears to have begun in the surrounding vicinity of the Project area.
1954 to		The Project appears as a primary asphalt-paved highway (Hamner Avenue) within an area an area of urban development. The Santa Ana River appears running east to west further north of the Project area.  Urban development appears to have increased since the last topographic map in the surrounding vicinity of the Project area.
1967 to 1981		No significant changes appear since the previous year depicted.  The Norco City Hall building appears east of the Project area.

2012		No significant changes appear since the previous year depicted.  The I-15 Freeway is depicted running from north to south further east of Project area.
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No findings of environmental significance were revealed during review of topographic maps for this portion of the Project area.

#### **4.2.4 City Directory Abstract Report**

The EDR City Directory Abstract Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. City directories generally include listings of residents or businesses organized both alphabetically and alphanumerically by street names and street addresses and are prepared for many urban and suburban areas of the United States dating back to the early 1900s.

Group Delta reviewed the City Directory Abstract Report prepared by EDR. The search was performed for the Project and the adjacent properties.

According to the City Directory Abstract Report, the vicinity of the Project was mainly comprised of residences and commercial retail facilities from as early as 1920 until 2014. The southwest adjacent ARCO gas and service station, located at 3700 Hamner Avenue, was identified within the City Directory Abstract Report for the years 2005 to 2014. This adjacent gas and service station was identified previously in the aerial photograph review, which identified the gas and service station between the 1990 and 2016 aerial photographs. This current gas and service station is discussed in Section 5.1.2 of this report.

No businesses that would present an environmental concern to the Project were identified. No RECs were identified as a result of the review of the EDR City Directory Abstract Report.

The City Directory Abstract Report prepared by EDR are presented in Appendix B.

#### **4.2.5 Sanborn Fire Insurance Maps**

Group Delta reviewed a certified Sanborn map report prepared by EDR. After a review of available Sanborn Maps available for the Project area, no environmental concerns were found pertaining to historical usage. Historical uses were found generally consistent with the above historical reviews. A copy of the Sanborn map report is provided in Appendix C of this report.

## **5.0 REGULATORY AGENCY RECORDS**

### **5.1 Online Available Records**

#### **5.1.1 Department of Toxic Substances Control (DTSC)**

Group Delta reviewed available DTSC files published on the online records database Envirostor. The purpose of this search was to identify any evidence of unauthorized releases of hazardous materials to the surface, subsurface soil and groundwater within a 0.5-mile radius. A summary of information pertaining to the Project is provided as follows:

No records were identified on the Envirostor database pertaining to areas within the Project footprint or surrounding or adjacent properties.

#### **5.1.2 State Water Resources Control Board (SWRCB)**

Group Delta reviewed available State Water Resources Control Board (SWRCB) files published on the online records database GeoTracker. GeoTracker contains recorded data of unauthorized releases of petroleum products and hazardous materials to the groundwater and other cases handled by the SWRCB or the Regional Boards. Cases typically handled by the Regional Boards include releases from USTs.

Numerous listings within the vicinity of Project limits were identified on the GeoTracker database and found not to pose a hazardous waste impact to the Project based on the following, or a combination thereof, and are not discussed further:

- The listing indicated the reported release affected the soil only and was not on, or immediately adjoining, the Project limits;
- A reported release affecting soil only occurred at a property immediately adjacent to the Project limits, but is located at a distance sufficiently far away as to not be an environmental concern to the Project;
- The listing indicated the reported release affecting the soil vapor is located at a distance unlikely to be an environmental concern to the Project;
- The distance of the listing to Project limits is great enough that it does not present a hazardous waste impact concern to the Project, and/or;
- The listing indicated the reported release affecting the underlying groundwater is located downgradient with respect to regional groundwater flow and is flowing away from the Project alignment.

No records pertaining to properties within the Project footprint were identified on the GeoTracker database.

Adjacent/surrounding facilities of concern identified on the GeoTracker database are summarized in Table 5 below.

<b>Table 5 Geotracker Database – Project Vicinity Findings</b>
<b>Norco Mobil Station/Norco Ultramar/Raouf’s Mobile Service - Current Valero Gas Norco</b>
<b>3840 Hamner Ave, Norco, CA 91760</b>
Site Type: LUST
<p>The above listed adjacent property (current Valero Gas Norco), located immediately west of the Project was identified as a leaking underground storage tank (LUST) Cleanup Site. According to a Closure/No Further Action Letter and its Case Closure Summary issued by the Santa Ana Regional Water Quality Control Board (RWQCB), five USTs [four gasoline USTs (two 1,500-gallon, one 2,000 gallon, and one 4,000 gallon) and one 2,000-gallon diesel storage tank] were reportedly removed from the adjacent facility. With the approval of Riverside County, a 250-gallon used motor oil UST was filled with concrete and abandoned in place. Undocumented soil sampling results indicated the presence of recoverable petroleum hydrocarbons onsite. In 1987, four new double-walled fiberglass USTs were installed at the same location. The new USTs included three gasoline USTs (one 12,000-gallon, one 10,000-gallon, and one 8,000-gallon) and one diesel UST (8,000-gallon).</p> <p>Between 1986 and 2013, soil investigation and groundwater monitoring were performed for characterizing high levels of contamination due to gasoline and diesel leaking of the former USTs at the adjacent facility. From February 2004 through September 2005, an SVE remediation system operated at the adjacent facility and from June 2005 through September 2005, air sparging was implemented.</p> <p>The latest groundwater monitoring and sampling events were conducted in February 2013 by Environmental Assessment and Remediation Management, Inc. (EAR). According to the previous Confirmation Soil Sampling, Well Installation and Remedial Action Plan report, the groundwater gradient flow direction at the adjacent facility was easterly. All groundwater results for off-site wells cross-gradient and down-gradient wells were reportedly listed as “non-detect”. Additionally, a review of plume maps within the previous report confirmed that the lateral and vertical extent of contaminant plumes for TPH-g and benzene were restricted by the bedrock that was encountered beneath this adjacent facility and the surrounding area was not affected by the extent of the UST contamination zone in groundwater (EAR 2013). The case was granted closure as of March 17, 2014.</p> <p>Impact Analysis: The extent of contamination outlined above in groundwater does not extend onto the Project area. As such, groundwater contaminated by TPH-g and benzene existing in plumes at the adjacent facility are not expected to impact the Project area. Considering the adjacent facility’s respective case closure, this adjacent facility is not considered to be an environmental concern to the Project.</p>

<b>Excelsior Farms</b>
<b>7401 Hamner Ave, Eastvale, CA 91720</b>
Site Type: LUST
<p>An adjacent property located immediately west of the Project, was identified as a LUST Cleanup Site. According to a Case Closure Summary for the adjacent facility, a leak was discovered during a removal of USTs at the adjacent facility on March 1994. During the removal of two gasoline USTs in March 1994 (one 2,000-gallon and one 500-gallon), soil/groundwater samples were collected and analyzed indicating the presence of TPH-g and benzene underlying the subsurface at the adjacent facility. Approximately 384 tons of soil surrounding the former tanks were reportedly excavated and properly transferred to a certified facility. The adjacent facility began ongoing investigation in August 1994 in order to characterize the extent of soil and groundwater contamination of benzene and TPH-g in soil and groundwater. Quarterly groundwater monitoring occurred from February 1995 to 1998 and vapor extraction was conducted at the adjacent facility from November 1998 to July 1999. In December 2000, concentrations of petroleum in groundwater reportedly indicated an overall decline in the source area. Soil borings taken in September 2001 indicated soil contamination only occurring near the vicinity of the former tank pit and two monitoring wells (out of ten) contained detectable concentrations of petroleum hydrocarbons. Groundwater analytical concentrations indicated an overall plume decrease at the adjacent facility since monitoring began in 1996. Methyl tert-butyl ether (MTBE) was not detected in groundwater at the adjacent facility since December 1999.</p> <p>The last Quarterly Ground Water Sampling performed by Harrison/Roberts Environmental Management concluded that the cumulative data demonstrated the success of the soil vapor remediation process, indicating the adjacent facility could be considered for low-risk closure. The case was closed as of February 6, 2003.</p> <p>Impact Analysis: The extent of contamination outlined above in groundwater does not extend onto the Project area. As such, groundwater contaminated by TPH-g and benzene existing in plumes at the adjacent facility are not expected to impact the Project area and is not considered an environmental concern. Also, considering the adjacent facility's respective case closure, this adjacent facility is not considered to be an environmental concern to the Project.</p>
<b>ARCO #5556/NIMEH, Inc.</b>
<b>3700 Hamner Avenue, Norco, CA 92860</b>
Site Type: LUST
<p>A neighboring facility located approximately 132 feet southwest of the Project was identified as a LUST Cleanup Site. The station reportedly has three active 12,000-gallon USTs. According to</p>

Geotracker, during dispenser and piping upgrades, TPH impacted soil was discovered at depths up to 2 feet below ground surface (bgs) in November 2012. Soil samples were collected from beneath the dispensers and product piping. Gasoline range organics (GRO), one or more of the compounds of benzene, toluene, ethylbenzene, and xylenes (BTEX), MTBE, and tert-butyl alcohol (TBA) were detected, and an unauthorized release report was filed.

According to a Case Closure Summary, soil and groundwater sampling was conducted from August 2009 to March 2012. The latest groundwater monitoring report by EAR reported groundwater gradient flow direction to the southeast. One soil vapor extraction well was installed in May 2012, and a 24-hour SVE test was conducted in July 2012. A Soil Vapor Extraction Test and Request for Site Closure Report, conducted by Stratus Environmental, Inc. (Stratus) in July 2012, stated that soil results from a well installation and the vapor results from the vapor extraction test confirmed that the source contamination is limited and does not pose a risk and further soil and groundwater plume delineation was not required. Based on the limited aerial extent and shallow nature of petroleum impacts to soil, the groundwater analytical results of the quarterly sampling events, the anticipated reduction of the residual impacts by natural attenuation, and the unlikelihood of the residual soil plume impacting a sensitive receptor, the adjacent facility was granted closure on of March 27, 2014 (Stratus 2012).

Impact Analysis: Based on the case closure status this listing is not considered an environmental concern.

**APRO #31/Norco Arco/Norco Mart**

**1488 Sixth St, Norco, CA 92860**

Site Type: SLIC

A neighboring property located approximately 0.20 miles east of the Project was identified as a LUST Cleanup Site According to available documents reviewed via GeoTracker. A gasoline leak affecting soil and groundwater at the facility was reportedly discovered during the removal of three USTs and associated piping on December 18, 1998. On March 3, 1999, an abandoned UST was removed from the facility and was witnessed by a Riverside County Department of Environmental Health Inspector. According to a Case Closure Summary, following UST removal soil/groundwater sampling and analyses indicated the presence of TPH-g, total petroleum hydrocarbons-diesel (TPH-d), BTEX and MTBE in both soil and groundwater.

In December 2002, a high vacuum dual phase extraction (HVDPE) test was conducted. In April 2005, the service station and mini-mart were upgraded and remodeled. During this time, extensive monitoring and remediation well installation activities were also completed. In April 2005 and October 2005, two SVE extraction pilot tests were completed. In addition, air sparging (AS) pilot tests were also conducted in April 2005. From March 2007 through December 2011, the SVE system operated in conjunction with an AS system. From October 2008 through December 2011, ozone sparge remediation was used concurrently with the SVE/AS systems.

According to a previous Conceptual Site Model, Low-Threat UST Case Closure Evaluation and Request for No Further Action Report prepared by Frey Environmental, Inc. (Frey), the results of historical soil and groundwater remediation work, post-remediation soil sampling, post-remediation groundwater monitoring, and sampling results, the gas station should be "considered a low-threat for the vapor-intrusion-to-indoor-air pathway" and should not pose a threat to the nearby off-site residences. Additionally, Frey stated that residual petroleum hydrocarbons should not pose a threat to water quality in this area with recommendations that no further action should be conducted at this Site. The facility was ultimately given a case closure status as of May 20, 2015.

Impact Analysis: Based on the case closure status of this property, this listing is not considered an environmental concern.

### **5.1.3 Division of Oil, Gas, and Geothermal Resources (DOGGR)**

Group Delta reviewed mapping available on the DOGGR website for oil and gas wells on or in the vicinity of the Project. No wells are located within 1,500 feet of the Project area.

### **5.1.4 Office of California State Fire Marshal**

Group Delta reviewed available files through the online National Pipeline Mapping System (NPMS) database maintained by the Office of California State Fire Marshal. NPMS is a Geographic Information System database of pipeline information for the specific intent of emergency response. The database does not include natural gas lines or liquefied natural gas facilities. No gas transmission or hazardous liquid pipelines were listed within 1,000 feet of the Project area.



## **6.0 PROJECT RECONNAISSANCE**

### **6.1 Methodology and Limiting Conditions**

A site reconnaissance was performed on December 31, 2019 by Tomo Demers of Group Delta. The Project was observed by foot while noting evidence of environmental conditions. The Site was accessed from Hamner Avenue and corresponding cross-streets for the northern and southern segments of the Project area.

The purpose of the site reconnaissance was to observe the present Project use and conditions as they relate to the possible presence of potentially hazardous substances and petroleum products. In addition, adjoining properties were visually and physically observed from the Site and adjacent public roads to identify land uses and the potential presence of structures, operations, activities, or environmental conditions that may involve the use, treatment, storage, disposal, or generation of hazardous wastes and/or petroleum products that may pose an environmental concern to the Project. Photographic documentation of the Project is included in Appendix C of this report.

### **6.2 Site Observations**

The Project area and properties adjacent to the Project footprint were observed by foot from publicly accessible existing ROW areas.

The Project area consisted primarily of an asphalt paved roadway with a concrete-paved sidewalk running along most portions of the Project. Special attention was paid to the locations of proposed TCEs along the Project alignment.

During the reconnaissance, the following observations were noted:

- A concrete center median with drought-tolerant landscaping was observed dividing the respective directions of Hamner Avenue on the southern segment of the Project area (from Detroit Street to Sixth Street).
- Overhead electrical lines were observed running north to south on either side of Hamner Avenue on the southern segment of the Project and on the eastern side of Hamner Avenue on the northern segment of the Project (from Schleisman Road to Citrus Street). Pole-mounted transformers were noted on various electrical poles throughout the extent of the electrical lines. No leaking or staining of transformer fluid was noted throughout during the site reconnaissance.
- Yellow striping was observed on the northern segment of the Project area (between Citrus Street and Schleisman Road), which divides Hamner Avenue in the respective opposing traffic directions.

- Yellow plastic-colored traffic delineators were observed in the median of Hamner Avenue on a portion of the northern segment of the Project area, along with circular “dotted” traffic indicators.
- A metal electrical utility cabinet and a water utility connection was observed adjacent to TCE parcel 152-430-050.
- Concrete roadway blocks and a phone utility marker were noted on TCE parcel 152-430-050.
- Manhole sewer covers and various utility caps were noted throughout the Hamner Avenue roadway within each segment of the Project area.

Two adjacent gas station were observed neighboring the Project alignment to the west and southwest on the southern segment of the Project across the Sixth Street and Hamner Avenue intersection. The neighboring gas stations (current Valero and ARCO stations), appeared to be well-maintained. Other than the two neighboring gas station, no evidence of storage tanks, drums, hazardous substances or petroleum products, unidentified substance containers, odors, pools of liquid, or any other potential environmental areas of concern were observed within the Project or adjacent to Project limits. No RECs were observed during the Project visit.

Adjacent properties to the Project area included a commercial shopping center, undeveloped vacant land, gasoline service stations, restaurants, retail stores, a sports complex, and single-family/multi-family residential communities. No RECs were observed during the observation of adjacent properties.

## **7.0 INTERVIEWS**

### **7.1 Owner Interview**

In lieu of interviews with the respective owners (City of Norco and Eastvale) of the Project, ISA Questionnaires were distributed to representatives for the City of Norco and Eastvale. Refer to the section below for information collected from the respective questionnaires.

At this stage of Project delivery, it is not possible to interview owners of potential TCE parcel.

### **7.2 User Questionnaire**

The Caltrans ISA Guidance Document provides a User Questionnaire to be completed by the future User of the document. The format of the User Questionnaire is in accordance with the All Appropriate Inquiries (AAI) standard and ASTM 1527-13. The User Questionnaire serves to collect information pertaining to RECs on the Site, especially those that may not be visually apparent or found in public records.

An ISA questionnaire was received by Mr. Chad Blais, Director of Public Works at the City of Norco on January 17, 2020. The response from Mr. Blais indicated that the City of Norco has no knowledge of any RECs associated with the Site or any obvious indicators that point to the presence or likely presence of contamination at the Project.

Additionally, an ISA questionnaire was sent to a representative at the City of Eastvale. However, at the time of completion of this report, no response has been received by this representative. This is considered a data gap.

## **8.0 SIGNIFICANT DATA GAPS**

### **8.1 Data Gaps**

In general, a Data Gap is the inability to gather information as prescribed in the ASTM Standard Practice despite good faith efforts. This may include, but not be limited to, a lack of historical information, inability to interview knowledgeable individuals, or inspect portions of the Site.

The lack of response from the City of Eastvale regarding the ISA questionnaire was identified as a data gap during this assessment. However, as Group Delta received an ISA questionnaire response from the City of Norco, this data gap is not considered significant, and is not expected to alter the findings of this assessment.

### **8.2 Data Failures**

The objective of reviewing historical information is to identify all obvious uses of the Site from first developed use or 1940, whichever is earlier, in order to identify the likelihood of previous uses resulting in a recognized environmental condition(s). Generally, a Data Failure is when all obvious uses of the site cannot be determined despite gathering and reviewing all of the standard historical sources that are reasonably ascertainable. A historical source is considered reasonably ascertainable if it is (1) publicly available, (2) obtainable within a reasonable period of time and at a reasonable cost, and (3) practically reviewable.

The Site uses were identified back to 1902. Therefore, data failure was not encountered during the course of this assessment.

## 9.0 FINDINGS AND CONCLUSIONS

Group Delta has performed an ISA for RCTD for the Hamner Avenue Widening Project from Schleisman Road to Citrus Street and from Detroit Street to Sixth Street in the Cities of Eastvale and Norco, in Riverside County, California. This ISA was conducted in general accordance with the scope of work, under guidance provided by the ASTM E1527-13 standard, and in a manner generally consistent with the agreement between the Client and Group Delta for this type of report.

The information procured during this investigation was used to identify, to the extent practical and within the limitations of the Scope, RECs associated with the Site due to current or past land use.

This assessment has revealed no evidence of RECs in connection with the Project.

The following items are not considered RECs, but warrant discussion:

- Yellow striping exists along the roadways within the northern segment of the Project area. It is assumed that the striping contains lead and chromium. Elevated concentrations of lead, likely meeting the criteria for Federal Resource Conservation and Recovery Act (RCRA) Hazardous Waste were detected in yellow striping along the Hamner Avenue Bridge (Replace) County Project No. B7-0754.
- ADL is a common contaminant along unpaved shoulders of highways and arterial roadways. Based upon the results of an ADL Site Investigation conducted for Hamner Avenue Bridge (Replace) County Project No. B7-0754, ADL was not present at regulated concentrations in unpaved soil on this adjacent project. These results indicate it is unlikely ADL will be present at regulated concentrations along the Project alignment.
- Neighboring gas stations identified in Section 5.1.2 are not considered RECs to the Project. Although it is impossible to definitively determine contamination will not be encountered without supplemental site investigation, there is no evidence that impacted soil may be encountered during Project construction activities based upon the documents reviewed. Supplemental site investigation does not appear warranted.

## 10.0 RECOMMENDATIONS

We have performed an ISA for the Project in accordance with the scope of work and limitations of ASTM E1527-13. The information procured during this investigation was used to identify, to the extent practical and within the limitations of the Scope, RECs associated with the Project due to current or past land use. Based on the findings of this ISA, Group Delta provides the following recommendations:

- Yellow striping/thermoplastic striping will need to be appropriately managed as described in Section 11. Riverside County can elect to conduct a striping site investigation prior to construction to determine the disposition of yellow striping along the Project Alignment, and associated management requirements. Alternatively, it can be assumed the striping is hazardous, similar to the Hamner Avenue Bridge (Replace) County Project No. B7-0754, and the striping can be managed using Caltrans Standard Special Provisions.

## **11.0 DEVIATIONS**

There were no deviations to the ASTM Standard Practice associated with the preparation and development of this ISA.

## **12.0 ADDITIONAL CONSIDERATIONS**

### **12.1 Fill**

Fill material is common within urban areas where former sloughs or other drainage or low-lying areas historically existed. Fill material is also commonly used on embankments and bridge approaches. Fill material can consist of soil, but also contain miscellaneous debris including structural material (e.g., bricks, wood, concrete, etc.), discarded chemicals and oil, and other materials that could potentially impact the environmental integrity of a site. It is difficult to identify the presence of fill during an ISA; however, its possible presence should be noted.

### **12.2 Thermoplastic Striping**

Historically, chrome yellow (containing lead-chromate) was used as the primary yellow pigment in traffic lane paints and thermoplastic striping (PTS). Lead-chromate varied from approximately 3.5 percent by weight in yellow waterborne paint to 25 percent by weight in yellow epoxy. In California, lead-chromate traffic striping was phased out in waterborne traffic paint between 1997 and 2000 and in thermoplastic striping by 2004. The concentrations of lead-chromate in the PTS applied to roadways would classify waste PTS as hazardous. Given the recent phase-out of lead-chromate-containing PTS, it is generally assumed that existing yellow PTS associated with roadway markings within a given Caltrans construction project area contain lead and chromium unless there is specific knowledge that lead or chromium are not present (i.e., analytical data or definitive identification of the PTS source material). Standard Special Provisions may be utilized to guide the management and disposal of this material.



### 13.0 REFERENCES

American Environmental Specialists, Asbestos Survey and Lead-Based Paint Inspection Report for Hamner Avenue Bridge over Santa Ana River, Eastvale and Norco, California, February 19, 2018.

California Department of Toxic Substances Control, EnviroStor Database, January 3, 2020.  
[www.envirostor.dtsc.ca.gov](http://www.envirostor.dtsc.ca.gov).

Department of Transportation, National Pipeline Mapping System, January 3, 2020.  
<https://www.npms.phmsa.dot.gov/PublicViewer/>.

Diaz Yourman & Associates, Initial Site Assessment - Replacement of Hamner Avenue Bridge over Santa Ana River, Eastvale and Norco, California, September 26, 2017.

Diaz Yourman & Associates, Aerially Deposited Lead (ADL) Investigation Report for Replacement of Hamner Avenue Bridge over Santa Ana River, Eastvale and Norco, California, February 16, 2018.

Environmental Data Resources, Inc., The EDR Radius Map Report with GeoCheck, October 3, 2019.

Environmental Data Resources, Inc., Certified Sanborn Map Report, October 4, 2019.

Environmental Data Resources, Inc., Historical Topographic Map Report, October 3, 2019.

Environmental Data Resources, Inc., The EDR-City Directory Image Report, October 3, 2019.

Environmental Data Resources, Inc. Aerial Photo Decade Package, October 3, 2019.

Google Maps, <http://maps.google.com>

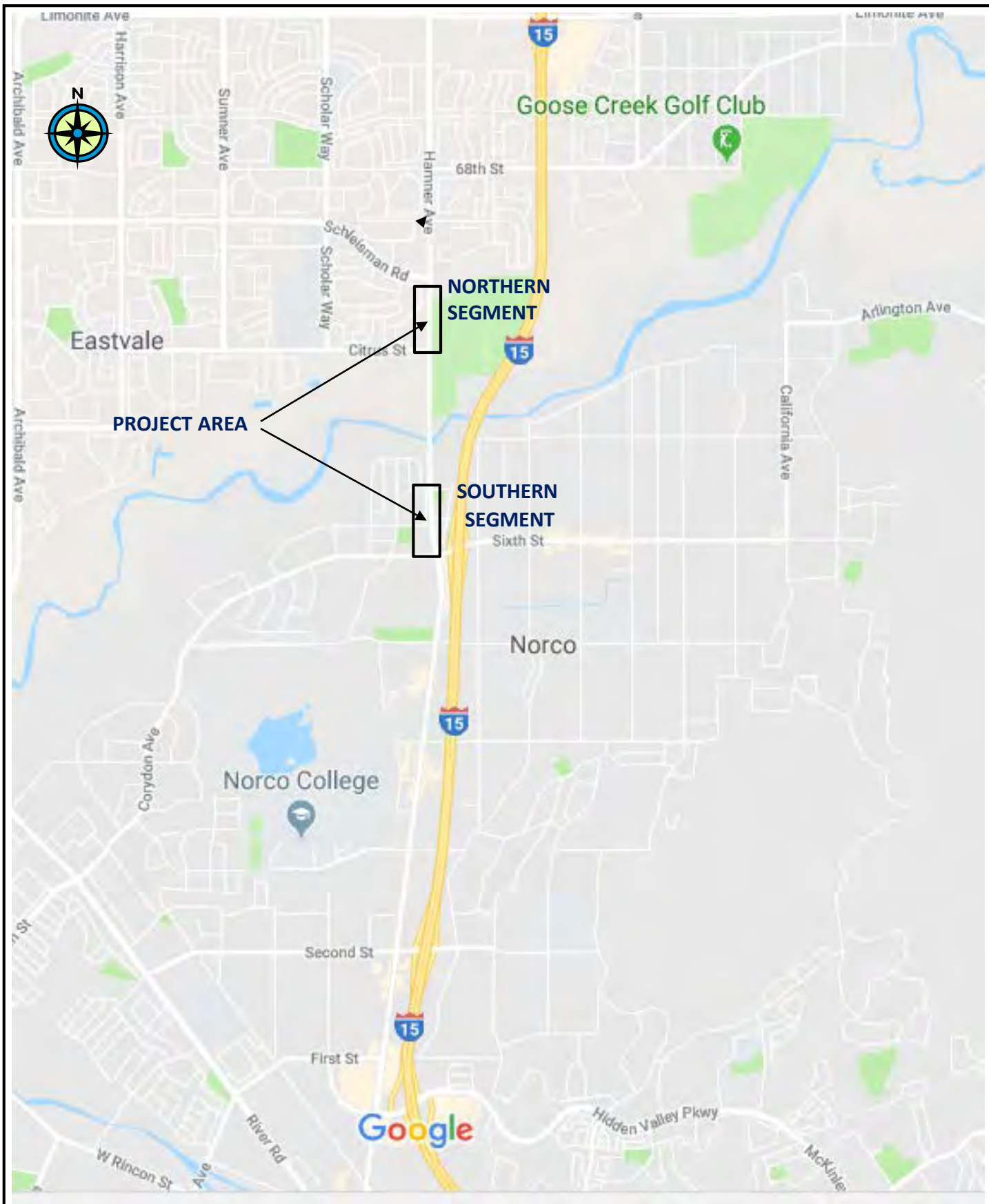
Office of California State Fire Marshal, January 3, 2020.  
[http://osfm.fire.ca.gov/pipeline/pipeline\\_mapping.php](http://osfm.fire.ca.gov/pipeline/pipeline_mapping.php).

State of California, Division of Oil, Gas, and Geothermal Resources, January 3, 2020.  
<http://www.consrv.ca.gov/DOG/index.htm>.

State Water Resources Control Board, GeoTracker Database, January 3, 2020.  
<http://geotracker.waterboards.ca.gov/>.

***FIGURES***

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Reference: Google Maps, 2016

NOT TO SCALE



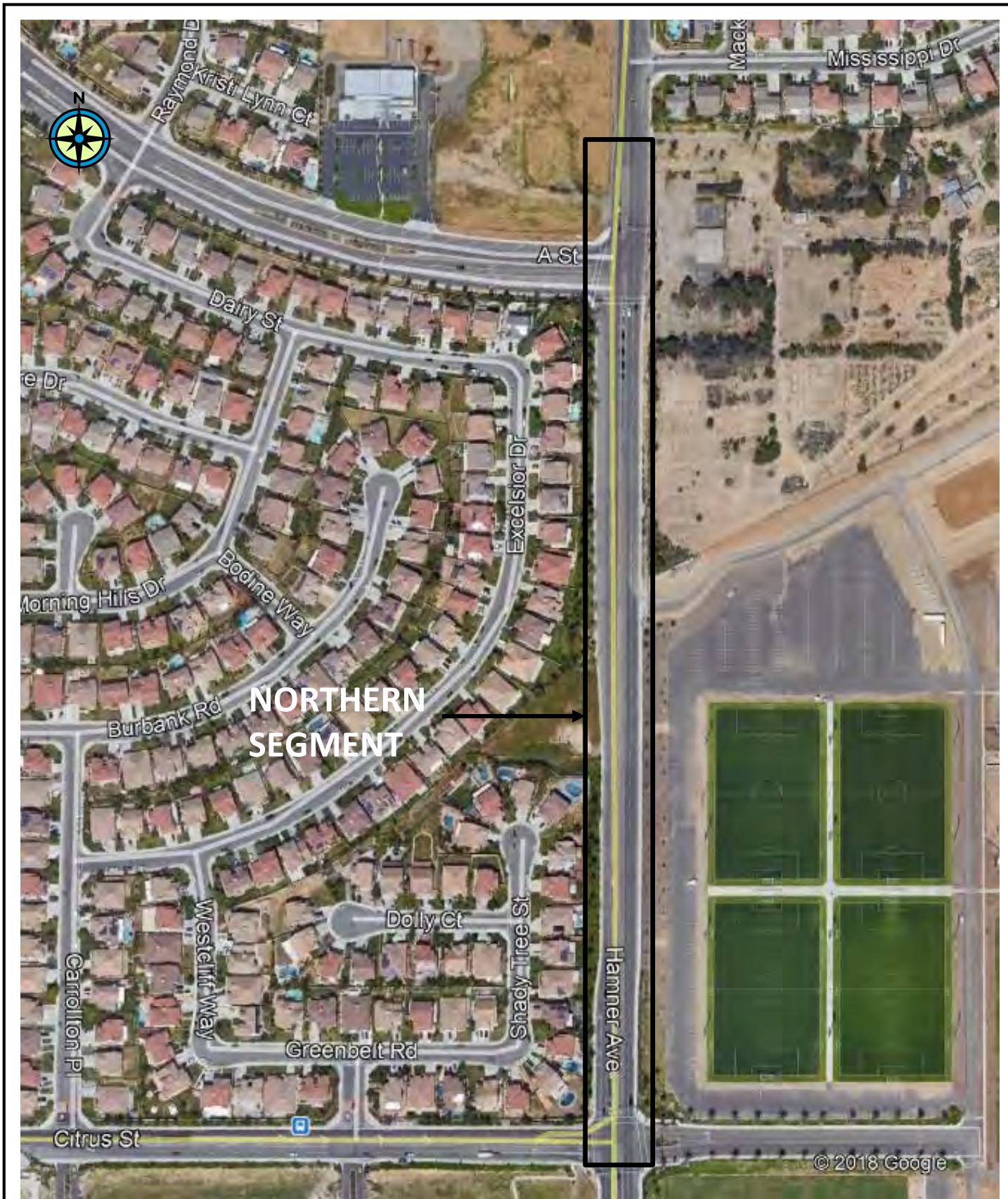
GROUP DELTA CONSULTANTS, INC.  
ENGINEERS AND GEOLOGISTS  
32 MAUCHLY, SUITE B  
IRVINE, CA 92618 (949) 450-2100

Figure Number:  
1

Project Location:  
Hammer Avenue Widening  
Eastvale and Norco, CA

Project Number:  
EN723

**LOCATION MAP**



Reference: Google Earth, 2017

NOT TO SCALE



GROUP DELTA CONSULTANTS, INC.  
ENGINEERS AND GEOLOGISTS  
32 MAUCHLY, SUITE B  
IRVINE, CA 92618 (949) 450-2100

Figure Number:  
2A

Project Location:  
Hammer Avenue Widening  
Eastvale, CA

Project Number:  
EN723

**NORTHERN SEGMENT PROJECT AREA**



Reference: Google Earth, 2017

NOT TO SCALE



GROUP DELTA CONSULTANTS, INC.  
ENGINEERS AND GEOLOGISTS  
32 MAUCHLY, SUITE B  
IRVINE, CA 92618 (949) 450-2100

Project Location:  
Hammer Avenue Widening  
Norco, CA

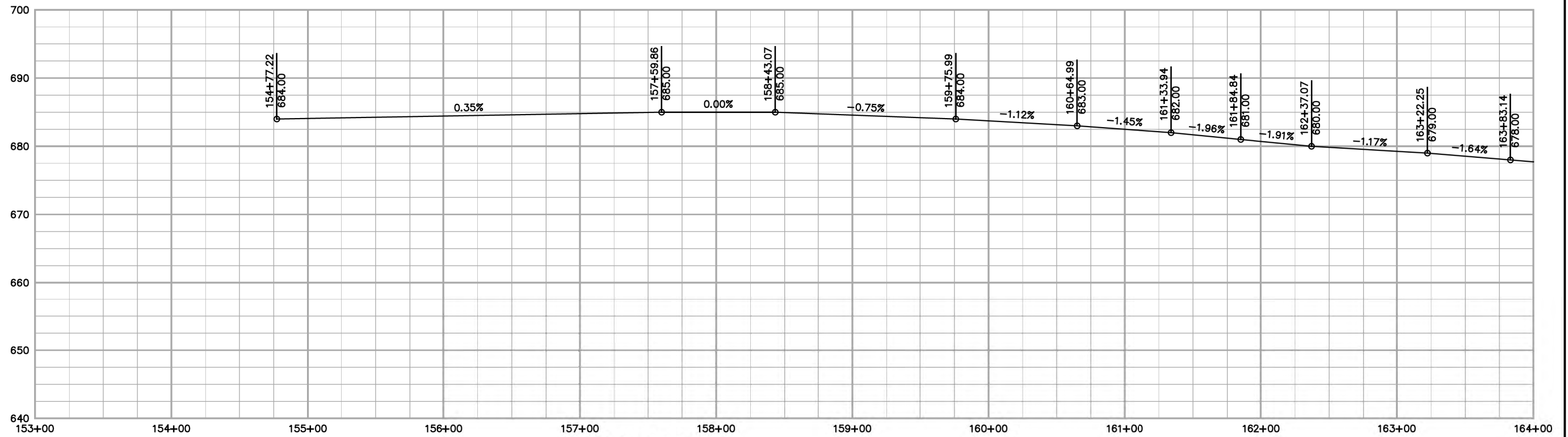
Figure Number:  
2B

Project Number:  
EN723

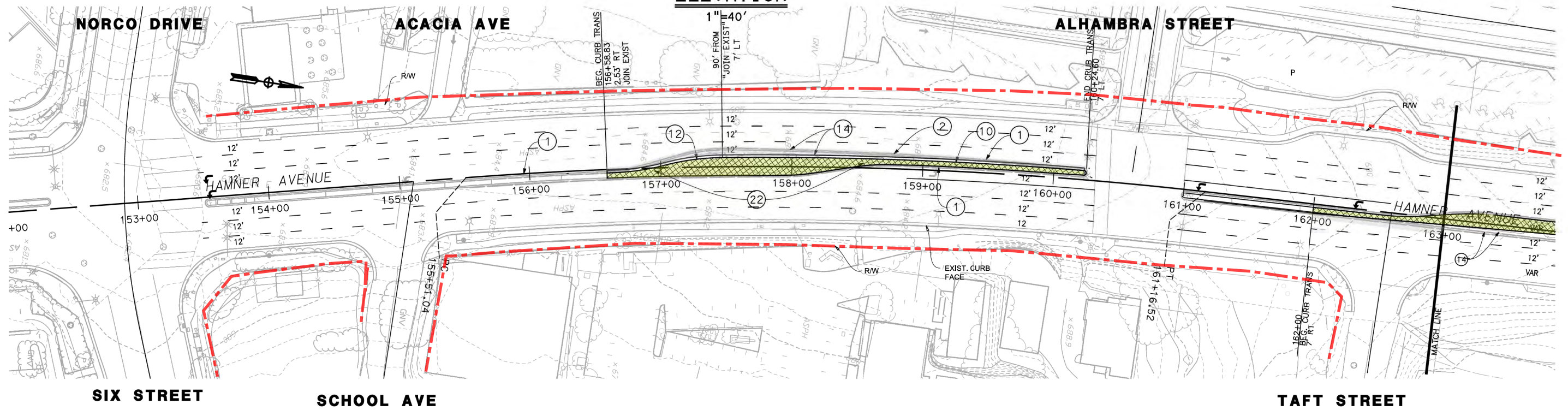
**NORTHERN SEGMENT PROJECT AREA**

**APPENDIX A**  
**PROJECT DRAWINGS AND USER PROVIDED REPORTS**

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**ELEVATION**



**HAMNER AVENUE**

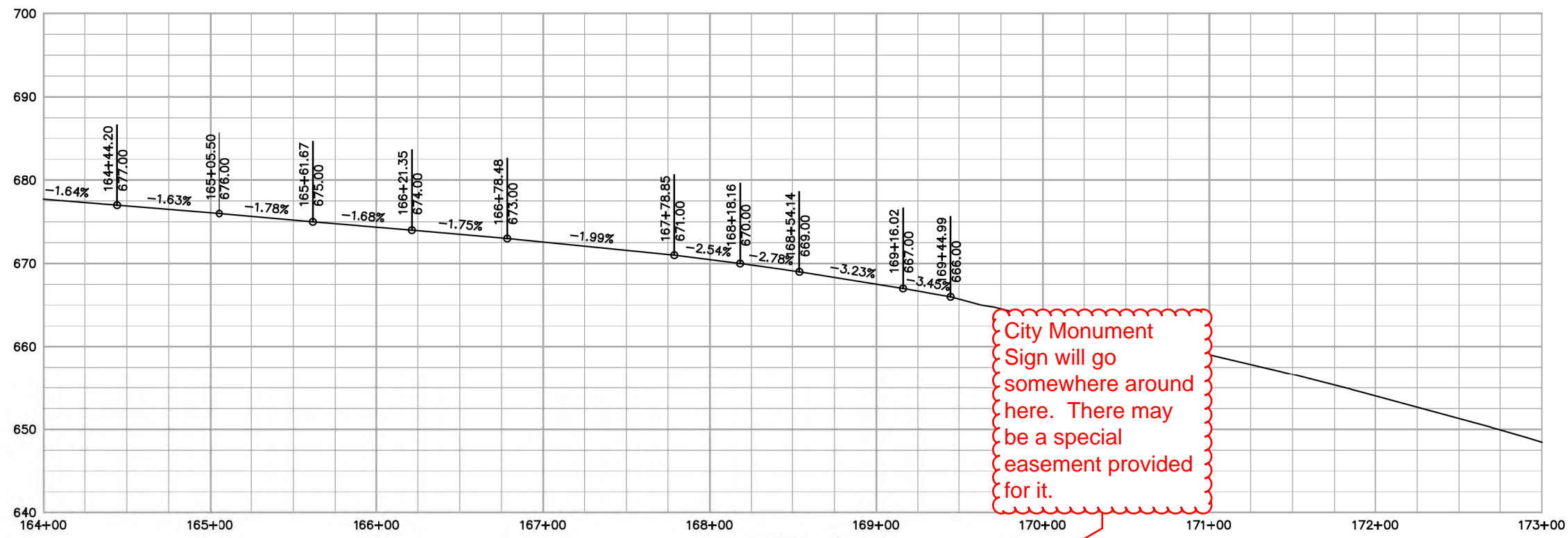
**PLAN**  
1"=40'

**30% CONCEPTUAL DESIGN**

- NOTES:**
- ① PROTECT IN PLACE
  - ② SAWCUT 2 FEET FROM LIP AND REMOVE EXISTING PAVEMENT, CURB/CURB AND GUTTER
  - ⑩ CONSTRUCT CURB AND GUTTER PER SPPWC STD PLAN 120-2, W = 12" TYPE A2-150(6)
  - ⑭ CONSTRUCT XX A.C. PAVEMENT ON XX" CLASS 2 AGGREGATE BASE
  - ②② LIMITS OF LANDSCAPE REPLACEMENT

<b>CNS ENGINEERS, INC</b>		<b>SHEET No.</b>
	PROJECT ENGINEER	DATE
	11870 PIERCE ST., Ste 265 RIVERSIDE, CA 92505	
<b>HAMNER AVENUE STREET IMPROVEMENTS</b>		SHEET 1 of 4

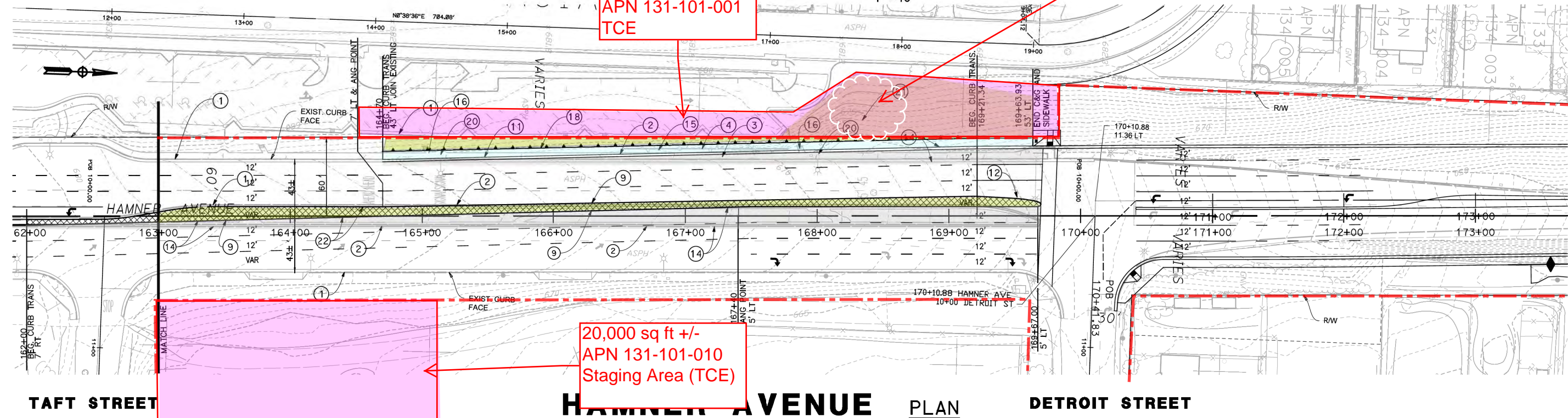




City Monument Sign will go somewhere around here. There may be a special easement provided for it.

16,000 sq ft +/-  
APN 131-101-001  
TCE

20,000 sq ft +/-  
APN 131-101-010  
Staging Area (TCE)



- NOTES:**
- ① PROTECT IN PLACE
  - ② SAWCUT 2 FEET FROM LIP AND REMOVE EXISTING PAVEMENT, CURB/CURB AND GUTTER
  - ③ REMOVE EXISTING PCC SIDEWALK
  - ④ REMOVE EXISTING RETAINING WALL
  - ⑨ CONSTRUCT CURB AND GUTTER PER SPPWC STD PLAN 120-2, W = 12" TYPE A3-150(6)
  - ⑪ CONSTRUCT 8" CURB AND GUTTER PER CITY OF NORCO STANDARD PLAN NO 200, W = 24", TYPE C
  - ⑫ CONSTRUCT 90' MEDIAN TAPER PER SPPWC STD PLAN 140-3

- ⑭ CONSTRUCT XX A.C. PAVEMENT ON XX" CLASS 2 AGGREGATE BASE
- ⑮ CONSTRUCT CONCRETE SIDEWALK PER SPPWC STD PLAN NO 122-1 (1.75% MAX SLOPE)
- ⑯ CONSTRUCT PARKWAY DRAIN (WIDTH PER PLAN) PER SPPWC STD PLAN NO 151-2
- ⑬ CONSTRUCT SOUTH RETAINING WALL BEHIND SIDEWALK
- ⑳ RELOCATE STREET LIGHT PER PLAN
- ㉑ CONSTRUCT CITY MONUMENT PER LANDSCAPE ARCHITECT PLAN
- ㉒ LIMITS OF LANDSCAPE REPLACEMENT

**CNS ENGINEERS, INC**

Steve Hoferford  
No. C 042280  
Exp. 03/31/20  
CIVIL

PROJECT ENGINEER DATE

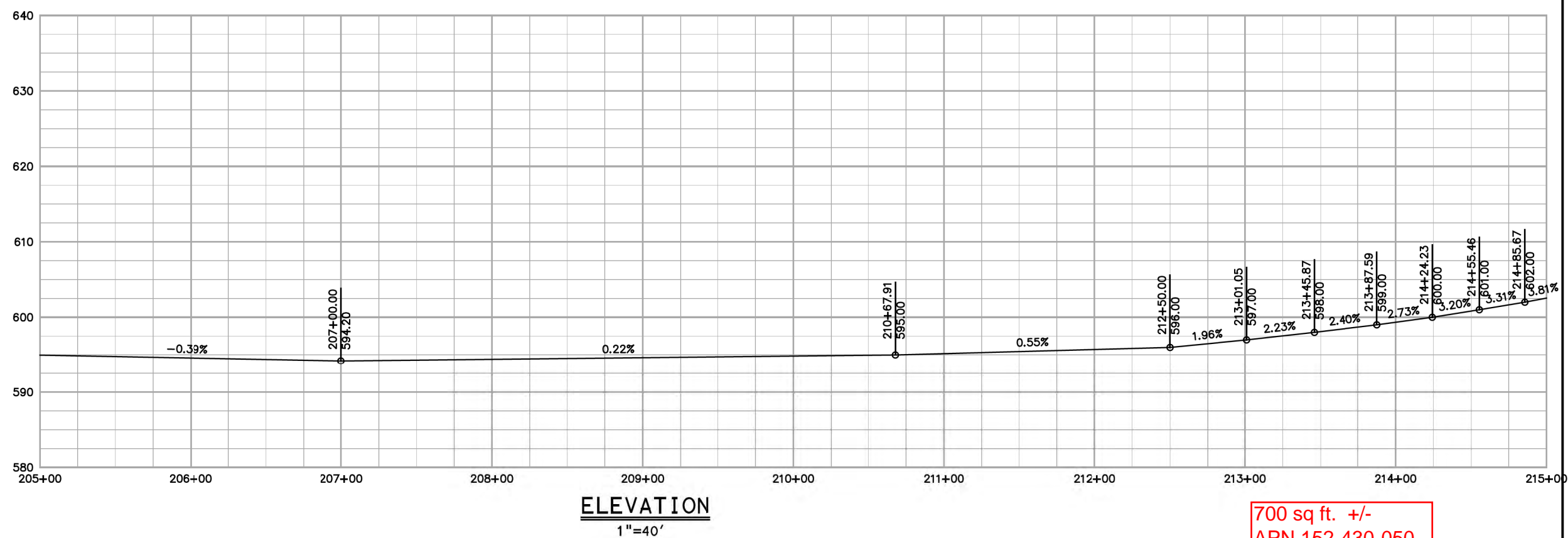
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RIVERSIDE, CA 92505

**30% CONCEPTUAL DESIGN**

**HAMNER AVENUE STREET IMPROVEMENTS**

SHEET No. 2 of 4

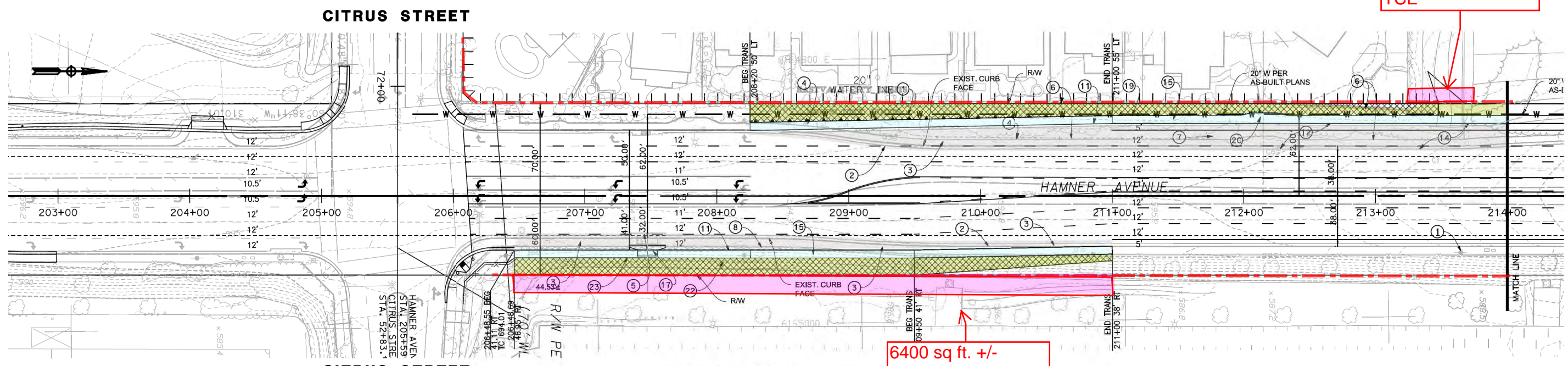




**ELEVATION**  
1"=40'

700 sq. ft. +/-  
APN 152-430-050  
TCE

6400 sq. ft. +/-  
APN 152-070-001  
TCE



**HAMNER AV**  
**PLAN**  
1"=40'

**NOTES:**

- ① PROTECT IN PLACE
- ② SAWCUT 2 FEET FROM LIP AND REMOVE EXISTING PAVEMENT, CURB/CURB AND GUTTER
- ③ REMOVE EXISTING PCC SIDEWALK
- ④ REMOVE EXISTING RETAINING WALL
- ⑤ REMOVE EXISTING CATCH BASIN
- ⑥ REMOVE LANDSCAPING PER PLAN
- ⑧ REMOVE TUBULAR STEEL FENCE
- ⑨ CONSTRUCT CURB AND GUTTER PER SPPWC STD PLAN 120-2, W = 12" TYPE A3-150(6)
- ⑪ CONSTRUCT 8 CURB AND GUTTER PER CITY OF NORCO STANDARD PLAN NO 200, W= 24", TYPE C
- ⑮ CONSTRUCT CONCRETE SIDEWALK PER SPPWC STD PLAN NO 122-1 (1.75% MAX SLOPE)

- ⑰ CONSTRUCT CATCH BASIN AND LOCAL DEPRESSION AND CONNECT TO EXISTING LATERAL PER RCFC&WCD STANDARD PLANS
- ⑲ CONSTRUCT NORTH RETAINING WALL BEHIND SIDEWALK
- ⑳ RELOCATE STREET LIGHT PER PLAN
- ㉑ LIMITS OF LANDSCAPE REPLACEMENT
- ㉓ CONSTRUCT TUBULAR STEEL FENCE PER DETAIL



**CNS ENGINEERS, INC**

Steve Hoerford  
No. C 042280  
Exp. 03/31/20  
CIVIL

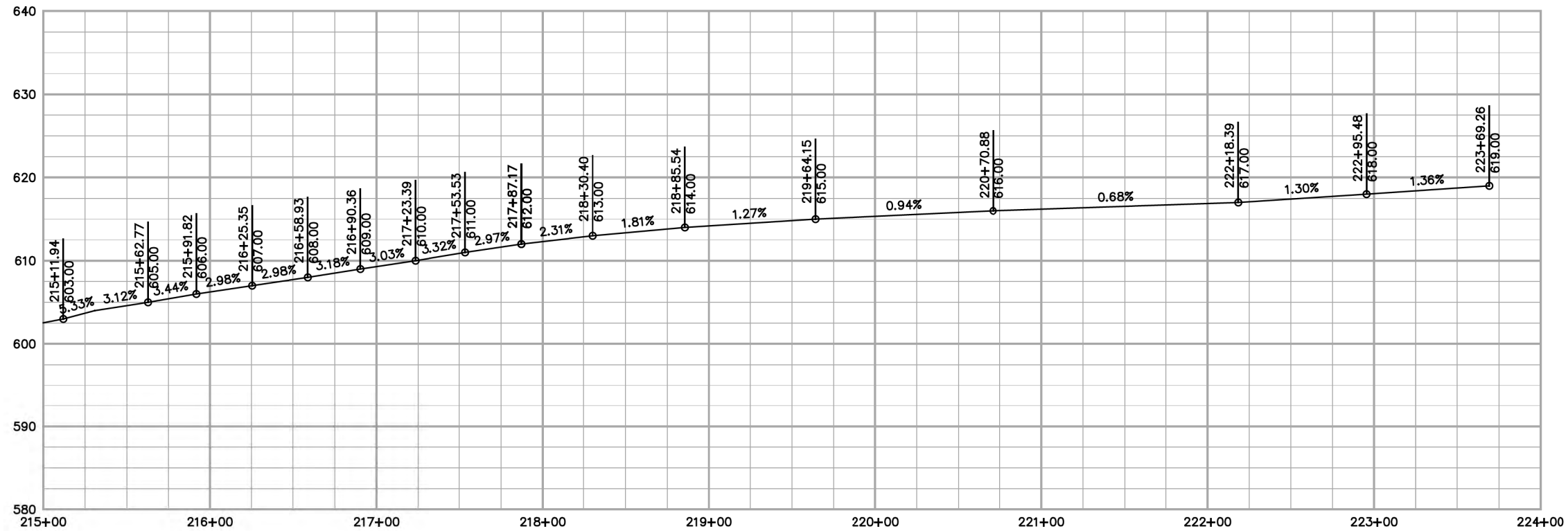
PROJECT ENGINEER DATE

11870 PIERCE ST., Ste 265  
RIVERSIDE, CA 92505

**30% CONCEPTUAL DESIGN**

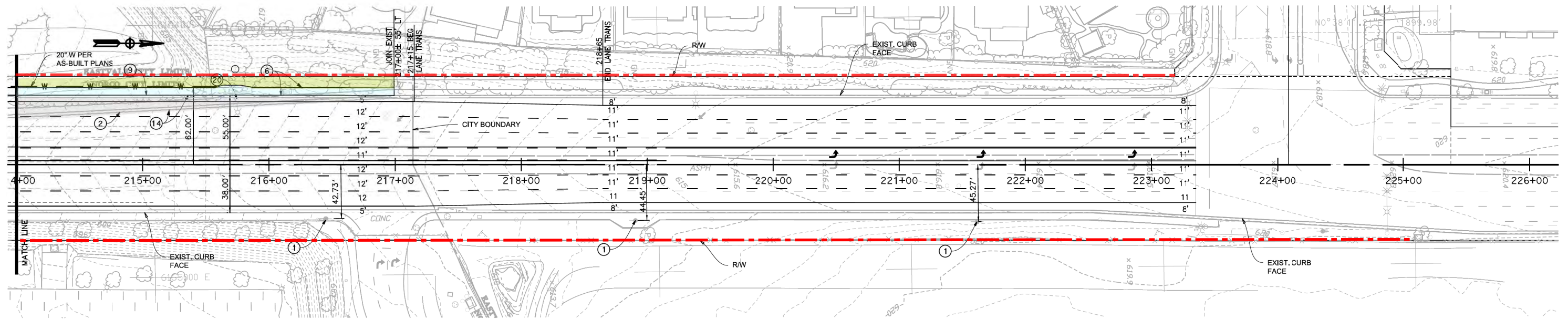
**HAMNER AVENUE STREET IMPROVEMENTS**

SHEET No. 3 of 4



**ELEVATION**  
1"=40'

**SCHEISMAN ROAD**



**HAMNER AVENUE**  
**PLAN**  
1"=40'

**NOTES:**

- ① PROTECT IN PLACE
- ② SAWCUT 2 FEET FROM LIP AND REMOVE EXISTING PAVEMENT, CURB/CURB AND GUTTER
- ⑥ REMOVE LANDSCAPING PER PLAN
- ⑨ CONSTRUCT CURB AND GUTTER PER SPPWC STD PLAN 120-2, W = 12" TYPE A3-150(6)
- ⑬ CONSTRUCT MEDIAN FLARE PER SPPWC STD PLAN 141-2
- ⑳ RELOCATE STREET LIGHT PER PLAN

**30% CONCEPTUAL DESIGN**

<b>CNS ENGINEERS, INC</b>		<b>SHEET No.</b>
	PROJECT ENGINEER	DATE
	11870 PIERCE ST., Ste 265 RIVERSIDE, CA 92505	
<b>HAMNER AVENUE STREET IMPROVEMENTS</b>		SHEET 4 of 4





A Report Prepared for:

T.Y. Lin International  
404 Camino del Rio South, Suite 700  
San Diego, CA 92108

**PHASE I INITIAL SITE ASSESSMENT  
REPLACEMENT OF HAMNER AVENUE BRIDGE OVER SANTA ANA RIVER  
STATE BRIDGE NO. 56C-0446  
FEDERAL PROJECT NO. BRLSZ5956 (230)  
EASTVALE AND NORCO, CALIFORNIA**

Project No. 2017-009

by

Devina Horvath  
Staff Geologist

Clint Isa  
Civil Engineer 76470



Diaz•Yourman & Associates  
1616 East 17<sup>th</sup> Street  
Santa Ana, CA 92705  
(714) 245-2920

September 26, 2017

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## LIST OF ABBREVIATIONS AND ACRONYMS

AAI	All Appropriate Inquiry
AC	asphalt concrete
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
AST	aboveground storage tank
ASTM	ASTM International
BEP	Bond Expenditure Plan
BROWNFIELDS	Brownfields Database
CA	California
CAL-SITES	California DTSC database of hazardous substance sites
Caltrans	California Department of Transportation
CDL	clandestine drug labs
CE	Civil Engineer
CEG	Certified Engineering Geologist
CEQA	California Environmental Quality Act
CESQG	Conditionally Exempt Small Quantity Generator
CGS	California Geological Survey
CIDH	cast-in-drilled-hole
CFR	Code of Federal Regulations
COPC	contaminant of potential concern
CORRACTS	Corrective Action Tracking System
Cortese	Cortese hazardous waste and substances list
County	County of Riverside
CREC	controlled recognized environmental condition
DDT	dichloro-diphenyl-trichlorethane
DEED	deed restriction listing
DOD	Department of Defense sites
DOGGR	Division of Oil, Gas, and Geothermal Resources
DOQQ	Digital Orthophoto Quarter Quads
DOT OPS	Department of Transportation incident and accident data



DRY CLEANERS	cleaner facilities
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
DYA	Diaz•Yourman & Associates
EDR	Environmental Database Resources
EIR	Environmental Impact Report
ENF	enforcement actions
Envirostor	DTSC's Site Mitigation and Brownfield Reuse Program's EnviroStor Database
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response and Notification Systems
FID	California Water Resources Control Board Facility Inventory Database
FID UST	FID Underground Storage Tank
FINDS	Facility Index System
FTIP	Federal Transportation Improvement Plan
FTTS	Federal Insecticide, Fungicide, and Rodenticide Act/Toxic Substances Control Act Tracking System
FUDS	formerly used defense sites
GE	Geotechnical Engineer
GIS	Geographic Information System
H:V	horizontal to vertical
HAULERS	California database of registered waste tire haulers
HAZNET	Facility and Manifest Data
Hist Auto	EDR Historic Auto Stations
HIST CAL-SITES	Historic CAL-SITES
Hist Cleaners	EDR Historic Dry Cleaners
HIST Cortese	Historic Cortese
HIST FTTS	Historic FTTS
HIST UST	Historic Underground Storage Tank
HMIRS	Hazardous Materials Incident Reporting System
HREC	historical recognized environmental condition
HWP	California Hazardous Waste Permit
HWT	hazardous waste transporters



I-	Interstate
ISA	Initial Site Assessment
kg	kilograms
km	kilometers
LBP	lead-based paint
LDS	Land Disposal Sites Listing
LOTB	Caltrans log of test borings
LQG	Large Quantity Generator
LUST	leaking underground storage tanks
MGP	manufactured gas plant
MINES	mines site location listing
MSDS	material safety data sheet
MSE	mechanically stabilized earth
MSL	mean sea level
NEPA	National Environmental Policy Act
NonGen	Non-Generator
Notify 65	SWRCB/RWQCB Proposition 65 incident database
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
PADS	Polychlorinated Biphenyls Activity Database System
PCB	polychlorinated biphenyls
PCC	Portland cement concrete
PCE	Perchloroethylene.
PE	Professional Engineer
RCDEH	Riverside County Department of Environmental Health
RCRA	Resource Conservation and Recovery Act
RCRCD	Riverside-Corona Resource Conservation District
REC	recognized environmental condition
Response	California DTSC remediation site
RGA LF	Recovered Government Archive
RGA LUST	Recovered Government Archive leaking underground storage tank
ROD	Record of Decision
ROW	right-of-way





RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCH	California School Sites
SEMS	Superfund Enterprise Management System
SEMS-Archive	Superfund Enterprise Management System Archive (formerly Comprehensive Environmental Response, Compensation and Liability Information System-No Further Remedial Action Planned [CERCLIS-NFRAP])
SLIC	Spills, Leaks, Investigation, and Cleanup
SQG	Small Quantity Generator
SWEEPS	Statewide Evaluation and Environmental Planning System
SWF/LF	solid waste facilities and landfill
SWRCB	State Water Resources Control Board
SWRCY	solid waste recycling facility
TCE	trichloroethene
TMDL	total maximum daily load
TPH	total petroleum hydrocarbon
TSDF	treat, store, or dispose facility
TWW	treated wood waste
TYLI	T.Y. Lin International
UIC	California underground injection control
US ENG	U.S. Engineering Controls
US INST	U.S. Institutional Controls
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
UST	underground storage tank
UXO	unexploded ordinance sites
VCP	DTSC Voluntary Cleanup Program
VOC	volatile organic compound
WDS	Waste Discharge System
WIP	Well Installation Program
WMUDS/SWAT	Waste Management Unit Database System
WRD	Water Replenishment District of Southern California



## EXECUTIVE SUMMARY

This report presents the results of our Phase I Initial Site Assessment (ISA) performed for the proposed Hamner Avenue Bridge over the Santa Ana River (Project) in the Cities of Eastvale and Norco, California. This study is intended to provide preliminary identification of potential hazardous waste that may be encountered during construction of the Project. Diaz•Yourman & Associates (DYA) previously prepared a California Department of Transportation (Caltrans) ISA checklist (DYA, 2017) that was submitted under separate cover.

The County of Riverside Transportation Department (County), in cooperation with the Cities of Eastvale and Norco and Caltrans, proposes to replace the existing Hamner Avenue Bridge over the Santa Ana River and to widen Hamner Avenue from Detroit Street to Citrus Street in the Cities of Eastvale and Norco, Riverside County, California. The Project covers a distance of approximately 0.7 miles.

The existing Hamner Avenue Bridge has a sufficiency rating of 69.3 and is rated “structurally deficient,” a status triggered by the deck condition rating of 3. From Detroit Street to just south of the bridge over the Santa Ana River, Hamner Avenue consists of one 14-foot-wide lane in each direction. Hamner Avenue Bridge across the river consists of one 12-foot-wide lane plus one 2-foot-11-inch-wide shoulder in each direction with a 4-foot-wide timber sidewalk attached to the east side of the bridge and separated from traffic by a concrete traffic railing. North of the bridge, Hamner Avenue transitions to two northbound lanes (12-foot-wide and 18-foot-wide), one southbound lane of variable width, sidewalks on both sides of the street, and a 12-foot-wide median.

The proposed Project would replace the existing Hamner Avenue Bridge with a new bridge. The new bridge would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction (northbound and southbound) separated by a 4-foot-wide curbed median, with a 12-foot-wide, barrier-separated multipurpose trail on the east side of the bridge. To the north of the bridge, Hamner Avenue would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction with a 5-foot-wide sidewalk on the east side of the roadway. At the intersection with Citrus Street, the outside northbound lane would become a dedicated right-turn lane and a northbound dedicated left-turn lane would be included. In the southbound direction, Hamner Avenue would transition from two lanes to three lanes just south of Citrus Street. South of the bridge, Hamner Avenue would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction with a 5-foot-wide sidewalk on the east side of the roadway and would transition



to two 12-foot-wide lanes in each direction prior to reaching Detroit Street. In addition, a dedicated left-turn lane would be included in the southbound direction at the intersection with Detroit Street. A trail ramp would be constructed at the southeast end of the bridge to connect the planned Regional Santa Ana River Trail with the barrier-separated multipurpose trail on the new Hamner Avenue Bridge.

The Project right-of-way (ROW) appears to have been used as roadway and agricultural and residential land since the 1930s. Land development adjacent to the Project ROW gradually increased starting in the 1960s. Land usage has generally favored residential with the remainder of the adjacent properties being developed for commercial purposes. Based on our review of historical city directories, several of the commercial properties consisted of gas stations located within ½ mile of the Project site.

The Project ROW is owned by several public entities, including the Cities of Eastvale and Norco, the Riverside-Corona Resource Conservation District (RCRCD), and/or private owners. Currently, no new ROW will be acquired as part of the Project. However, if the Project scope is revised such that new ROW will be acquired, then the recommendations in this report should be revised accordingly.

The ISA was performed in general conformance with the scope and limitation of ASTM International (ASTM) Practice E 1527-13 for the Project limits. Any exceptions to, or deletions from, this practice are described in Section 1.1 and Section 8.2 of this report. This assessment revealed evidence of recognized environmental concerns (RECs) within, and adjacent to, the Project limits that should be addressed as part of a Phase II site investigation or using Caltrans Standard Specifications (Caltrans, 2015a) and Standard Special Provisions ([SSPs]; Caltrans, 2015b, c), as summarized in Table ES-1:



**Table ES-1 - SUMMARY OF RECS WITHIN AND ADJACENT TO PROJECT ROW**

REC SOURCE/ LOCATION	CONTAMINANTS OF POTENTIAL CONCERN	POTENTIALLY AFFECTED MEDIA	REPORT SECTION(S)	RECOMMENDATION
Former agricultural land adjacent to Project footprint	Herbicides, Pesticides	Soil	Sections 3.1 and 3.2	A Phase II Site Investigation should be performed at locations adjacent to the Project footprint where excavations are planned to evaluate the potential for contamination from pest and weed control chemicals in former agricultural areas.
Existing Hamner Avenue Bridge over Santa Ana River	ACM, LBP	Existing bridge bearing pads, hinge and joint seal materials, and coatings and graffiti	Section 7.1	Prior to demolition and disposal of the existing Hamner Avenue Bridge, an ACM and LBP survey of the potentially affected media should be performed as part of a Phase II site investigation
Project ROW	LBP, Chromium	Yellow thermoplastic striping	Sections 5.6 and 7.2	Yellow thermoplastic striping materials should be handled in accordance with Caltrans Standard Specifications (Caltrans, 2015a) and the corresponding SSPs (Caltrans, 2015c).
Project ROW	ADL	Soil	Section 7.2	Unpaved soils adjacent to the existing roadway should be tested for ADL according to Caltrans ADL testing guidelines. The ADL study should include Title 22 testing of surface soils to evaluate the potential presence of other metals that may have been transported by storm water runoff. If ADL concentrations are detected in existing soils, such soils will be handled in accordance with the Caltrans Standard Specifications (Caltrans, 2015a) and the corresponding SSPs (Caltrans, 2015b).
<p>Note(s):</p> <ul style="list-style-type: none"> <li>• ACM = asbestos-containing material.</li> <li>• LBP = lead-based paint.</li> <li>• ADL = aerially deposited lead.</li> </ul>				



# 1 INTRODUCTION

## 1.1 PURPOSE

Diaz•Yourman & Associates (DYA) prepared this Phase I Initial Site Assessment (ISA) for the proposed replacement of the Hamner Avenue Bridge over the Santa Ana River (Project) in the Cities of Eastvale and Norco, California. T.Y. Lin International (TYLI) authorized this work on April 20, 2017.

The intent of this ISA is to provide a planning document in general compliance with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) guidelines for evaluating environmental impacts due to hazardous waste during construction and to identify recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), and controlled recognized environmental conditions (CRECs). The U.S. Environmental Protection Agency (EPA) "All Appropriate Inquiry" (AAI) was used as a basis of general procedures followed in preparation of this ISA, but was not explicitly applied. The AAI references the ASTM International (ASTM) Designation E1527, "Standard Practice for Environmental Project Site Assessments: Phase I Environmental Property Assessment Process," for conducting the AAI. The purpose of the Phase I environmental property assessment, according to ASTM, is to identify "recognized environmental conditions" with regard to a "commercial real estate transaction" of a specific parcel of land. In contrast, the purpose of this assessment was limited to the identification of potential impacts of hazardous substances during the construction of the Project improvements.

RECs are defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to any release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions (ASTM, 2013).

A de minimis condition is defined as a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are neither RECs nor CRECs (ASTM, 2013).



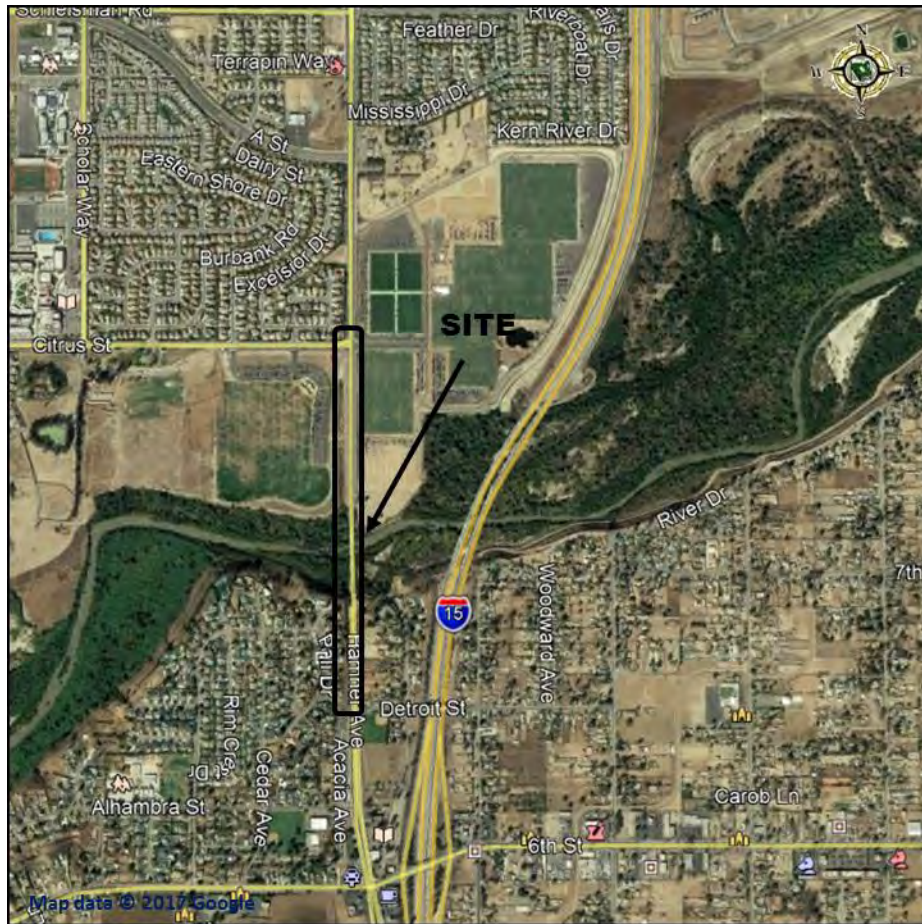
CREC is defined as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent or meeting risk-based criteria established by regulatory authority) with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls; ASTM, 2013).

HREC is defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls; ASTM, 2013).

## **1.2 PROJECT LOCATION**

The Project site is located along Hamner Avenue from Detroit Street to Citrus Street in the Cities of Eastvale and Norco, California, as shown on the Vicinity Map, Figure 1.





**Figure 1 - VICINITY MAP**

### 1.3 PROJECT DESCRIPTION

The County of Riverside Transportation Department (County), in cooperation with the Cities of Eastvale and Norco and the California Department of Transportation (Caltrans), proposes to replace the existing Hamner Avenue Bridge over the Santa Ana River and to widen Hamner Avenue from Detroit Street to Citrus Street in the Cities of Eastvale and Norco, Riverside County, California. The Project covers a distance of approximately 0.7 miles.

The existing Hamner Avenue Bridge has a sufficiency rating of 69.3 and is rated “structurally deficient,” a status triggered by the deck condition rating of 3. From Detroit Street to just south of the bridge over the Santa Ana River, Hamner Avenue consists of one 14-foot-wide lane in each direction. Hamner Avenue Bridge across the river consists of one 12-foot-wide lane plus one 2-foot-11-inch-wide shoulder in each direction with a 4-foot-wide timber sidewalk attached to the east side of the bridge and separated from traffic by a concrete traffic railing. North of the bridge, Hamner Avenue transitions to two northbound lanes (12-foot-wide and



18-foot-wide), one southbound lane of variable width, sidewalks on both sides of the street, and a 12-foot-wide median.

The proposed Project would replace the existing Hamner Avenue Bridge with a new bridge. The new bridge would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction (northbound and southbound) separated by a 4-foot-wide curbed median, with a 12-foot-wide barrier-separated multipurpose trail on the east side of the bridge. To the north of the bridge, Hamner Avenue would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction with a 5-foot-wide sidewalk on the east side of the roadway. At the intersection with Citrus Street, the outside northbound lane would become a dedicated right-turn lane and a northbound dedicated left-turn lane would be included. In the southbound direction, Hamner Avenue would transition from two lanes to three lanes just south of Citrus Street. South of the bridge, Hamner Avenue would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction with a 5-foot-wide sidewalk on the east side of the roadway and would transition to two 12-foot-wide lanes in each direction prior to reaching Detroit Street. In addition, a dedicated left-turn lane would be included in the southbound direction at the intersection with Detroit Street. A trail ramp would be constructed at the southeast end of the bridge to connect the planned Regional Santa Ana River Trail with the barrier-separated multipurpose trail on the new Hamner Avenue Bridge.

The following would also be part of the proposed Project:

- Utilities would be relocated either into the bridge or outside of the new bridge/roadway, as needed, to accommodate the proposed improvements.
- Best management practices for water quality treatment would be provided as part of the proposed Project where feasible.
- Retaining walls would be constructed to avoid permanent right-of-way (ROW) takes and utility impacts as well as to accommodate construction staging.
- Signage would be incorporated within the Project's limits of disturbance, where necessary.
- Pedestrian facilities would be compliant with Americans with Disabilities Act (ADA) standards.





- Geotechnical borings would be conducted within the Project's limits of disturbance, as needed, for design of the Project.
- Advanced signage during construction would be required.

All construction staging and/or storage areas for the proposed Project would be included within the limits of construction for the Project. The proposed Project would not require the relocation of residences and/or businesses, however, temporary construction easements may be needed for the construction access.

The proposed Project is included in the 2017 Federal Transportation Improvement Program (FTIP) as project ID RIV121204. It is also included in the Southern California Association of Government's (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) as Project ID RIV050532.

The layout of the proposed improvements is shown on the Project drawings presented in Appendix A. A summary of the primary improvements that will disturb the soil, groundwater, and/or existing structures is presented in Table 1.

**Table 1 - SUMMARY OF PROPOSED STRUCTURAL IMPROVEMENTS**

<b>PROPOSED IMPROVEMENT</b>	<b>APPROXIMATE STATION LIMITS</b>	<b>PROPOSED FOUNDATIONS/SUPPORT</b>	<b>DISTURBED MEDIUM AND DEPTH</b>
New retaining wall west of Hamner Avenue, south of proposed replacement bridge	173+90 to 179+20	Soldier piles and/or shallow foundations	Soil to approximately 50 feet below existing grades
Replacement Hamner Avenue Bridge over Santa Ana River	180+78.81 to 192+78.81	Cast-in-drilled-hole (CIDH) piles for bridge piers and abutments	Soil and groundwater to approximately 100 feet below existing riverbed
New retaining wall west of Hamner Avenue, north of proposed replacement bridge	192+85 to 196+00	Mechanically stabilized earth (MSE) wall	Soil to approximately 10 feet below existing grades

In addition to the improvements described in Table 1, the abutment walls and steel H-pile-supported pier walls that support the existing bridge will be demolished as part of the proposed Project. To facilitate the demolition, we understand that excavations on the order of 10 feet below the existing Santa Ana Riverbed might be required based on input from TYLI (2017a). Shallow soils (less than 5 feet below existing grades) will likely be disturbed during grading operations along the current alignment of Hamner Avenue to the north and south of the existing bridge, and along the alignment of the proposed multipurpose trail.



## 1.4 SCOPE

The scope of services to accomplish this assessment generally consisted of:

- Performing a site reconnaissance.
- Conducting historical research related to the use, storage, disposal, or release of hazardous materials or petroleum hydrocarbons based on property records, public records, aerial photographs, and interviews.
- Reviewing environmental databases and regulatory agency information available to the public for the Project and neighboring properties.
- Preparing this report.

No inhabited structures are planned within the Project area and, therefore, vapor intrusion was not evaluated.



## 2 SITE DESCRIPTION

### 2.1 EXISTING RIGHT-OF-WAY

Within the Project ROW, the site primarily consisted of the following features:

- Hamner Avenue from Detroit Street to Citrus Street, including the existing bridge over the Santa Ana River.
- The Santa Ana River.
- Existing vegetated slopes south of the Santa Ana River that ascend from Hamner Avenue to adjacent properties. To the north of the Santa Ana River, slopes and walls descend from Hamner Avenue to the adjacent parks east and west of the site.
- An existing trail that extends approximately 400 feet east from the south end of the existing bridge.

We understand that the Project ROW is owned by several public entities, including the Cities of Eastvale and Norco, the Riverside-Corona Resource Conservation District (RCRCD), and/or private owners. However, no new ROW will be acquired as part of the Project.

### 2.2 ADJACENT LAND USE

Based on our review of existing available maps and our site reconnaissance on June 28, 2017, property use adjacent to the Project was observed as noted in Table 2.

**Table 2 - SUMMARY OF ADJACENT LAND USAGE**

EXTENT	ADJACENT LAND USAGE	
	East	West
Detroit Street to Hamner Avenue Bridge over Santa Ana River	Single-family residential development	Single-family residential development
Hamner Avenue Bridge over Santa Ana River	Undeveloped (Santa Ana Riverbed)	Undeveloped (Santa Ana Riverbed)
Hamner Avenue Bridge over Santa Ana River to Citrus Street	Silverlake Sports and Equestrian Park	Eastvale Community Park

### 2.3 GEOLOGY

Based on information documented by the California Geological Survey, formerly California Division of Mines and Geology ([CGS], 2004), the area of the Project lies within the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges is a northwest trending



series of ranges and valleys that are subparallel to faults branching from the San Andreas Fault. The ranges and valleys are bound to the east by the Colorado Desert and to the north by the Transverse Ranges. The Province reaches into lower California and includes the islands off the coast of California as well as the surrounding continental shelf (CGS, 2002). The Project site is mapped as Quaternary young alluvium (Qya), Quaternary young wash (Qyw) and Quaternary older fan (Qof) deposits. Qya are described as slightly to moderately consolidated silt, sand, and gravel. Boulders might also be included in these deposits given the proximity to Qof. Qyw consists of unconsolidated sand and gravel deposits. Due to the active Santa Ana River that cuts through the wash deposits, it should be expected that cobbles and boulders may also be encountered. Qof deposits are characterized as moderately to well-consolidated silt, sand, and gravel and may include clasts up to boulder size.

## 2.4 TOPOGRAPHY

The U.S. Geological Survey (USGS) 7.5-minute quadrangle, Corona North, California, dated 2012, is provided as part of the Environmental Database Resources, Inc. (EDR) Historical Topo Map Report (EDR, 2017c) presented in Appendix B. The ground surface along the Project alignment generally descended gently from south to north, with the northern terminus of the Project having an elevation of approximately 595 feet above mean sea level (MSL) and the southern terminus having an elevation of approximately 660 MSL. Along the Project alignment, the primary features of significant topographic relief were the Santa Ana River that crosses the Project alignment at the existing Hamner Avenue Bridge; the slopes to the south of the river that ascend from Hamner Avenue to adjacent properties; and the slopes to the north of the river that descend to adjacent properties. We estimate that the river's bottom is approximately 15 to 25 feet below the surface structures. The river bank slopes are likely steeper than 1H:1V (horizontal to vertical). Slope heights to the south of the river ranged from approximately 10 to 45 feet, while slope heights to the north of the river ranged from approximately 10 to 15 feet.

Topographic relief for the properties adjacent to the Project ROW was generally minimal. Beyond the adjacent properties, the primary topographic features in the Project's vicinity were the La Sierra Hills located approximately 1½ miles east of the Project ROW and a few smaller hills approximately ½ mile southwest of the Project's southern terminus. The La Sierra Hills rise as much as 1,200 feet above nearby portions of the Project ROW and generally slope towards area creeks. The portion of the La Sierra Hills that slopes toward the Project ROW is generally located between Hamner Avenue and Hidden Valley Drive. The smaller hills to the southwest of the site were as much as 300 feet above the nearest adjacent portions of Hamner Avenue.



## **2.5 SURFACE WATER**

The Santa Ana River crosses the Project alignment, beneath the bridge crossing, as an unlined channel. At the time of the site reconnaissance summarized in Section 5, water was observed in the Santa Ana River riverbed; however, seasonal fluctuations do result in the riverbed being dry occasionally. Other nearby surface waterbodies consisted of the reservoir behind the Prado Basin, which is located approximately ½ mile west of the Project ROW, and Lake Norconian, located approximately ½ mile southwest of the Project ROW.

## **2.6 GROUNDWATER**

The Project site lies within the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin. The subbasin is bounded to the north by the Chino Basin, to the east by the La Sierra Hills and crystalline rocks of the El Sobrante de San Jacinto, to the south by the Elsinore Groundwater Basin, and to the west by the Santa Ana Mountains (California Department of Water Resources [DWR], 2017a).

The groundwater gradient generally trends toward the Santa Ana River in the vicinity of the site; however, based on our review of online environmental databases (State Water Resources Control Board [SWRCB], 2017), localized groundwater gradients have been shown to flow away from the Santa Ana River because of seasonal fluctuations. Historical groundwater levels for the area were determined from water monitoring wells in the area. Based on these wells, which are approximately ½ mile south or southeast of the Project site, groundwater ranges from approximately 19 to 31 feet below ground surface (Stratus, 2012; Frey, 2014). Locations closer to the Santa Ana River will likely have shallower groundwater levels.



### 3 HISTORICAL LAND USAGE

The objective of consulting historical sources is to develop a history of previous uses of the subject property and surrounding area to assist in identifying the likelihood of past uses having led to RECs in connection with the subject property (ASTM, 2013). For this ISA, historical topographic maps, aerial photographs, and Sanborn reports were reviewed to help evaluate the historical land usage. The findings of our review of each of the historical sources are presented in Sections 3.1 through 3.3, and a historical land usage summary is presented in Section 3.4.

#### 3.1 HISTORICAL TOPOGRAPHIC MAPS

The USGS Topographic Maps listed in Table 3 were used to assess the land use and topographic history of the Project alignment and surrounding areas.

**Table 3 - HISTORICAL TOPOGRAPHIC MAPS**

QUADRANGLE	MAP YEAR	SCALE
Corona	1902	1:125,000
Corona and Vicinity	1942	1:31,680
Corona	1947	1:50,000
Corona North	1954	1:24,000
Corona North	1967	1:24,000
Corona North	1973	1:24,000
Corona North	1981	1:24,000
Corona North	2012	1:24,000

The historical USGS topographic maps reviewed for this ISA were obtained from EDR (2017c). Copies of the representative historical topographic maps are provided in Appendix B. A summary of the land use and topographic history presented in the historical topographic maps for the Project alignment is presented below.

**1902:** The Project area was generally undeveloped. The Santa Ana River intersected the central portion of the Project alignment. Portions of four surface streets were contained within the Project limits and one small structure was denoted in the northern area of the Project site.

**1942:** Hamner Avenue and the present-day bridge crossing were depicted; however, Hamner Avenue was denoted as Adams Avenue. The topographic slope toward the Santa Ana River appeared to have been steeper at the southern end of the Project alignment than at the



northern end. Portions of surface streets were depicted in the northern portion of the Project site surrounding a man-made pond. Portions of four surface streets were depicted near the southern portion of the Project site, with four structures depicted along the mapped roadways. The remaining areas near the Project vicinity were depicted with no structures.

**1947:** Land usage along and adjacent to the Project alignment remained relatively unchanged from the 1942 map.

**1954:** Land usage along and adjacent to the Project alignment remained relatively unchanged from the 1947 map. Several additional structures had been constructed adjacent to the southern portion of the Project site, and Silverlakes Ranch (including several fish ponds) was identified east of Hamner Avenue to the north of the Santa Ana River. A gauging station was depicted at the southern side of the Santa Ana River near the southern end of Hamner Avenue Bridge.

**1967:** Land usage along and adjacent to the Project alignment remained relatively unchanged from the 1954 map, except for additional structures and a park that had been constructed along surface streets near the southern portion of the Project site.

**1973:** Land usage along and adjacent to the Project alignment remained relatively unchanged from the 1967 map.

**1981:** Land usage along and adjacent to the Project alignment remained relatively unchanged from the 1973 map, except that several of the man-made ponds east of the northern end of the Project site were no longer mapped.

**2012:** Land usage along and adjacent to the Project alignment remained relatively unchanged from the 1981 map. A gauging station was depicted within the Santa Ana River east of the middle of the existing Hamner Avenue Bridge.

### **3.2 HISTORICAL AERIAL PHOTOGRAPHS**

Historical aerial photographs obtained from EDR (2017e) were reviewed for the Project alignment land use history. The dates, scale, and source of the photos reviewed are shown in Table 4. A summary of the review of the aerial photographs is presented below. Copies of the aerial photographs are provided in Appendix C.



**Table 4 - HISTORICAL AERIAL PHOTOGRAPHS**

FLIGHT YEAR	SCALE	SOURCE
1938	1:500	USDA
1948	1:500	USGS
1953	1:500	USDA
1967	1:500	USDA
1975	1:500	USGS
1985	1:500	USDA
1989	1:500	USDA
1990	1:500	USDA
1994	1:500	USGS/DOQQ
2005	1:500	USDA/NAIP
2006	1:500	USDA/NAIP
2009	1:500	USDA/NAIP
2010	1:500	USDA/NAIP
2012	1:500	USDA/NAIP
Note(s): <ul style="list-style-type: none"> <li>• USDA = U.S. Department of Agriculture.</li> <li>• DOQQ = Digital Orthophoto Quarter Quads.</li> <li>• NAIP = National Agriculture Imagery Program.</li> </ul>		

**1938:** Land was mostly undeveloped. Hamner Avenue was seen in its current alignment north of the river. South of the Santa Ana River, Hamner Avenue was generally parallel to and east of its current alignment. Agricultural plots were present in the northwest of the Project’s northern terminus. Adjacent east of Hamner Avenue were orchards and few residential homes. Adjacent to the west was undeveloped land. Few residential properties were seen south of the Project alignment.

**1948:** Land usage was largely unchanged from the 1938 photo. Hamner Avenue was seen in its current alignment and there was a bridge crossing the Santa Ana River, and some of the orchards to the east of Hamner Avenue to the south of the Santa Ana River were no longer present.

**1953:** Land usage was largely unchanged from the 1948 photo. Residential development had increased along the southernmost portion of the Project alignment and agricultural development appeared to have increased west of Hamner Avenue to the north of the Santa Ana River. The fish ponds noted in Section 3.1 are visible east of the Project’s northern terminus.





**1967:** Land usage was largely unchanged from the 1953 photo with the exception of increased residential development south of the Santa Ana River. The Santa Ana River course appeared to have changed.

**1975:** Residential development had increased south of the Santa Ana River and some grading appeared to have occurred at the agricultural property located northwest of the Project's northern terminus. In addition, several of the fish ponds near the Project's northern terminus appeared to have been infilled. Several small structures, possibly associated with the Silverlakes Ranch discussed in Section 3.1, appeared to have been constructed adjacent east of Hamner Avenue and north of the Santa Ana River.

**1985:** The course of the Santa Ana River had changed since the 1975 photo. Residential development continued to increase slightly south of the Santa Ana River. Other areas near the Project site remained mostly unchanged except for increased development of the agricultural property located northwest of the Project's northern terminus.

**1989:** Land usage along and adjacent to the Project alignment was unchanged from the 1985 photo. Residential development had increased west of Hamner Avenue to the south of the Santa Ana River and the last remaining fish pond near the Project's northern terminus had been infilled. The Interstate (I-) 15 had been constructed to the east of Hamner Avenue.

**1990:** Land usage along and adjacent to the Project alignment was mostly unchanged from the 1989 photo. Increased residential developments were seen adjacent to the Project alignment, east of the I-15 Freeway.

**1994:** Land usage along and adjacent to the Project alignment is mostly unchanged from the 1990 photo.

**2005:** Land usage along and adjacent to the Project alignment was mostly unchanged from the 1994 photo; however, the course of the Santa Ana River was now slightly altered to the east of the Project ROW. Also, the agricultural property located northwest of the Project's northern terminus had been repurposed into a residential development and Citrus Street had been constructed.

**2006:** Land usage along and adjacent to the Project alignment was mostly unchanged from the 2005 photo, though some of the features associated with the presumed Silverlakes Ranch discussed in Section 3.1 appeared to have been removed.



**2009:** Land usage along and adjacent to the Project alignment was mostly unchanged from the 2006 photo.

**2010:** Land usage along and adjacent to the Project alignment was mostly unchanged from the 2009 photo.

**2012:** Land usage along and adjacent to the Project alignment was mostly unchanged from the 2010 photo, with the exception of grading that had occurred north of the Santa Ana River to the east of Hamner Avenue.

### **3.3 HISTORICAL SANBORN MAPS**

A Historical Sanborn Fire Insurance Map Search was conducted by EDR (2017b) to evaluate the overall historical land use adjacent to the Project. However, no Sanborn maps were identified for the Project ROW. A copy of the Historical Sanborn Map Search Report provided by EDR is presented in Appendix D.

### **3.4 HISTORICAL CITY DIRECTORIES**

DYA researched available historical city directories for properties within and adjacent to the Project footprint, including the EDR City Directory Abstract (2017d) presented in Appendix E. A summary of the years researched and the city directory sources is provided in Table 5.



**Table 5 - SUMMARY OF CITY DIRECTORY SEARCH**

<b>YEAR</b>	<b>SOURCE</b>
1921	Riverside Directory Company
1924	Kaasen Directory Company
1925	Los Angeles Directory Company
1927	Los Angeles Directory Company
1930	Los Angeles Directory Company
1931	Southern California Telephone Company
1936	Los Angeles Directory Company
1939	Los Angeles Directory Company
1941	Pacific Directory Company
1945	Los Angeles Directory Company
1946	Southern California Telephone Company
1951	Los Angeles Directory Company
1955	Luskey Brothers & Company
1956	Luskey Brothers & Company
1960	Luskey Brothers & Company
1961	Luskey Brothers & Company
1966	Luskey Brothers & Company
1967	Luskey Brothers & Company
1970	Pacific Telephone
1977	Pacific Telephone
1981	Pacific Telephone
1986	Pacific Bell
1990	Pacific Bell
1993	Pacific Bell
1996	Pacific Bell
2001	Haines & Company, Inc.
2002	SBC Pac Bell
2005	EDR Digital Archive
2010	EDR Digital Archive
2014	EDR Digital Archive

Listings generally consisted of residential with the exception of the properties listed in Table 6. Comments are provided in Table 6 regarding properties with potential for environmental impacts to the Project.



**Table 6 - SUMMARY OF NON-RESIDENTIAL CITY DIRECTORY LISTINGS**

ADDRESS	LISTING	DIRECTORY YEARS	COMMENTS
1488 6 <sup>th</sup> Street	Apro	2005, 2010, 2014	Gas station; site evaluation performed under environmental records review summarized in Section 4.
3840 Hamner Avenue	Valero Gas/ Valero Energy Corporation	2005, 2010, 2014	Gas station; site evaluation performed under environmental records review summarized in Section 4 and during site reconnaissance discussed in Section 5.
4545 Hamner Avenue	River Trails Riding Stables	1977, 1981, 1990, 1993, 1996, 2001, 2002	See discussion in Section 4.2.4.
7572 Hamner Avenue	Texas Tammy's Steak House & Saloon	1996	Not a REC.

### 3.5 HISTORICAL SUMMARY

The Project ROW appears to have been used as roadway and agricultural and residential land since the 1930s. Land development adjacent to the Project ROW gradually increased starting in the 1960s. Development generally favored residential with the remainder of the adjacent properties being developed for commercial purposes. Based on our review of historical city directories, several gas stations have been present within ½ mile of the Project site; these sites are not considered RECs to the Project based on the considerations discussed in the following sections of this report.

Potential sources of hazardous materials that could impact the Project that were identified during our review of the historical topographic maps, historical aerial photographs, historical Sanborn maps, and historical city directories were generally limited to:

- Herbicides and pesticides used in former agricultural properties adjacent to the site,
- Potential unidentified fill utilized to backfill the ponds adjacent to the north portion of the Project site.

We judge that the pond backfill soils do not constitute a REC to the Project because the proposed improvements will not disturb the soils in the area of the pond backfill. This judgment is supported by the findings of recent hazardous materials evaluations of the former pond site, which did not indicate that the pond backfills represented a REC to that project (see discussion in Section 6.4.2). Conclusions and recommendations regarding herbicides and pesticides are presented in Section 8.1



## 4 RECORDS REVIEW

### 4.1 ENVIRONMENTAL DATABASE REVIEW

The purpose of the environmental database review is to obtain and review public records to identify activities at the Project site or surrounding properties that could indicate significant potential for RECs impacting the Project. The database information was obtained for this report by DYA through EDR (2017a) on June 13, 2017, and is presented in Appendix F. Due to the large volume of supporting data, the detailed description of the database information for the sites identified was reproduced from the EDR report on a compact disc (Adobe reader format) in Appendix F for the “hard” copy of the report. The entire EDR report is provided in Appendix F for the electronic version of this report.

A general search radius of 1 mile beyond the Project footprint was specified by DYA for EDR’s use in identifying nearby sites registered under hazardous waste databases that could potentially impact the Project. DYA reviewed only those sites listed in environmental databases presented in the EDR Radius Map™ Report with GeoCheck® (2017a) that pertain to the objective of this ISA, which was to evaluate the potential impacts of hazardous substances that might be encountered in the soil and/or groundwater during the construction of the Project improvements. A summary of the environmental databases reviewed by DYA is presented in Table 7. Also provided in Table 7 are the number of sites identified in the EDR Radius Map™ (2017a) within the standard research distance for each environmental database specified by ASTM D1527 (2013) and the number of REC listings identified by DYA for each environmental database based on our review of the available records.



**Table 7 - SUMMARY OF REVIEWED ENVIRONMENTAL DATABASES**

ENVIRONMENTAL DATABASE <sup>1</sup>	TOTAL NUMBER OF LISTINGS <sup>2</sup>	NUMBER OF LISTINGS IDENTIFIED AS RECS
<b>Federally Managed Environmental Databases</b>		
BROWNFIELDS	0	0
CDL	0	0
CORRACTS	1	0
DOD	0	0
DOT OPS	0	0
ERNS	0	0
FTTS	0	0
FUDS	0	0
HIST FTTS	0	0
HMIRS	0	0
NPL, Proposed NPL, Delisted NPL, NPL Liens	0	0
PADS	0	0
PCB TRANSFORMER	0	0
RCRA-CESQG	0	0
RCRA-LQG	0	0
RCRA-NonGen	2	0
RCRA-SQG	3	0
RCRA-TSDF	0	0
ROD	0	0
SEMS, SEMS-ARCHIVE (formerly CERCLIS-NFRAP)	0	0
US ENG CONTROLS	0	0
US INST CONTROLS	0	0
US MINES	1	0
UXO	0	0
<b>State and Locally Managed Environmental Databases</b>		
CA AST	0	0
CA BEP	0	0
CA BROWNFIELDS	0	0
CAL-SITES	0	0
CA CDL	0	0
CA Cortese	0	0
CA DEED	0	0
CA DRY CLEANERS	0	0
CA ENF	0	0



**Table 7 - SUMMARY OF REVIEWED ENVIRONMENTAL DATABASES (cont.)**

<b>ENVIRONMENTAL DATABASE<sup>1</sup></b>	<b>TOTAL NUMBER OF LISTINGS<sup>2</sup></b>	<b>NUMBER OF LISTINGS IDENTIFIED AS RECS</b>
CA EnviroStor	3	0
CA FID UST	0	0
CA HAULERS	0	0
CA HAZNET	1	0
CA HIST CAL-SITES	1	0
CA HIST Cortese	2	0
CA HIST UST	1	0
CA HMIRS	1	0
CA HWP	1	0
CA HWT	0	0
CA LDS	0	0
CA LUST	8	0
CA MINES	0	0
CA Notify 65	1	0
CA Response	1	0
CA SCH	0	0
CA SLIC	0	0
CA SWEEPS UST	3	0
CA SWF/LF	0	0
CA SWRCY	0	0
CA Toxic Pits	0	0
CA UIC	0	0
CA UST	0	0
CA VCP	0	0
CA WDS	0	0
CA WIP	0	0
CA WMUDS/SWAT	0	0
<b>EDR Proprietary and Supplemental Lists</b>		
EDR Hist Cleaners	0	0
EDR Hist Auto	4	0
EDR MGP	0	0
FINDS	0	0
RGA LUST	1	0
RGA LF	0	0
Note(s):		
1. See acronym list that precedes Executive Summary of this report for database definitions.		
2. Based on a research distance of 1 mile as specified by DYA in accordance with the recommended minimum research distance in Section 8.2.1 of ASTM E1527 (ASTM, 2013).		



No RECs were identified by DYA based on one or more of the following considerations:

- The locations and depths where soil and/or groundwater will be disturbed during construction of the proposed Project.
- The horizontal distance from the environmental database listing site to the Project alignment.
- The typical distance of concern for each environmental database.
- Whether the ground surface at the environmental database listing site was upgradient, downgradient, or crossgradient from the Project alignment.
- The historical and/or recent groundwater gradient direction at the environmental database listing site with respect to the Project alignment.
- The history of documented releases and/or environmental violations for an environmental database listing site.
- The quantity of hazardous materials released at the environmental database listing site and the affected media (e.g., soil, groundwater).
- The depth of the medium impacted by hazardous materials at the environmental database listing site.
- The degree to which previous releases at the environmental database listing site had been remediated, if at all.
- The likelihood that hazardous materials released at the environmental database listing site would migrate to the areas of the Project where soil and/or groundwater will be disturbed during construction of the proposed improvements (Mace et al., 1997; Buonicore, 2011).

Brief descriptions for most of the environmental databases listed in Table 7 are presented in Appendix F, and acronyms are defined in a list at the beginning of this report.

In some cases, location information supplied by the database provider was insufficient to allow map-coded facility locations. These facilities are listed under the unmappable section within the EDR report. A review of the unmappable facilities indicated that these facilities were either not RECs or were not within the search distance for the Project.





In addition to the database listings summarized in Table 7, DYA also reviewed well data presented in the EDR Radius Map™ Report with GeoCheck® (2017a) for information regarding documentation of potentially hazardous materials that have been detected during monitoring of historical and existing water wells in the vicinity of the Project ROW. Based on our review, 11 wells were documented within 1 mile of the existing Hamner Avenue Bridge; however, the data presented in the EDR Radius Map™ Report with GeoCheck® (2017a) indicated that these wells have not been used to monitor the presence of potentially hazardous materials.

## **4.2 PUBLIC AGENCY REVIEW**

DYA reviewed online local and state agency databases to identify any current or previous records of hazardous substance use, storage, and/or unauthorized releases that may have impacted the subject property and surrounding properties. Based on our review of the EDR Radius Map™ Report with GeoCheck® (2017a) and local and state agency online databases, DYA judged that reviewing archives on file with the Riverside County Department of Environmental Health (RCDEH) is not currently warranted.

### **4.2.1 California Regional Water Quality Control Board**

DYA reviewed the online GeoTracker data and report resource for regulated environmental cases provided by the SWRCB and the California Regional Water Quality Control Board (RWQCB) on the internet at <http://geotracker.waterboards.ca.gov/>. Based on our review, records of active environmental cases listed on the GeoTracker website in the vicinity of the Project corresponded to sites that were identified in the EDR Radius Map™ Report with GeoCheck® (2017a).

### **4.2.2 California Department of Toxic Substance Control**

DYA reviewed the online EnviroStor investigation data and report resource for cleanup and hazardous waste permitted facilities provided by the California Department of Toxic Substances Control (DTSC). Based on our review, records of active environmental cases listed on the EnviroStor website in the vicinity of the Project corresponded to sites that were identified in the EDR Radius Map™ Report with GeoCheck® (2017a).



### **4.2.3 California Department of Conservation, Division of Oil, Gas, and Geothermal Resources**

According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) Well Finder database, there are no known oil wells in the immediate vicinity of the Project.

### **4.2.4 California Environmental Protection Agency Regulated Site Portal**

According to the California Environmental Protection Agency (CalEPA) Regulated Site Portal online database, there is one regulated site within the Project ROW. The “River Trails Riding Stable,” located at 4545 Hamner Avenue, was listed as an Animal Specialty Service and was enrolled within the National Pollutant Discharge Elimination System (NPDES) wastewater and stormwater program. According to the database listing, the property was a city-owned equestrian facility and was last inspected on October 26, 1995. The status of the facility was “historical,” and the NPDES permit for the property expired on September 11, 1999. No violations are associated with the facility. Based on the provided information, nature of the facility operations (animal services), and lack of violations, this database listing is not considered a REC to the Project.



## 5 SITE RECONNAISSANCE

Mr. Clint Isa, Professional Engineer (PE), performed a visual reconnaissance of the Project site and adjacent areas on June 28, 2017. A supplemental site reconnaissance was performed by Ms. Devina Horvath on September 24, 2017. Photographs taken during the visits are presented in Appendix G. The weather was sunny and hot with temperatures in the low-90s degrees Fahrenheit during the initial site visit, and sunny and mild with temperatures in the mid-70s during the supplemental site visit.

Because DYA did not have access to private properties, our reconnaissance was performed primarily from public ROW. Physical limitations, such as property fences, dense vegetation, and/or steep terrain, also precluded DYA from observing the site conditions in some areas, as summarized below:

- Steep terrain and lack of sidewalks made it unsafe to walk along Hamner Avenue from Detroit Street to the existing bridge over the Santa Ana River (approximate Station 170+41 to Station 181+15).
- Dense vegetation precluded access to portions of the underside of the existing bridge and to the portions of the Santa Ana River riverbed west of the existing bridge.
- Fences precluded access to property east of Hamner Avenue to the north of the existing bridge, and to the drainage channel and retaining wall along the west side of Hamner Avenue to the north of the existing bridge.

### 5.1 SURFACE CONDITIONS

With the exception of the existing bridge over the Santa Ana River, Hamner Avenue was observed to consist of an asphalt concrete (AC)-paved road along the entire Project alignment. AC curbs and Portland cement concrete (PCC) traffic barriers (i.e., “k-rails”) were present along Hamner Avenue south of the existing bridge, and PCC curbs, gutters, and sidewalks were present north of the existing bridge. A wooden boardwalk was present along the eastern side of the existing bridge to facilitate pedestrian traffic. The alignment of the proposed trail was unpaved and generally consisted of exposed soil and natural vegetation.

To the south of the existing bridge, slopes ascended from Hamner Avenue to the adjacent residential properties at inclinations ranging from 1.5H:1V to 2H:1V. The slopes were vegetated with dry grasses and scattered large trees. To the north of the existing bridge, MSE walls and



slopes descended to the adjacent parks located to the east and west of Hamner Avenue. A shallow, unlined drainage ditch with light to moderate vegetation was observed west of and parallel to Hamner Avenue to the north of the existing bridge.

The Santa Ana River riverbed, which was approximately 15 to 20 feet below adjacent grades north and south of the existing bridge, was accessed from the south via a ramp near the eastern terminus of the proposed trail. The surface of the riverbed consisted primarily of loose, clean sands. Where present, overgrowth was fairly dense with some open areas. Several feet of water were observed in the Santa Ana River, as shown in the photographs in Appendix G. The flow of the river appeared to be to the southwest.

No evidence of distress to existing vegetation within and adjacent to the Project ROW was observed based on the previously described physical site access limitations.

Surface water drainage within the Project ROW was generally directed toward the Santa Ana River except for the northern 900 to 1,000 feet, where the surface is sloped for drainage into a closed storm drain system.

## **5.2 HAZARDOUS SUBSTANCES**

No evidence of hazardous substances was observed within or adjacent to the Project ROW during the site reconnaissance.

## **5.3 UNDERGROUND AND ABOVEGROUND STORAGE TANKS**

No underground storage tanks (USTs) or aboveground storage tanks (ASTs) were observed within or adjacent to the Project ROW. The USTs and ASTs that were observed nearest to the Project ROW during our site reconnaissance were located at 3480 Hamner Avenue, approximately ¼ mile south of the southern Project terminus (see Photographs 28 and 29 in Appendix G). These USTs and ASTs corresponded to the Valero gas station listing identified in Section 3.4 and Section 4, which was not considered a REC to the Project.

## **5.4 PCB-CONTAINING EQUIPMENT**

No potential polychlorinated biphenyl (PCB)-containing equipment, such as pad-mounted electrical transformers, was observed within the Project ROW. A pole-mounted transformer was observed on overhead power lines near the southern end of the Project ROW (see Photograph 2 in Appendix G). Based on its proximity to the Project ROW and lack of evidence of leaks



observed during the site reconnaissance, the pole-mounted transformer is not considered a REC to the Project.

## **5.5 PIPELINES AND UTILITIES**

Underground utilities observed within the Project ROW primarily consisted of the following:

- A fiber optic cable buried parallel to and approximately 15 to 20 feet east of Hamner Avenue and electrical utilities associated with traffic signal operation (see Photograph 9 in Appendix G).
- A corrugated outlet pipe was observed to daylight at the top of the slope located west of the south end of the existing bridge over the Santa Ana River (see Photograph 8 in Appendix G).
- Evidence of abandoned and current natural gas underground pipelines that appeared to run along the access trail that extends east from the southern terminus of the existing bridge over the Santa Ana River (see Photographs 30 through 32 in Appendix G).
- Overhead and underground telecommunications lines located along the access trail that extends east from the southern terminus of the existing bridge over the Santa Ana River (see Photographs 33 through 35 in Appendix G).
- Overhead power lines east of and parallel to Hamner Avenue along the entire Project alignment; west of and parallel to Hamner Avenue south of the existing bridge over the Santa Ana River; and perpendicular to the Project alignment at the south end of the existing bridge over the Santa Ana River (see photographs in Appendix G).

Evidence of buried petroleum pipelines were not observed during our site reconnaissance.

## **5.6 OTHER OBSERVATIONS**

Other observations made during DYA's site reconnaissance included:

- Graffiti was observed on one of the piers that support the existing bridge over the Santa Ana River (see Photograph 17 in Appendix G).
- Yellow striping was present along the entire length of Hamner Avenue centerline within the Project ROW (see photographs in Appendix G). The striping appeared to be well worn along the existing Hamner Avenue Bridge (see Photograph 16 in Appendix G). We



were unable to determine if the striping consisted of thermoplastic materials. Additional discussion regarding the pavement striping is presented in Section 7.2.

- A soil stockpiling operation appeared to be taking place west of the Eastvale Community Park, as shown in the background of Photograph 24 in Appendix G.



## **6 INTERVIEWS AND USER-PROVIDED INFORMATION**

The objective of performing the interviews summarized herein was to obtain information indicating RECs in connection with the property.

### **6.1 QUESTIONNAIRES**

A sample questionnaire is provided in Appendix H. The environmental questionnaire should be submitted to the owners of the Project ROW. Responses to the environmental questionnaires will assist with identifying sources of RECs to the Project that might not have been available at the time of this report. This report should be updated based on the responses to the questionnaires.

### **6.2 ON-SITE INTERVIEWS**

Because the Project consists of an existing roadway and bridge, on-site interviews with ROW owners could not be performed during the site reconnaissance described in Section 5. Interviews with owners/leaseholders of adjacent properties were also not performed because ROW acquisition is not planned for the Project.

### **6.3 OTHER INTERVIEWS WITH CURRENT OWNERS**

At the request of TYLI, interviews with the owner of neighboring/nearby properties were not conducted as part of this ISA.

### **6.4 USER-PROVIDED INFORMATION**

#### **6.4.1 ENVIRONMENTAL LIEN/ACTIVITY AND USE LIMITATIONS**

Because ROW acquisition is not planned for the Project, DYA did not perform searches for environmental liens or activity and use limitations (AULs) for the Project.

#### **6.4.2 PREVIOUS REPORTS**

DYA requested available previous environmental reports pertaining to the Project from the County. At the time of this report, the County provided DYA with previous environmental documents (First Search, 2008; Michael Brandman Associates, date unknown) prepared for the Silverlakes Recreational Complex located east of the Project ROW to the north of the Santa Ana River (site of the former ponds discussed in Section 3.1 and Section 3.5). Based on our



review of these documents, there did not appear to be sources of potentially hazardous materials that had not been documented in the other records reviewed for this ISA.





## 7 NON-ASTM SCOPE CONSIDERATIONS

### 7.1 PRELIMINARY ASBESTOS EVALUATION

Asbestos-containing materials (ACM) were not directly observed within the existing Project ROW. However, ACM could potentially be present in the existing bearing pads of the existing Hamner Avenue Bridge over the Santa Ana River. If the final construction alternative involves disturbing existing bridge bearing pads, then the structures and bridge bearing pads should be evaluated for suspect ACM.

### 7.2 LEAD-BASED PAINT AND AERIALY DEPOSITED LEAD

Lead-based paint (LBP) could potentially be present on the existing Hamner Avenue Bridge over the Santa Ana River. If the final construction alternative involves disturbing existing painted bridge surfaces, then the bridge should be evaluated for suspect LBP.

Lead and other heavy metals, such as chromium, may be present within yellow thermoplastic paint striping on the pavement. These surfacing materials should be handled in accordance with Caltrans Standard Specifications (Caltrans, 2015a) and the corresponding Standard Special Provisions ([SSPs]; Caltrans, 2015c).

Based on our review of historical topographic maps and aerial photographs (Section 3.1 and Section 3.2, respectively), much of the Project ROW, including Hamner Avenue, had been constructed prior to the prohibition of vehicular leaded fuels. Therefore, soils adjacent to paved areas within the Project limits may contain aerially deposited lead (ADL) from vehicle exhaust.



## 8 CONCLUSIONS AND RECOMMENDATIONS

We have performed a Phase I ISA, in conformance with the scope and limitations of ASTM Practice E1527, of the proposed replacement of the Hamner Avenue Bridge over the Santa Ana River in the Cities of Eastvale and Norco, California. Any exceptions to, or deletions from, this practice are described in Section 9 of this report. This assessment revealed no evidence of RECs in connection with the subject property with the exception of those listed in Section 8.1. No HRECs, CRECs, and de minimis conditions have been identified for the subject property.

### 8.1 CONCLUSIONS

Conclusions and recommendations regarding RECs within and adjacent to the existing Project ROW that were identified in previous sections of this report are summarized in Table 8.

**Table 8 - SUMMARY OF RECS WITHIN AND ADJACENT TO PROJECT ROW**

REC SOURCE/ LOCATION	CONTAMINANTS OF POTENTIAL CONCERN	POTENTIALLY AFFECTED MEDIA	REPORT SECTION(S)	RECOMMENDATION
Former agricultural land adjacent to Project footprint	Herbicides, Pesticides	Soil	Sections 3.1 and 3.2	A Phase II Site Investigation should be performed at locations adjacent to the Project footprint where excavations are planned to evaluate the potential for contamination from pest and weed control chemicals in former agricultural areas.
Existing Hamner Avenue Bridge over Santa Ana River	ACM, LBP	Existing bridge bearing pads, hinge and joint seal materials, and coatings and graffiti	Section 7.17.1	Prior to demolition and disposal of the existing Hamner Avenue Bridge, an ACM and LBP survey of the potentially affected media should be performed as part of a Phase II site investigation
Project ROW	LBP, Chromium	Yellow thermoplastic striping	Sections 5.6 and 7.2	Yellow thermoplastic striping materials should be handled in accordance with Caltrans Standard Specifications (Caltrans, 2015a) and the corresponding SSPs (Caltrans, 2015c).
Project ROW	ADL	Soil	Section 7.2	Unpaved soils adjacent to the existing roadway should be tested for ADL according to Caltrans ADL testing guidelines. The ADL study should include Title 22 testing of surface soils to evaluate the potential presence of other metals that may have been transported by storm water runoff. If ADL concentrations are detected in existing soils, such soils will be handled in accordance with the Caltrans Standard Specifications (Caltrans, 2015a) and the corresponding SSPs (Caltrans, 2015b).



## 8.2 DATA GAPS

A data gap is the inability of the environmental professional to obtain information required by ASTM E1527. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to, site reconnaissance (for example, an inability to conduct the site visit) and interviews (for example, an inability to interview the key site manager, regulatory officials, etc.). The following data gaps were identified:

- Some of the intervals between documented sources exceeded 5 years.
- Interviews with owners of the Project and owners/leaseholders of properties adjacent to the Project ROW were not performed.
- Site reconnaissance access limitations (see Section 5).

In consideration of the available information obtained during the course of preparing this report, in conjunction with professional experience and judgment, no evidence exists to suggest that these data gaps might alter the conclusions of this assessment. In addition, the purpose of this ISA is to provide a planning document in general compliance with CEQA and NEPA guidelines.

## 8.3 DEVIATIONS

No deviations from ASTM E1527-13 were noted during this Phase I ISA except for those noted previously in Section 1.1 and Section 8.2 of this report.



## 9 LIMITATIONS

This report is an instrument of service of DYA and includes limited research, a review of specified and reasonable ascertainable listings, and a site reconnaissance to identify RECs.

This report was prepared in general compliance with the CEQA and NEPA guidelines for evaluating environmental impacts due to hazardous waste during construction. ASTM E1527 was used as a basis of general procedures followed in preparation of this ISA, but was not explicitly applied. The purpose of this assessment is limited to identification of the potential impacts of hazardous substances during construction of a transportation alignment.

RECs are defined under ASTM standards as: “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property.” These standards and this report do not address other environmental conditions such as geologic or geotechnical hazards. DYA’s ISA was performed in accordance with generally accepted practices of the profession undertaken in similar studies at the same time and in the same geographical area; DYA observed a degree of care and skill generally exercised by those of the profession under similar circumstances and conditions.

This study and report has been prepared on behalf of, and for the exclusive use of, TYLI and the Project owners solely for their use and reliance in the environmental assessment of this Project site. TYLI and the Project owners are the only parties to which DYA has explained the risks involved and which have been involved in the shaping of the scope of services needed to satisfactorily manage those risks, if any, from TYLI’s and the Project owners’ points of view. Accordingly, reliance on this report by any other party may involve assumptions whose extent and nature lead to a distorted meaning and impact of the findings and opinions related herein. DYA’s findings and opinions related in this report may not be relied upon by any party except TYLI and the Project owners. With the consent of DYA, TYLI, and the Project owners, DYA may be available to contract with other parties to develop findings and opinions related specifically to such other parties’ unique risk management concerns related to the Project site.



## 10 QUALIFICATIONS OF PREPARER

This assessment was performed by Ms. Devina Horvath under the supervision of Mr. Clint Isa, PE, who has more than eight years of experience managing environmental assessments and mitigation. Ms. Horvath's and Mr. Isa's resumes are presented in Appendix I.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) §312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the AAIs in conformance with the standards and practices set forth in 40 CFR Part 312.



## 11 BIBLIOGRAPHY

- ASTM International, Inc., 2013, Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Annual Book of Standards, Volumes 11.05.
- Buonicore, Anthony J., 2011, Methodology for Identifying the Area of Concern Around a Property Potentially Impacted by Vapor Migration from Nearby Contaminated Sources, Paper 2011-A-301-AWMA, June 2011.
- California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Online Well Finder, <http://maps.conservation.ca.gov/doggr/wellfinder/#close>, Accessed: April 6, 2017.
- California Department of Toxic Substance Control, 2017, EnviroStor website, <http://www.envirostor.dtsc.ca.gov/public/>, Accessed: June 2017.
- California Department of Water Resources, 2017a, California's Groundwater, Bulletin 118, South Coast Hydrologic Region, Upper Santa Ana Valley Groundwater Basin, Temescal Canyon Subbasin, <http://www.water.ca.gov/groundwater/bulletin118/basindescriptions/4-13.pdf>, Accessed: August 18, 2017.
- California Department of Water Resources, 2017b, Groundwater Level Data, CDWR website, <http://www.water.ca.gov/waterdatalibrary>, Accessed: June 2017.
- California Water Resources Control Board, 2017, GeoTracker website, <http://geotracker.waterboards.ca.gov/>, Accessed: June 2017.
- California Geological Survey, 2002, California Geomorphic Provinces, Note 36.
- California Geological Survey, 2003, Earthquake Fault Zone Map, Corona North 7.5-Minute Quadrangle, May 1, 2003.
- California Geological Survey, 2004, Geologic Map of the Santa Ana 30'x60' Quadrangle, Southern California, Open File Report 99-172, Version 2.0.
- Caltrans, 2015a, Standard Specifications.
- Caltrans, 2015b, SSP for Handling Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead.
- Caltrans, 2015c, SSP for Handling and Removal of Traffic Stripe and Pavement Marking with Hazardous Waste Residue.
- Caltrans, 2016, Caltrans Standard Environmental Reference, Environmental Handbook, Volume 1, Chapter 10 - Hazardous Materials, Hazardous Waste, and Contamination, Last Updated June 21, 2016.
- Diaz•Yourman & Associates, 2017, Caltrans ISA Checklist, Hamner Avenue Bridge over Santa Ana River, June 29, 2017.



Environmental Database Resources, Inc., 2017a, The EDR Radius Map™ Report with GeoCheck®, Hamner Avenue Bridge over Santa Ana River, Hamner Avenue/Citrus Street, Corona, CA 92880, Inquiry Number: 4964528.2s, June 13, 2017.

Environmental Database Resources, Inc., 2017b, The EDR Certified Sanborn Map Report, Hamner Avenue Bridge over Santa Ana River, Hamner Avenue/Citrus Street, Corona, CA 92880, Inquiry Number: 4964528.3, June 13, 2017.

Environmental Database Resources, Inc., 2017c, The EDR Historical Topographic Map Report with QuadMatch, Hamner Avenue Bridge over Santa Ana River, Hamner Avenue/Citrus Street, Corona, CA 92880, Inquiry Number: 4964528.4, June 13, 2017.

Environmental Database Resources, Inc., 2017d, The EDR City Directory Abstract, Hamner Avenue Bridge over Santa Ana River, Hamner Avenue/Citrus Street, Corona, CA 92880, Inquiry Number: 4964528.5, June 26, 2017.

Environmental Database Resources, Inc., 2017e, The EDR Aerial Photo Decade Package, Hamner Avenue Bridge over Santa Ana River, Hamner Avenue/Citrus Street, Corona, CA 92880, Inquiry Number: 4964528.3, June 14, 2017.

FirstSearch, 2008, Environmental FirstSearch Report, Silverlakes Recreational Complex, Norco, CA 91752, Job Number 33990001, August 27, 2008.

Frey Environmental, Inc., 2014, Post-Remediation Groundwater Monitoring and Sampling (Final Event) & Site Status Update Report Second Quarter 2014.

Google, 2016, GoogleEarth Historical Aerial Imagery, Accessed: August and September, 2017.

Mace, R.E., R.S. Fisher, D.M. Welch, S.P. Parra, 1997, Extent, Mass and Duration of Hydrocarbon Plumes from Leaking Petroleum Storage Tank Sites in Texas, Geological Circular 97-1, Bureau of Economic Geology, University of Texas at Austin, 1997.

Michael Brandman Associates, Hazards and Hazardous Materials Section Excerpt from Draft Environmental Impact Report, Silverlakes Recreational Complex.

Stratus Environmental, Inc., 2012, Atlantic Richfield Company Quarterly Report, 3<sup>rd</sup> Quarter 2012, October 15, 2012.

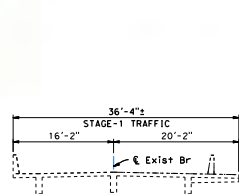
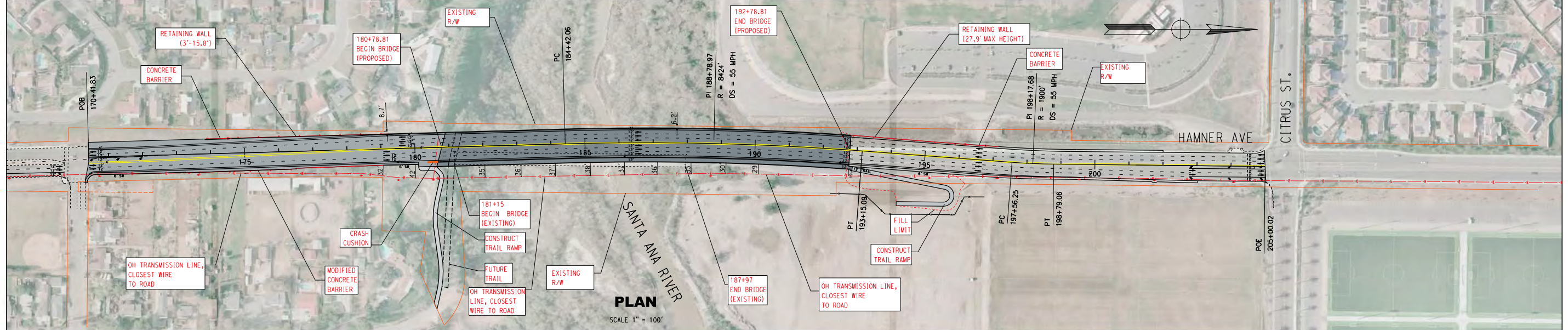
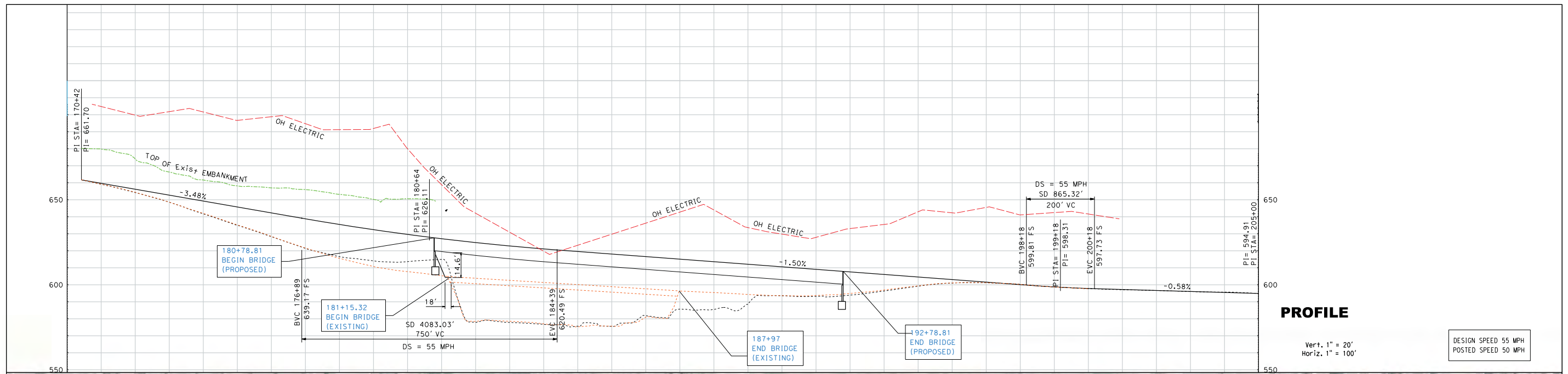
T.Y. Lin International, 2017a, Project Communication.

T.Y. Lin International, 2017b, Preliminary Project Drawings, Hamner Avenue Bridge Replacement, September 5, 2017.

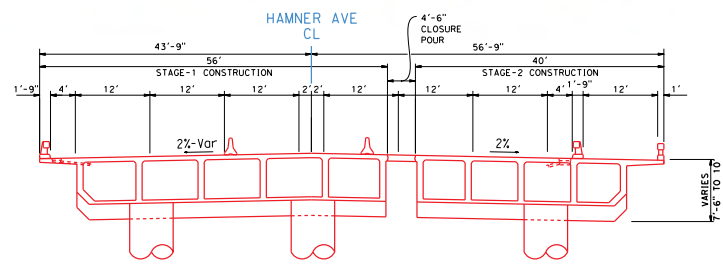
U.S. Geological Survey, 2012, 7.5-Minute Quadrangle Topographic Maps, Corona North, California.

Wildermuth Environmental, Inc., 1999, Groundwater Flow Direction and Relative Flow Velocity within Chino Basin, Figure 4-4 of Optimum Basin Management Program for Chino Basin Watermaster, August 19, 1999.

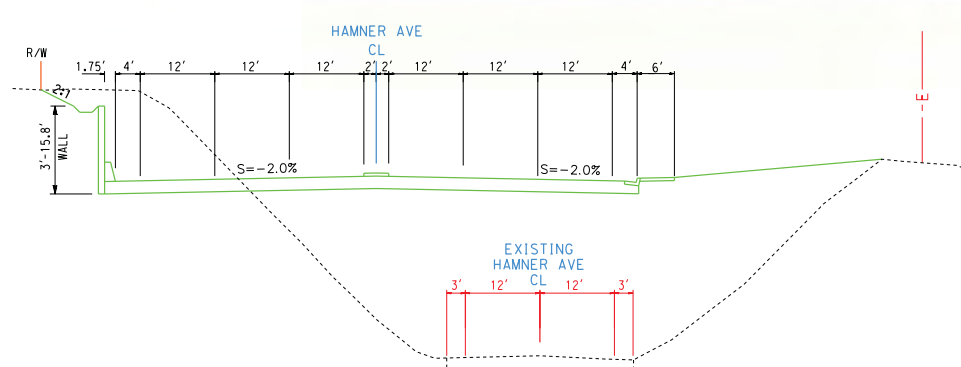




**BRIDGE SECTION  
(EXISTING)**



**BRIDGE SECTION  
(PROPOSED)**



**ROADWAY SECTION**

**PLAN, PROFILE, &  
TYPICAL SECTIONS**

**SEPTEMBER 5, 2017**

**HAMNER AVE BRIDGE REPLACEMENT**



## Memorandum

*Serious drought.  
Help save water!*

To: AARON P. BURTON  
Senior Environmental Planner  
Environmental Special Studies "C" – MS 760

Date: March 22, 2018

From: SEAN YEUNG *SY*  
Senior Transportation Engineer  
Local Assistance – MS 760

File: BRLSZ-5956(230)  
RCTD

Subject: Concurrence to Aerially Deposited Lead Investigation Report (Report) for Hamner Ave.  
Bridge Replacement Project.

This is a concurrence memo for the above Report dated February 16, 2018, submitted to Local Assistance by Diaz Yourman & Associates for review.

If you have any questions, I can be reached at (909) 383-4030 or by email at [sean.yeung@dot.ca.gov](mailto:sean.yeung@dot.ca.gov).



A Report Prepared for:

T.Y. Lin International  
404 Camino del Rio South, Suite 700  
San Diego, CA, 92108

**AERIALY DEPOSITED LEAD INVESTIGATION REPORT  
REPLACEMENT OF HAMNER AVENUE BRIDGE OVER SANTA ANA RIVER  
STATE BRIDGE NO. 56C-0446  
FEDERAL PROJECT NO. BRLSZ5956 (230)  
EASTVALE AND NORCO, CALIFORNIA**

Project No. 2017-009

by

Beatrice Torres, EIT  
Staff Engineer

Esteban Villanueva  
Civil Engineer 88264

V.R. Nadeswaran  
Geotechnical Engineer 2390



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February 16, 2018

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## LIST OF ACRONYMS

ADL	aerially deposited lead
ASTM	ASTM International
bgs	below ground surface
CAL EPA	California Environmental Protection Agency
CALTRANS	California Department of Transportation
CCR	California Code of Regulations
CE	Civil Engineer
CHHSL	California Human Health Screening Levels
COC	chemicals of concern
DHS	California Department of Health & Safety
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
DYA	Diaz•Yourman & Associates
EPA	U.S. Environmental Protection Agency
FTIP	Federal Transportation Improvement Program
GPS	global positioning system
HASP	Health and Safety Plan
ISA	Initial Site Assessment
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
NA	not applicable
ND	not detected
Project	Hamner Avenue Bridge Replacement
QA	Quality Assurance
QC	Quality Control
ROW	right-of-way
RTP	Regional Transportation Plan
SCAG	Southern California Association of Government
SCS	Sustainable Communities Strategy
STLC	soluble threshold limit concentration
TCLP	toxicity characterization leaching procedure
TTLC	total threshold limit concentration
UCL	upper confidence level



WET  
μg/kg

Waste Extraction Test  
micrograms per kilogram



## EXECUTIVE SUMMARY

Diaz•Yourman & Associates (DYA) has prepared this aerially deposited lead (ADL) investigation report (Report) for the proposed replacement of Hamner Avenue Bridge in Norco and Eastvale, California (Project). This ADL investigation was performed in accordance with the written contract between T.Y. Lin International (TYLI) and DYA and DYA's work plan (DYA, 2017b) dated December 8, 2017.

The objective of the ADL investigation was to evaluate whether soil excavated during the construction phase of the Project will need special handling or disposal with respect to ADL. The results of the ADL investigation can be used to manage soil excavations and disposals properly and to inform the contractor of potential ADL contamination so that proper mitigation measures can be implemented.

Forty-eight soil samples were collected from 12 hollow-stem-auger borings. The boring locations are shown on the Site Plan, Figure 2. Soil samples were tested as follows:

- Forty-eight samples were tested for total threshold limit concentration level (TTLC) of lead.
- Based on the results of TTLC, five samples were tested for soluble threshold limit concentration level (STLC) of lead using California Waste Extraction Test using Citric Acid (CA-WET). Four samples were tested for STLC using a modified WET method that used deionized water (DI-WET).
- Based on the results of STLC and TTLC, nine samples were tested for Toxicity Characteristics Leaching Procedure (TCLP) for lead.
- Five samples were tested for pH.
- Seven samples were tested for pesticides and herbicides.

Below are our findings based on review of analytical test results within the areas tested in the upper 5 feet of on-site soils for this Project:

- Statistical analyses indicated that the 95% upper confidence level (UCL) on the mean of TTLC lead was 60 milligram/kilogram (mg/kg) or less and that the 95% UCL on the mean of STLC lead was 2.6 mg/liter (mg/l) or less.
- The TCLP lead test results were 0.059 mg/l or less.



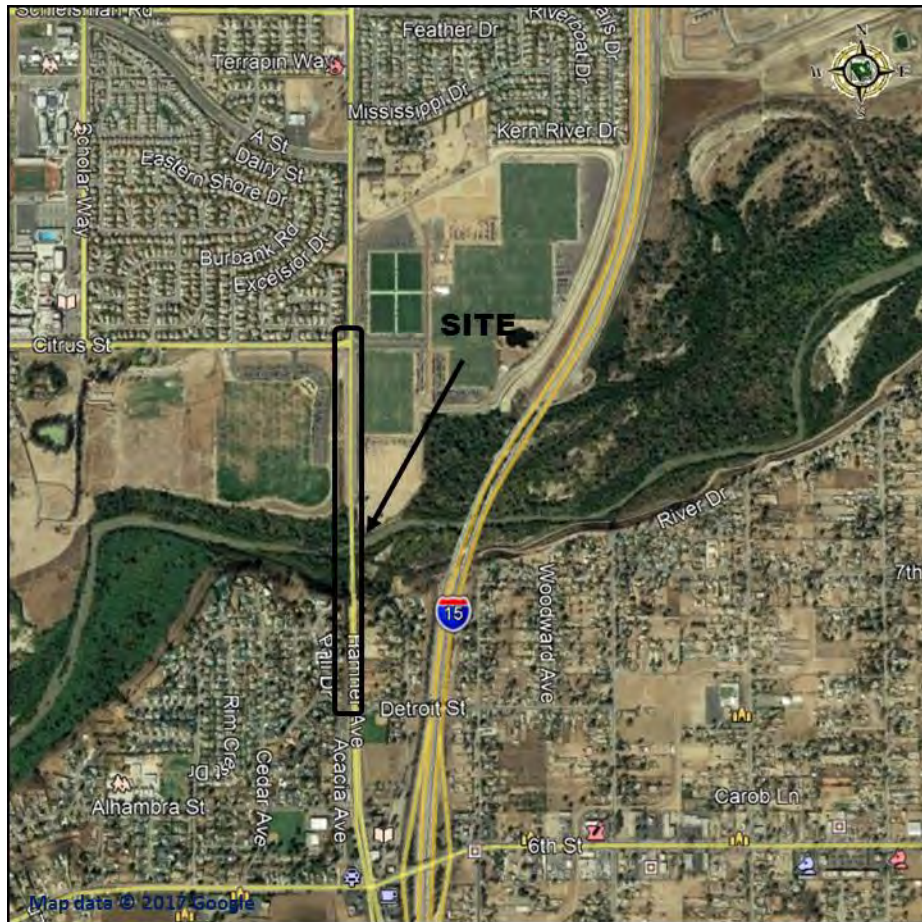
- Based on the ADL test results and the Federal Regulations (Code of Federal Regulations, Title 40) the site soils will not classify as hazardous waste.
- Based on Caltrans agreement with California Department of Toxic Substance Control, the site soils are not considered as ADL-contaminated soils.
- From the ADL perspective, there is no restriction on use of the upper 5 feet of soils excavated from the site.
- Herbicides were not detected on the soil samples tested. Only the pesticide constituents, chlordane and gamma chlordane, were detected on the soils samples tested. The detected levels were below the California Human Health Screening Level (CHHSL) (California Environmental Protection Agency [CAL EPA], 2010) for non-residential land use.





# 1 INTRODUCTION

This report presents the results of the aerially deposited lead (ADL) investigation conducted by Diaz•Yourman & Associates (DYA) for the proposed replacement of Hamner Avenue Bridge in Norco and Eastvale, California (Project). This investigation consisted of evaluating potential presence of ADL-contaminated soils within the Project limits and its impact on the Project. T.Y. Lin International (TYLI) authorized DYA to perform this work with an initial subconsultant agreement on April 20, 2017, and subsequent amendments on December 6, 2017, and February 9, 2018. The Project vicinity is shown on Figure 1. The Project covers a distance of approximately 0.7 miles.



**Figure 1 - VICINITY MAP**



## 2 PROJECT BACKGROUND

### 2.1 PROJECT DESCRIPTION

The County of Riverside Transportation Department (County), in cooperation with the Cities of Eastvale and Norco and the California Department of Transportation (Caltrans), proposes to replace the existing Hamner Avenue Bridge over the Santa Ana River and to widen Hamner Avenue from Detroit Street to Citrus Street in the Cities of Eastvale and Norco in Riverside County, California. The Project covers a distance of approximately 0.7 miles.

The existing Hamner Avenue Bridge has a sufficiency rating of 69.3 and is rated “structurally deficient,” a status triggered by the deck condition rating of 3. From Detroit Street to just south of the bridge over the Santa Ana River, Hamner Avenue consists of one 14-foot-wide lane in each direction. Hamner Avenue Bridge across the river consists of one 12-foot-wide lane plus one 2-foot-11-inch-wide shoulder in each direction with a 4-foot-wide timber sidewalk attached to the east side of the bridge and separated from traffic by a concrete traffic railing. North of the bridge, Hamner Avenue transitions to two northbound lanes (12-foot-wide and 18-foot-wide), one southbound lane of variable width, sidewalks on both sides of the street, and a 12-foot-wide median.

The proposed Project would replace the existing Hamner Avenue Bridge with a new bridge. The new bridge would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction (northbound and southbound) separated by a 4-foot-wide curbed median, with a 12-foot-wide barrier-separated, multipurpose trail on the east side of the bridge. To the north of the bridge, Hamner Avenue would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction with a 5-foot-wide sidewalk on the east side of the roadway. At the intersection with Citrus Street, the outside northbound lane would become a dedicated right-turn lane and a northbound dedicated left-turn lane would be included. In the southbound direction, Hamner Avenue would transition from two lanes to three lanes just south of Citrus Street. South of the bridge, Hamner Avenue would include three 12-foot-wide lanes and a 4-foot-wide shoulder in each direction with a 5-foot-wide sidewalk on the east side of the roadway and would transition to two 12-foot-wide lanes in each direction prior to reaching Detroit Street. In addition, a dedicated left-turn lane would be included in the southbound direction at the intersection with Detroit Street. A trail ramp would be constructed at the southeast end of the bridge to connect



the planned Regional Santa Ana River Trail with the barrier-separated multipurpose trail on the new Hamner Avenue Bridge.

The following would also be part of the proposed Project:

- Utilities would be relocated either into the bridge or outside of the new bridge/roadway, as needed, to accommodate the proposed improvements.
- Best management practices for water quality treatment would be provided as part of the proposed Project where feasible.
- Retaining walls would be constructed to avoid permanent right-of-way (ROW) takes and utility impacts as well as to accommodate construction staging.
- Signage would be incorporated within the Project's limits of disturbance, where necessary.
- Pedestrian facilities would be compliant with Americans with Disabilities Act standards.
- Geotechnical borings would be conducted within the Project's limits of disturbance, as needed, for design of the Project.
- Advanced signage during construction would be required.

All construction staging and/or storage areas for the proposed Project would be included within the limits of construction for the Project. The proposed Project would not require the relocation of residences and/or businesses; however, temporary construction easements may be needed for the construction access.

The proposed Project is included in the 2017 Federal Transportation Improvement Program (FTIP) as project ID RIV121204. It is also included in the Southern California Association of Government's (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) as Project ID RIV050532.

The project alignment and features are shown on a preliminary project drawing included in Appendix A.

## **2.2 PREVIOUS REPORT**

DYA previously prepared a Phase I Initial Site Assessment (ISA) for the Project (DYA, 2017a). The ISA identified ADL as one of the recognized environmental conditions (RECs) within the



Project limits. In addition to ADL, DYA's report identified the potential presence of herbicides and pesticides in surface soils north of the existing bridge as a consequence of the Project site's agricultural history.

### **2.3 HISTORICAL SITE USE**

As indicated in DYA's Phase I ISA report (DYA, 2017a), based on review of historical aerial photographs and topographic maps, the Project site and vicinity were historically used as a roadway and agricultural and residential land since the 1930s. Land development adjacent to the Project ROW gradually increased starting in the 1960s. Land usage has generally favored residential with the remainder of the adjacent properties being developed for commercial purposes. Neither the historical topographic maps nor the historical aerial photographs showed any significant improvements or modifications to the site after its initial construction in 1970.

Select historical aerial photographs are included in Appendix A.

### **2.4 GEOLOGY**

Based on information documented by the California Geological Survey, formerly California Division of Mines and Geology (CGS, 2004), the area of the Project lies within the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges is a northwest trending series of ranges and valleys that are subparallel to faults branching from the San Andreas Fault. The ranges and valleys are bound to the east by the Colorado Desert and to the north by the Transverse Ranges. The Province reaches into lower California and includes the islands off the coast of California as well as the surrounding continental shelf (CGS, 2002). The Project site is mapped as Quaternary young alluvium (Qya), Quaternary young wash (Qyw), and Quaternary older fan (Qof) deposits. Qya are described as slightly to moderately consolidated silt, sand, and gravel. Boulders might also be included in these deposits given the proximity to Qof. Qyw consists of unconsolidated sand and gravel deposits. Because the active Santa Ana River cuts through the wash deposits, it should be expected that cobbles and boulders may also be encountered. Qof deposits are characterized as moderately to well-consolidated silt, sand, and gravel and may include clasts up to boulder size.

### **2.5 GROUNDWATER**

The Project site lies within the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin. The subbasin is bounded to the north by the Chino Basin, to the east by the La Sierra



Hills and crystalline rocks of the El Sobrante de San Jacinto, to the south by the Elsinore Groundwater Basin, and to the west by the Santa Ana Mountains (California Department of Water Resources [DWR], 2017).

The groundwater gradient generally trends toward the Santa Ana River in the vicinity of the site; however, based on our review of online environmental databases (CAL EPA, 2017), localized groundwater gradients have been shown to flow away from the Santa Ana River because of seasonal fluctuations. Historical groundwater levels for the area were determined from water monitoring wells in the area. Based on these wells, which are approximately ½ mile south or southeast of the Project site, groundwater ranges from approximately 19 to 31 feet below ground surface ([bgs] Stratus, 2012; Frey, 2014). Locations closer to the Santa Ana River will likely have shallower groundwater levels.



### 3 OBJECTIVE

The objective of the ADL investigation was to evaluate whether ADL-contaminated soils are present within the Project limits and how their presence may impact construction activities and to provide hazard assessment for the mitigation of impacts during earthwork. Excavated soils are required by State and Federal regulations to be classified as nonhazardous or hazardous prior to reuse or disposal off site. Caltrans has entered into an agreement with the Department of Toxic Substance Control (DTSC) through which ADL-contaminated soils containing regulated concentrations of ADL can be managed either by appropriate reuse within Caltrans ROW or by off-site disposal (Caltrans, 2016).

In addition to ADL contamination, DYA also performed limited testing for the following chemicals of concern (COCs) to characterize the subsurface soils:

- Pesticides and herbicides
- pH

The results of the ADL investigation can be used to manage soil excavations and disposal properly and to inform the contractor of potential ADL contamination so that proper mitigation measures can be implemented.



## 4 SCOPE OF SERVICE

The scope of this ADL investigation consisted of the following:

- Preparing a work plan based on the Phase I ISA Report (DYA, 2017a) for evaluating potential presence of ADL, herbicides, and pesticides in the soils that may be encountered during the construction of the Project. The work plan was submitted on December 8, 2017 (DYA, 2017b).
- Preparing a site-specific Health and Safety Plan (HASP). The work plan (DYA, 2017b) included the HASP as one of the appendices.
- Upon approval of the work plan and receipt of encroachment permit, performing a field exploration to collect soil samples.
- Performing environmental laboratory tests on soil samples.
- Identifying contamination based on the test results.
- Preparing this ADL report.



## 5 SAMPLING METHODOLOGY

The sampling was performed in general accordance with DYA's work plan (2017b) with appropriate modifications to accommodate access and encroachment permit requirements. The approximate boring locations are shown on the Site Plan presented on Figure 2. Guidelines prepared by Caltrans for ADL sampling (Caltrans, 2007) were used to determine the spacing of the borings. All borings were performed using a track-mounted, hollow-stem-auger drill rig equipped with an automatic trip hammer. A summary of the field exploration, along with geographical and topographical data for each boring, is presented in Table 1.

**Table 1 - SUMMARY OF FIELD EXPLORATION**

BORING ID	COORDINATES		STATE PLANE COORDINATES		GROUND SURFACE ELEVATION (feet)	DATE
	Latitude	Longitude	Northing	Easting		
DYH17-01	33.94224	-117.55813	2288973.499	6164911.792	662	1/5/18
DYH17-02	33.94288	-117.55836	2289207.263	6164844.96	654	1/5/18
DYH17-03	33.94372	-117.55829	2289512.664	6164870.025	638	1/5/18
DYH17-04	33.94459	-117.55835	2289829.477	6164855.801	620	1/5/18
DYH17-05	33.94505	-117.55831	2289996.714	6164870.033	586	1/5/18
DYH17-06	33.94798	-117.55840	2291063.254	6164856.118	585	1/4/18
DYH17-07	33.94842	-117.55821	2291222.643	6164915.747	587	1/4/18
DYH17-08	33.94876	-117.55842	2291347.165	6164853.615	587	1/4/18
DYH17-09	33.94961	-117.55823	2291655.749	6164915.116	590	1/4/18
DYH17-10	33.95024	-117.55840	2291885.647	6164866.439	589	1/4/18
DYH17-11	33.95074	-117.55822	2292066.907	6164923.308	586	1/4/18
DYH17-12	33.95146	-117.55849	2292329.936	6164844.717	590	1/3/18

The borings were logged by a DYA engineer under the supervision of a licensed Professional Civil Engineer (CE). The boring logs document the sample locations, sampling procedures, and other pertinent field activities. Logs of the borings are presented in Appendix B. Soils encountered in the test borings were classified in general accordance with the ASTM International (ASTM, 2014) Unified Soil Classification System (ASTM D2488) and are presented on boring logs.

Drive samples were collected from each boring at predetermined depths using a 2.4-inch-inside-diameter (3.0-inch-outside-diameter) modified California split-barrel sampler lined with clean, 6-inch-long stainless steel tubes. Each stainless steel tube collected for environmental analyses was sealed at each exposed end with a Teflon barrier and a rubber cap. The soil





samples were labeled to specify the sample identification, boring identification, and project identification using identification numbers unique to the project. The samples were then placed in plastic bags and stored in an ice chest at approximately 0 to 4 degrees Celsius.

Soil samples were generally collected from each boring at the ground surface (0 to 0.5 feet), 1 foot (1 to 1.5 feet), 2 feet (2 to 2.5 feet), and 5 feet (5 to 5.5 feet) bgs. Where the boring surface was unpaved (DYH17-01, DYH17-02, and DYH17-12), surface debris and vegetation was cleared before the soil samples at 0 to 0.5 feet were collected. Where the boring surfaces were paved, a section of pavement was removed at a minimum dimension required to accommodate the drilling auger. Sampling then commenced at the next sampling interval, which was 1 to 1.5 feet. In these cases, the samples at 0 to 0.5 feet were collected from unpaved areas within a 15-foot radius of each boring.

The sampling equipment was decontaminated prior to collecting each soil sample. The decontamination procedure consisted of washing the sampling equipment and sampler in water mixed with a nonphosphate detergent, rinsing twice with distilled water, and then drying using paper towels (paper towels were used once). Brushes were used with the nonphosphate detergent to remove debris from the sampling equipment prior to rinsing.

The quality assurance/quality control (QA/QC) soil samples were labeled in such a way that the samples would not be distinguished as QA/QC samples by the testing laboratory. QA/QC methodology is explained further in Section 7.

Chain-of-custody forms were filled out to track the soil samples, remained with the soil samples at all times, and were placed in the cooler with the samples. The completed chain-of-custody forms were placed in a waterproof carrier (e.g., zip-lock bag) and taped to the inside lid of the cooler. The chain-of-custody forms and the samples were maintained in possession until relinquished to the laboratory. Each person involved in the chain of possession signed the chain-of-custody forms when sample custody was relinquished or received. Copies of the chain-of-custody forms are provided with the results of the laboratory testing in Appendix C.





Document Path: K:\data\GIS\PROJECTS\2017-009\Figures\GIS\Proposed Borings.mxd

Figure 2 - BORING LOCATION PLAN



## 6 LABORATORY ANALYSIS

ASSET Laboratories, which is certified by the State of California Department of Health Services (DHS), conducted the environmental laboratory tests. Laboratory reports are presented in Appendix C.

### 6.1.1 ADL

Soil samples from borings were analyzed for lead total threshold limit concentration (TTLC) by U.S. EPA Method 6010B. A summary of the TTLC test results is provided in Table 2. In accordance with the work plan, the soil samples with lead TTLC less than 1,000 milligrams per kilogram (mg/kg) but greater than or equal to 50 mg/kg should be tested for lead soluble threshold limit concentration (STLC) using the Waste Extraction Test (WET) using citric acid (CA) and/or deionized water (DI) to determine the STLC by EPA method 6010B. Only two soil samples had TTLC greater than 50 mg/kg. These two samples and seven additional samples were tested for lead STLC CA-WET or lead STLC DI-WET. The STLC results are summarized in Table 2. Based on the TTLC and STLC test results and sampling locations, a total of nine soil samples were tested using the toxicity characteristic leaching procedure (TCLP) using EPA method 6010B. The TCLP results are also summarized in Table 2. In addition, five soil samples were analyzed for soil pH (EPA 9045C). A summary of pH test results is presented in Table 3.

### 6.1.2 Herbicides and Pesticides

Seven surface soil samples collected from borings located north of the existing bridge were analyzed for chlorinated pesticides (EPA Method 8081A) organo-phosphorus-pesticide (EPA Method 8141A), and chlorinated acid herbicides (EPA Method 8151A). The pesticide and herbicide laboratory test results are summarized in Table 4.



**Table 2 - ADL LABORATORY TEST RESULTS**

SAMPLE ID	DEPTH (feet)	LEAD			
		TTLC (mg/kg)	STLC-CA WET (mg/l)	STLC-DI WET (mg/l)	TCLP (mg/l)
DYH17-01	0	89	5.4	ND	0.059
	1	ND	--	--	--
	2	ND	--	--	--
	5	9.3	--	--	--
DYH17-02	0	9.2	--	--	--
	1	2.1	--	--	--
	2	1.3	--	--	--
	5	2.1	--	--	--
DYH17-03	0	25	2.2	--	ND
	1	5.8	--	--	--
	2	2.4	--	--	--
	5	2.5	--	--	--
DYH17-04	0	72	--	ND	ND
	1	2.4	--	--	--
	2	2.4	--	--	--
	5	2.4	--	--	--
DYH17-05	0	39	0.97	--	ND
	1	3.3	--	--	--
	2	2.6	--	--	--
	5	15	--	--	--
DYH17-06	0	13	--	--	--
	1	6.7	--	--	--
	2	8.2	--	ND	ND
	5	5.9	--	--	--
DYH17-07	0	3.6	--	--	--
	1	3.5	--	--	--
	2	2.6	--	--	--
	5	ND	--	--	--
DYH17-08	0	8.9	--	--	--
	1	11	--	--	--
	2	9.1	--	--	ND
	5	12	--	--	--
DYH17-09	0	8.6	0.35	--	ND
	1	14	--	--	--
	2	2.6	--	--	--
	5	1.3	--	--	--
DYH17-10	0	6.6	--	--	--
	1	6.7	--	ND	ND
	2	1.7	--	--	--
	5	2.0	--	--	--



**Table 2 - ADL LABORATORY TEST RESULTS (cont.)**

SAMPLE ID	DEPTH (feet)	LEAD			
		TTLIC (mg/kg)	STLC-CA WET (mg/l)	STLC-DI WET (mg/l)	TCLP (mg/l)
DYH17-11	0	7.4	--	--	--
	1	5.1	--	--	--
	2	2.1	--	--	--
	5	2.3	--	--	--
DYH17-12	0	3.9	--	--	--
	1	4.0	ND	--	--
	2	3.9	--	--	--
	5	4.7	--	--	ND
DS-01 <sup>1</sup>	0	<b>93</b>	--	--	--
DS-02 <sup>2</sup>	1	3.6	--	--	--
DS-03 <sup>3</sup>	0	19	--	--	--
DS-04 <sup>4</sup>	5	1.7	--	--	--
DS-05 <sup>5</sup>	0	3.6	--	--	--
EB-01 <sup>6</sup>	--	ND	--	--	--
EB-02 <sup>6</sup>	--	ND	--	--	--

Notes:

- Sample DS-01 is a duplicate sample of DYH17-01 at 0 feet.
- Sample DS-02 is a duplicate sample of DYH17-03 at 1 foot.
- Sample DS-03 is a duplicate sample of DYH17-05 at 0 feet.
- Sample DS-04 is a duplicate sample of DYH17-07 at 5 feet.
- Sample DS-05 is a duplicate sample of DYH17-12 at 0 feet.
- EB-01 and EB-02 are equipment blanks.
  - TTLIC = Total threshold limit concentration.
  - STLC = Soluble threshold limit concentration.
  - TCLP = Toxicity characteristic leaching procedure.
  - Samples tested for TTLIC with concentrations at or greater than 50 mg/kg are in bold.
  - ND = non-detect.
  - mg/kg = milligrams per kilograms.
  - mg/l = milligrams per liter.
  - = not tested.

**Table 3 - pH TEST RESULTS**

SAMPLE ID	DEPTH (feet)	pH
DYH17-01	1	8.3
DYH17-04	1	7.3
DYH17-07	1	8.3
DYH17-10	1	8.7
DYH17-12	1	8.2



**Table 4 - PESTICIDE AND HERBICIDE LABORATORY TEST RESULTS**

SAMPLE ID	DEPTH (feet)	HERBICIDES (EPA 8151)		PESTICIDES (EPA 8081A/8141)	
		Analyte	Result (µg/kg)	Analyte	Result (µg/kg)
DYH17-06	0	ND	ND	Chlordane	9.9
DYH17-07	0	ND	ND	ND	ND
DYH17-08	0	ND	ND	ND	ND
DYH17-09	0	ND	ND	ND	ND
DYH17-10	0	ND	ND	Gamma- Chlordane	1.5
DYH17-11	0	ND	ND	ND	ND
DYH17-12	0	ND	ND	ND	ND
DS-05 <sup>1</sup>	0	ND	ND	ND	ND
EB-01 <sup>2</sup>	--	ND	ND	ND	ND
EB-02 <sup>2</sup>	--	ND	ND	ND	ND

Notes:

1. Sample DS-05 is a duplicate sample of DYH17-12 at 0 feet.
2. EB-01 and EB-02 are equipment blanks.

- ND = non-detect.
- µg/kg = micrograms per kilogram.



## 7 QUALITY ASSURANCE/QUALITY CONTROL

### 7.1 DECONTAMINATION

The sampling equipment was decontaminated prior to collecting each soil sample. The decontamination consisted of washing the equipment and/or sampler in water mixed with a nonphosphate detergent, rinsing with water, rinsing with distilled water, and then drying using paper towels (paper towels were used once). Brushes were used with the nonphosphate detergent to remove debris from the hand-augering equipment prior to rinsing. Decontamination water was disposed of in the landscaped area in such a way that the water would not run off into a storm drain.

### 7.2 CHAIN OF CUSTODY

Soil samples were collected in stainless steel tubes and stored in a cooler with ice. A chain-of-custody form was filled out to track the soil samples. The chain-of-custody form traveled with the cooler and documented that the samples were maintained in possession until relinquished to the laboratory. The chain-of-custody form remained with the soil samples at all times and was placed in the cooler with the samples. The completed chain-of-custody form was placed in a waterproof carrier (e.g., zip-lock bag) and taped to the inside lid of the cooler. Each person involved in the chain of possession signed the chain-of-custody form when sample custody was relinquished or received. Custody of a sample is defined as being in one's physical possession, in one's view after being in his or her physical possession, in one's physical possession and that person then locked it up to prevent tampering, and/or in an identified and designated secure area. Copies of the chain-of-custody forms are provided with the results of the laboratory testing in Appendix C.

### 7.3 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

#### 7.3.1 Field QA/QC

##### 7.3.1.1 Equipment Blank

Two equipment blanks (EB-01 and EB-02) were collected by pouring deionized water through the sampling device and into several vessels of varying volumes and materials after decontamination was completed. The testing for the equipment blanks was consistent with the testing performed on samples collected using the equipment and included analyses for total



lead, pesticides, and herbicides. The results for the testing of the equipment blank were below reporting limits.

### **7.3.1.2 Duplicate Blank**

Five duplicate blank samples were collected from Borings DYH17-01 at 0 feet, DYH17-03 at 1 foot, DYH17-05 at 0 feet, DYH17-07 at 5 feet, and DYH17-12 at 0 feet by co-located samples. For QA/QC purposes, the duplicate blank samples were labeled as having been collected from Boring DS-01 through -05. The duplicate soil samples collected were tested for total lead, and the one duplicate sample collected at DYH17-12 at 0 feet bgs was tested for pesticides and herbicides. The test results for the duplicate samples were considered by DYA to be consistent with the original samples. Duplicate test results are presented in Table 2 and Table 4.

### **7.3.2 Laboratory QA/QC**

Laboratory QA/QC was performed in accordance with the respective EPA protocols and is described in the laboratory analysis reports presented in Appendix C.





## 8 INVESTIGATIVE RESULTS AND FIELD OBSERVATIONS

### 8.1 SUBSURFACE

Soils encountered in the borings consisted mostly of dense to very dense silty and clayey sands with occasional sandy lean clays. Groundwater was not encountered during sampling.

### 8.2 LABORATORY RESULTS

#### 8.2.1 Lead

A summary of the laboratory results for the discrete soil samples tested for lead is provided in Table 5. As shown in Table 5, only one sample had a TTLC greater than 80 mg/kg; DYH17-01 at 0 feet yielded a TTLC test result of 89 mg/kg. This sample was also analyzed for STLC-CA WET, STLC-DI WET, and TCLP, and the results were 5.4 mg/kg, non-detect, and 0.059 mg/l, respectively.

**Table 5 - SUMMARY OF LABORATORY RESULTS (Lead and pH)**

NUMBER OF TESTS												pH (average)
TTLC (mg/kg)					STLC-CA WET (mg/l)		STLC-DI WET (mg/l)		TCLP (mg/l)			
<50	50 to 80	80 to 320	>320 to 1,000	>1,000	<5	>5	<1.5	>1.5	≤5	>5		
46	1	1	0	0	4	1	4	0	9	0	8.2	
Notes: <ul style="list-style-type: none"> <li>• TTLC = Total threshold limit concentration.</li> <li>• STLC = Soluble threshold limit concentration.</li> <li>• TCLP = Toxicity characteristic leaching procedure.</li> <li>• mg/kg = milligrams per kilogram.</li> <li>• mg/l = milligrams per liter.</li> </ul>												

#### 8.2.2 pH

The values of pH varied from 7.3 to 8.7 as shown in Table 3, and the average value was approximately 8.2 as summarized in Table 5. None of the discrete soil samples tested had pH levels less than 5.



### 8.3 HERBICIDES AND PESTICIDES

The concentrations of herbicides in the discrete soil samples were non-detect as shown in Table 4. Testing found that pesticides in the surface soils were mostly non-detect except for two detectable concentrations as shown in Table 4. The constituents that were detected had concentrations lower than the California Human Health Screening Levels (CHHSL) (California Environmental Protection Agency [CAL EPA], 2010).

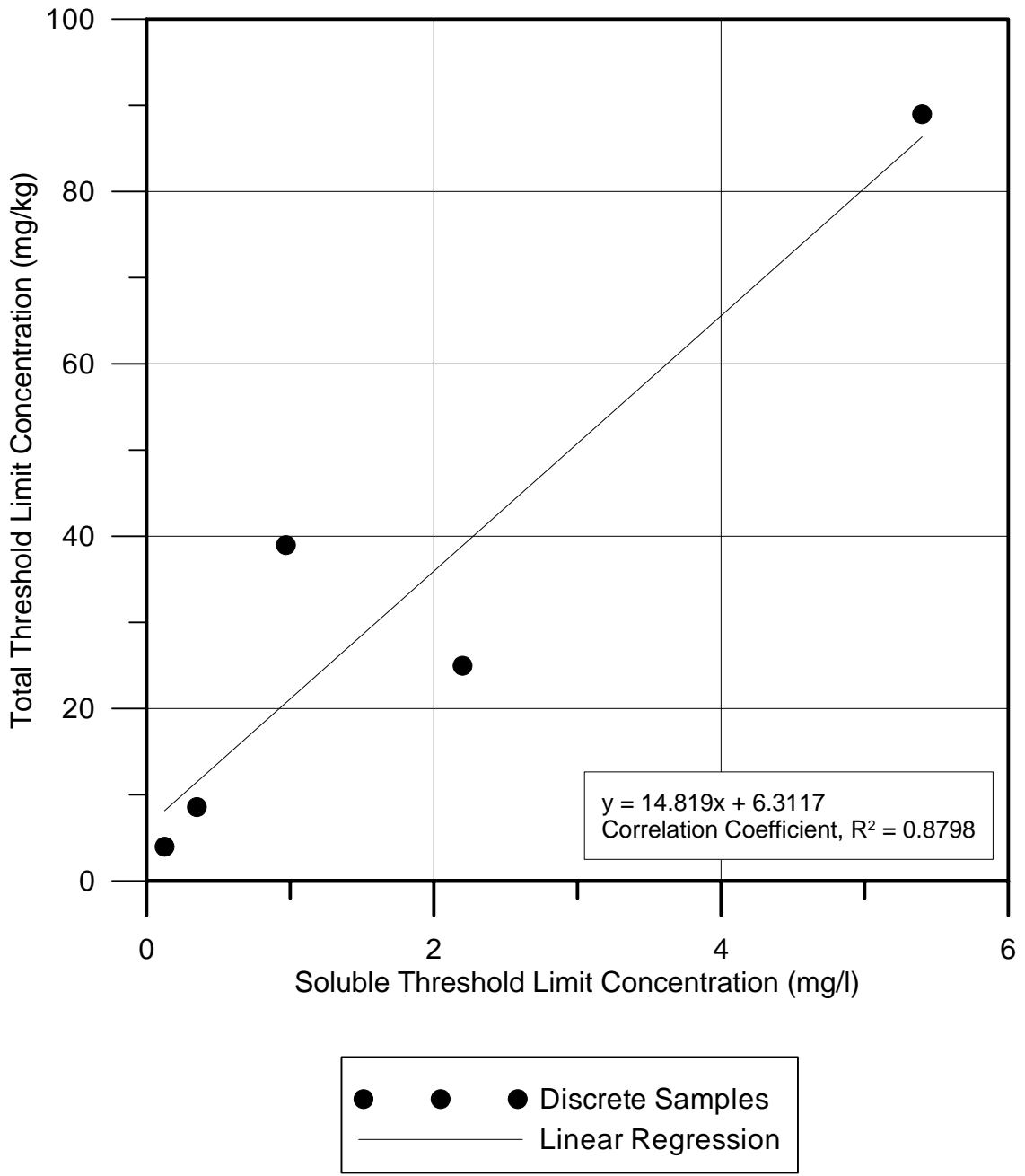


## 9 STATISTICAL DATA EVALUATION ON LEAD

### 9.1 ADL DATA ANALYSIS

Results of the ADL laboratory tests were evaluated using statistical analysis methods prescribed by Caltrans guidelines for ADL. DYA analyzed the lead testing data for the upper 1-foot layer and for the entire upper 5-foot layers using statistical methods noted in EPA SW 846 as implemented by the computer program ProUCL 5.1. The 95% upper confidence level (UCL) on mean were calculated for TTLC. A regression analysis of TTLC versus STLC was performed to determine the correlation between the total lead and soluble lead for which the data is a bivariate with a linear structure, as shown on Figure 3. The 95% UCL on mean for STLC was then predicted using the 90% UCL on mean for TTLC based on the regression analysis. The data sets were checked for the appropriate number of samples, and in the datasets, the number of samples tested for TTLC exceeded the minimum number required for a statistical analysis according to EPA SW-846 (U.S. EPA, 2001). The 95% UCLs on mean values of TTLC/STLC and the TCLP test results were used to determine handling and disposal of excess soil in accordance with Federal Regulations (Code of Federal Regulations [CFR], Title 40), State Regulations (California Code of Regulations [CCR], Title 22) and Caltrans' agreement with DTSC (Caltrans, 2016).





**FIGURE 3 - CORRELATION OF TOTAL LEAD AND SOLUBLE LEAD**



## 9.2 ADL STATISTICAL EVALUATION

The analysis results are summarized in Appendix D. The analysis indicated that the TTLC lead data appear to lognormally distributed. The 95% UCL on mean on the TTLC Lead was approximately 60 mg/kg and 19 mg/kg for the upper 1-foot layer and the upper 5-foot layer, respectively.

The regression analyses performed based on samples that had both the TTLC and STLC (CA-WET) test indicated a correlation coefficient “r” between TTLC and STLC of 0.94; see Figure 3. Because the “r” value is greater than 0.8, it is reasonable to estimate the STLC values based on a linear correlation with the TTLC. Based on the linear correlation, the 95% UCL on mean on STLC (CA-WET) was estimated to be approximately 2.6 mg/l and 0.6 mg/l for the upper 1-foot and 5-foot layers, respectively.

All STLC (DI-WET) test results were non-detect with a reporting limit of 0.25 mg/l. No statistical evaluation of STLC (DI-WET) was performed.

All but one test results on TCLP were non-detect. Statistical evaluation was not performed on TCLP test results.



## 10 CONCLUSIONS AND RECOMMENDATIONS

### 10.1 LEAD

Based on the statistical analysis the 95% UCL on mean of TTLC lead is 60 mg/kg or less, and the correlated 95% UCL on mean on STLC (CA-WET) is 2.6 mg/l or less. The STLC (DI-WET) results were non-detect. The TCLP test results were 0.059 mg/l or less.

Based on CFR Title 40, since the TCLP results are less than 5 mg/l, the upper 5 feet of site soils that were investigated will not classify as hazardous waste.

Based on CCR Title 22, since the 95% UCL on mean of TTLC is less than 1,000 mg/kg and the 95% UCL on mean of STLC (CA-WET) is less than 5 mg/l the upper 5 of site soils that were investigated will not classify as hazardous waste.

Based on current Caltrans/DTSC agreement, ADL-contaminated soils are soils that have more than 80 mg/kg total lead based on a 95% UCL and/or more than 5 mg/l extractable lead based on a 95% UCL, as determined by the CA-WET. Accordingly, the upper 5 feet of soils that were investigated will not classify as ADL-contaminated soils and are considered to be clean.

Therefore, from the perspective of ADL levels, there are no restrictions on the use of soils excavated from the upper 5 feet at the site.

### 10.2 HERBICIDES AND PESTICIDES

Herbicides were not detected in the soil samples tested. Only chlordane and gamma chlordane pesticide constituents were detected. The detected values of chlordane (9.9 µg/kg) and gamma-chlordane (1.5 µg/kg) were below the CHHSL guideline for non-residential land use value of 1,700 µg/kg.



## 11 LIMITATIONS

This report was prepared for this project in accordance with generally accepted environmental engineering practices common to the local area. No other warranty, expressed or implied, is made.

The analyses and recommendations contained in this report are based on the literature review, field exploration investigation, and laboratory testing conducted in the area. The results of the field exploration indicate subsurface conditions only at the specific locations and times, and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between such locations.

The validity of our recommendations is based in part on assumptions about the stratigraphy. Observations during construction can help confirm such assumptions. If subsurface conditions different from those described are noted during construction, recommendations in this report must be reevaluated.

This report is intended for use only for the project described. In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by DYA. We are not responsible for any claims, damages, or liability associated with the interpretation of subsurface data or reuse of the subsurface data or engineering analyses without our express written authorization.



## 12 BIBLIOGRAPHY

- ASTM International, 2014, Annual Book of Standards.
- California Code of Regulations (CCR), Title 22, Social Security, Division 4.5, Environmental health Standards (Hazardous Waste Regulations).
- California Department of Water Resources, 2017, California's Groundwater, Bulletin 118, South Coast Hydrologic Region, Upper Santa Ana Valley Groundwater Basin, Temescal Canyon Subbasin, <http://www.water.ca.gov/groundwater/bulletin118/basindescriptions/4-13.pdf>, accessed August 18, 2017.
- California Environmental Protection Agency, 2010, Use of California Human Health Screening Levels (CHHSL) in Evaluating Contaminated Properties, September 23, 2010.
- California Environmental Protection Agency, 2017, State Water Resources Control Board, Groundwater Ambient Monitoring and Assessment Program, accessed February 2017.
- California Geological Survey, 2002, California Geomorphic Provinces, Note 36.
- California Geological Survey, 2004, Geologic Map of the Santa Ana 30'x60' Quadrangle, Southern California, Open File Report 99-172, Version 2.0.
- Caltrans, 2007, Caltrans Aerially Deposited Lead Guidance.
- Caltrans, 2016, Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils, [http://www.dot.ca.gov/hq/env/haz/hw\\_adl.htm](http://www.dot.ca.gov/hq/env/haz/hw_adl.htm), June 6, 2016, accessed February 2018.
- Code of Federal Regulations (CFR), Title 40, Resource Conservation and Recovery Act.
- Diaz•Yourman & Associates, 2017a, Phase I Initial Site Assessment, Replacement of Hamner Avenue Bridge Over Santa Ana River, State Bridge No. 56C-0446, Federal Project No. BRLSZ5956 (230), Eastvale and Norco, California, September 26, 2017.
- Diaz•Yourman & Associates, 2017b, Work Plan for Phase II Environmental Site Investigation, Replacement of Hamner Avenue Bridge Over Santa Ana River, State Bridge No. 56C-0446, Federal Project No. BRLSZ5956 (230), Eastvale and Norco, California, December 8, 2017.
- Frey Environmental, Inc., 2014, Post-Remediation Groundwater Monitoring and Sampling (Final Event) & Site Status Update Report Second Quarter 2014.
- Stratus Environmental, Inc., 2012, Atlantic Richfield Company Quarterly Report, 3<sup>rd</sup> Quarter 2012, October 15, 2012.
- U.S. Environmental Protection Agency, 2001, Guidance Document SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Volume 1, Chapter 9, Sampling Plan, 3rd Edition, August 2001.
- U.S. Environmental Protection Agency, 2016, ProUCL Software, Version 5.1.00, accessed February 12, 2018.
- T.Y. Lin International, 2017 and 2018, Project Communications.





## Memorandum

*Serious drought.  
Help save water!*

To: AARON P. BURTON  
Senior Environmental Planner  
Environmental Special Studies "C" – MS 760

Date: March 12, 2018

From: SEAN YEUNG *SY*  
Senior Transportation Engineer  
Local Assistance – MS 760

File: BRLS-5956(230)  
RCTD

Subject: Concurrence to draft Asbestos Survey and Lead-Based Paint Inspection Report (Report) for Hamner Bridge over Santa Ana River.

This is a concurrence memo for the above draft Report, dated February 19, 2018, submitted to Local Assistance for review on February 21, 2018 by American Environmental Specialists. The Report was prepared as a recommendation to the September 26, 2017 Phase I Initial Site Assessment (ISA), page ES-3, Table ES-1: Summary of RECS Within & Adjacent to Project ROW.

Lastly, please submit the Phase II Site Investigation as recommended in the ISA.

If you have any questions, I can be reached at (909) 383-4030 or by email at [sean.yeung@dot.ca.gov](mailto:sean.yeung@dot.ca.gov).





A M E R I C A N  
E N V I R O N M E N T A L  
S P E C I A L I S T S

**ASBESTOS SURVEY  
AND  
LEAD-BASED PAINT INSPECTION REPORT**

**HAMNER AVENUE BRIDGE OVER SANTA ANA RIVER  
(56C-0446)**

**Federal Project No. BRLSZ5956(230)**

**AES PROJECT NUMBER: 18-028.01**

**FEBRUARY 19, 2018**

*Prepared For:*

**State of California Department of Transportation  
In Cooperation with  
City of Norco and County of Riverside**



February 19, 2018

Ms. Roya Golchoobian  
**T.Y. Lin International Group**  
404 Camino Del Rio South, Suite 700  
San Diego, California 92108

RE: **ASBESTOS SURVEY and LEAD-BASED PAINT INSPECTION REPORT**  
**HAMNER AVENUE BRIDGE OVER SANTA ANA RIVER (56C-0446)**  
**NORCO, CALIFORNIA 92860**  
AES Project Number: 18-028.01

Dear Ms. Golchoobian,

Attached you will find the Asbestos Survey and Lead-Based Paint Inspection Report for the Exterior Surfaces of the Hamner Avenue Bridge (Bridge Number: 56C-0446), located in Norco, California. The attached report represents our evaluation of the specified area in accordance with our agreement for the assessment conducted on February 12, 2018.

The objective of the evaluation was to determine the presence of Asbestos-Containing Materials (ACMs), Lead-Based Paints (LBPs) and/or Lead-Containing Materials (LCMs). It represents the conditions at the specified locations and time of the site assessment only. The selection of sample areas was limited to the accessible areas of the bridge. The attached report documents the findings of our assessment and recommendations.

If you have any questions or concerns regarding this report, please feel free to contact our office.

Sincerely,

Reviewed by,

John R. Brand  
Manager, Consulting Services  
Certified Asbestos Consultant: 03-3411  
CDPH LRC Inspector/Assessor: 12080

James F. McClung, Jr.  
President  
Certified Asbestos Consultant: 92-0382  
CDPH LRC Inspector/Assessor: 258



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## 1.0 PROJECT SUMMARY

The project consists of the Hamner Avenue Bridge over Santa Ana River (Bridge Number: 56C-0446), which is scheduled for a planned replacement. The Hamner Avenue Bridge is located in Norco, California. The project location is depicted on the Vicinity Map, Figure 1.

On February 12, 2018, American Environmental Specialists, Inc. (AES) conducted an Asbestos Survey and Lead-Based, Containing Paint/Coating Inspection of the accessible exterior surfaces of the Hamner Avenue Bridge. The purpose of the inspection was to determine the presence, location and quantities of Asbestos Containing Materials (ACM) and Lead Containing Paints and/or Coatings (LCP) at the project location prior to commencement of demolition activities.

*AES' lead inspection was not intended to serve as an evaluation of lead-based paint hazards in accordance with the United States Department of Housing and Urban Development (HUD) guidelines.*

## 2.0 BACKGROUND

### 2.1 Asbestos:

The Code of Federal Regulations (CFR), 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP) and the (Federal) Occupational Safety and Health Administration (OSHA) classify ACM as any material, product or substance which contains greater than percent (>1%) asbestos.

ACMs are further categorized as Friable or Non-Friable. Friable ACMs can be crumbled, pulverized or reduced to a smaller particle size by hand pressure. Non-Friable ACMs cannot be crumbled, pulverized or reduced to a smaller particle size by hand pressure alone.

NESHAP regulations classify non-friable ACM as either Category I or Category II materials.

Category I: Asbestos-containing gaskets, packing materials, resilient floor coverings and asphalt-based roofing materials.

Category II: All other types of non-friable ACM that are not included in Category I, which when dry cannot be crumbled, pulverized or reduced to a smaller particle size by hand pressure alone.

Regulated Asbestos Containing Material (RACM), is classified as a hazardous waste when friable and is defined as any manufactured material which contains greater than one percent (>1%) asbestos, based on dry weight and is one (or more) of the following:

- Friable (can be crumbled, pulverized or reduced to a smaller particle size by hand pressure alone);
- Category I material that has become friable;
- Category I material that has been subjected to abrading, cutting, grinding or sanding; or
- Category II non-friable material which has a high probability of being abraded, crumbled, impacted, pulverized or reduced in particle size during demolition or renovation related activities.

ALL RACM and non-Friable ACM MUST be removed from the Bridge structure prior to the commencement of demolition and/or renovation activities which have the potential to impact the aforementioned materials.

Demolition and/or renovation activities which impact materials containing ANY detectable quantities of asbestos are subject to various requirements of the State of California, Division of Occupational Safety and Health (DOSH)(also un-officially known as Cal-OSHA) asbestos standard, which can be found in Title 8 of the California Code of Regulations (CCR) Section 1529.

Asbestos Containing Construction Material (ACCM) is defined in Title 8, CCR Section 341.6 and the California Labor Code, Section 6501.8, as any manufactured construction material containing greater than one tenth of one percent (>0.1%) asbestos.

RACM, ACM and ACCM removal/abatement must be performed by a State of California registered abatement contractor.

## 2.2 Lead Containing Paints and Coatings

Lead Based Paint (LBP), is defined by the Federal government and State of California as those paints, coatings and materials which contain greater than one milligram per square centimeter (>1.0mg/cm<sup>2</sup>), 5,000 parts per million (ppm) or one half of one percent (0.5%) by weight of lead.

Lead Containing Paint (LCP), is defined by the State of California as those paints, coatings and materials which contain greater than 600 parts per million (ppm) or six hundredths of one percent (0.06%) by weight of lead.

Demolition activities which will impact paints, coatings and materials which contain any detectable quantities of lead are subject to requirements set forth in the DOSH lead standard, which can be found in Title 8, CCR Section 1532.1

When the lead concentration of paint is over 1.0 mg/cm<sup>2</sup>, workers trained in accordance with Title 17, Division 1, Chapter 8 California Code of Regulations

Accreditation, Certifications, and Work Practices for Lead-Based Paint and CA Title 8 Section 1532.1 California Code of Regulations Lead in Construction, may remove the components as containing Lead above the regulated levels.

DOSH also requires that if LCP with a lead concentration over 600 ppm is to be disturbed and/or removed, the individuals performing the work must have proper Lead Training as well as wear appropriate Personal Protective Equipment (PPE) for the task(s) being performed.

### 3.0 SURVEY DESCRIPTION

Sampling of suspect asbestos and lead containing materials was performed at the Hamner Avenue Bridge by Mr. John R. Brand, State of California Certified Asbestos Consultant (CAC: 03-3411) and State of California Department of Public Health (CDPH) Certified Lead Inspector/Assessor (CDPH LRC Inspector/Assessor 12080). Sampling was only performed on materials which were suspect for containing asbestos and/or lead.

#### 3.1 Asbestos

AES's asbestos survey protocol involved performing a preliminary visual assessment of the bridge structure to identify suspect ACM. Following initial identification, suspect ACM was grouped into homogenous areas/materials. A minimum of three (3) samples of each homogenous area/material were then randomly sampled from locations distributed throughout the homogenous areas identified.

Bulk samples of suspect ACM were collected after first misting the suspect materials with water. Following misting, a small amount of suspect material was separated from the substrate and placed in a uniquely labeled container which was then placed in a one-gallon size plastic (Ziploc type) bag.

The following suspect ACMs, comprising two (2) homogenous areas/materials, were sampled:

- Semi-Resilient Traction Coating - Sidewalk (MISC-01) – Remnants of semi-resilient traction coating (granular texture) found on upper surface of the cantilevered wood sidewalk (installed during the 1978 seismic upgrade project).
- Non-Resilient Gray Filler Material - Sidewalk (MISC-02) – Gray, non-resilient, epoxy resin like, filler material used to fill the mounting hardware holes on the upper surfaces of the wood components utilized to construct the cantilevered sidewalk.

AES collected a total of six (6) bulk asbestos samples which were submitted to AIH Laboratory (AIH) in Cerritos, California 92703, under chain of custody, for analysis by the methodology described in the United States Environmental Protection Agency (EPA) 600/R-93/116 Method for Polarized Light Microscopy (PLM). AIH is accredited for Asbestos Analysis through the Environmental Laboratory Accreditation Program (ELAP)



and the National Voluntary Laboratory Accreditation Program (NVLAP) of the National Institute of Standards and Technology (NIST).

Table 1, on page 5, lists the suspect asbestos containing materials by sample number, associated homogenous area grouping, friability and the reported laboratory analytical results:

### 3.2 Lead

AES's lead survey protocol involved performing a preliminary visual assessment of the bridge structure to identify suspect paints and/or coatings. Following initial identification, suspect paints and/or coatings were analyzed on site, for lead content, utilizing a RMD Model LPA-1B, X-Ray Fluorescence analyzer (XRF). Destabilized paints and/or coatings which were observed to be loose, flaking or generally in poor condition were bulk sampled for submission to the analytical laboratory for lead content confirmation testing.

Bulk lead (paint) samples were collected after first misting the suspect paint/coating with water. Following misting, a small piece of the paint/coating was separated from the substrate and placed in a uniquely labeled container which was then placed in a one-gallon size plastic (Ziploc type) bag.

The following types of painted/coated surfaces were field tested with the XRF and/or bulk sampled:

- Lane Striping – *White and Yellow traffic lane stripe paint applied to the asphalt roadway.*
- Graffiti Cover Paint – *White paint used to cover painted graffiti found on the concrete guardrails of the bridge structure.*
- Painted Graffiti – *Various colors of painted graffiti found on the concrete bridge structure.*
- Sidewalk Hardware – *Black painted mounting brackets/hardware associated with the wood (sidewalk support) beam attachment points, at the north and south abutments.*

AES collected for a total of forty-seven (47) X-Ray Fluorescence (XRF) readings of painted/coated substrates and six (6) calibration readings, for a total of fifty-three (53) X-Ray Fluorescence (XRF) readings. The Lead Inspection was conducted using an RMD Model LPA-1B, XRF, which provides on-site readings of lead concentrations of painted substrates.

Table 2, beginning on page 5, lists the painted/coated surfaces analyzed utilizing the XRF by sample ID number, color, brief description and the detected lead concentration results:

Bulk paint samples of destabilized coatings were submitted, under chain of custody, to AIH Laboratories in Cerritos, California 92703 for analysis. The paint-chip samples were analyzed by Flame Atomic Absorption Spectrometry, EPA Method 3050B/7000B.

Table 3, on page 7, lists the destabilized paints which were bulk sampled for laboratory analysis, by sample ID numbers, color, brief descriptions and the reported laboratory analytical results:

## 4.0 ANALYTICAL RESULTS

### 4.1 Asbestos

TABLE 1 – ASBESTOS ANALYTICAL RESULTS HAMNER AVENUE BRIDGE – FEBRUARY 12, 2018				
Sample ID	Friable Y/N	Material Description	Quantity	% Asbestos
MISC-001-01	N	Remnants of semi-resilient traction coating (granular texture) found on upper surface of the cantilevered wood sidewalk (installed during the 1978 seismic upgrade project).	Approximately 200 SF (Remaining)	ND
MISC-001-02	N			ND
MISC-001-03	N			ND
MISC-002-01	N	Gray, non-resilient, epoxy resin like, filler material used to fill the mounting hardware holes on the upper surfaces of the wood components utilized to construct the cantilevered sidewalk.	Approximately <50 SF	ND
MISC-002-02	N			ND
MISC-002-03	N			ND

ND= No Asbestos Detected / SF = Square Feet

### 4.2 XRF Results

TABLE 2 – XRF RESULTS HAMNER AVENUE BRIDGE – FEBRUARY 12, 2018					
Sample Number	Location	Substrate	Color	Detail	Lead mg/cm <sup>2</sup>
001	Calibration	N/A	-	-	1.0
002	Calibration	N/A	-	-	0.9
003	Calibration	N/A	-	-	1.1
004	East Guardrail	Concrete	White	Graffiti cover paint	-0.1
005	Roadway	Asphalt	Yellow	Center Lane Stripe	0.8
006	Roadway	Asphalt	White	Lane Stripe	-0.2
007	Guardrail - East	Concrete	Orange	Graffiti	0.2

**TABLE 2 – XRF RESULTS**  
**HAMNER AVENUE BRIDGE – FEBRUARY 12, 2018**

Sample Number	Location	Substrate	Color	Detail	Lead mg/cm <sup>2</sup>
008	Guardrail - East	Concrete	Blue	Graffiti	0.1
009	Guardrail - East	Concrete	Yellow	Graffiti	0.3
010	Guardrail - East	Concrete	Red	Graffiti	0.1
011	South Abutment	Concrete	Blue	Graffiti	0.1
012	Pier 10	Concrete	Purple	Graffiti	0.4
013	South Abutment	Concrete	Dark Green	Graffiti	0.0
014	South Abutment	Concrete	Silver	Graffiti	0.8
015	South Abutment	Concrete	Silver	Graffiti	0.1
016	South Abutment	Concrete	Light Green	Graffiti	0.7
017	Pier 10	Concrete	Yellow	Graffiti	0.7
018	Pier 10	Concrete	Blue	Graffiti	0.3
019	South Abutment	Concrete	Light Blue	Graffiti	0.6
020	South Abutment	Concrete	Red	Graffiti	-0.3
021	South Abutment	Concrete	Black	Graffiti	0.2
022	Pier 9 (South Side)	Concrete	Blue	Graffiti	0.9
023	Pier 9 (South Side)	Concrete	Silver	Graffiti	0.6
024	Pier 9 (North Side)	Concrete	Orange	Graffiti	0.1
025	Pier 9 (North Side)	Concrete	Light Blue	Graffiti	0.0
026	Pier 8 (South Side)	Concrete	Orange	Graffiti	0.5
027	Pier 8 (South Side)	Concrete	Pink	Graffiti	0.6
028	Pier 8 (North Side)	Concrete	Purple	Graffiti	0.7
029	Pier 8 (North Side)	Concrete	Orange	Graffiti	0.8
030	Pier 7 (South Side)	Concrete	Teal	Graffiti	0.3
031	Pier 7 (South Side)	Concrete	Hot Pink	Graffiti	-0.1
032	Pier 7 (North Side)	Concrete	Yellow	Graffiti	-0.3
033	Pier 6 (South Side)	Concrete	Gray	Graffiti	0.3
034	Pier 6 (South Side)	Concrete	Gray	Graffiti	-0.1
035	Pier 6 (North Side)	Concrete	Magenta	Graffiti	0.7

**TABLE 2 – XRF RESULTS  
HAMNER AVENUE BRIDGE – FEBRUARY 12, 2018**

Sample Number	Location	Substrate	Color	Detail	Lead mg/cm <sup>2</sup>
036	Pier 6 (North Side)	Concrete	Light Green	Graffiti	-0.2
037	Pier 6 (North Side)	Concrete	Orange	Graffiti	-0.2
038	Pier 6 (North Side)	Concrete	White	Graffiti	-0.2
039	Pier 3 (South Side)	Concrete	White	Graffiti	0.5
040	Pier 3 (South Side)	Concrete	Orange	Graffiti	0.0
041	Pier 3 (North Side)	Concrete	Blue	Graffiti	0.1
042	Pier 3 (North Side)	Concrete	Copper	Graffiti	-0.5
043	Pier 3 (North Side)	Concrete	Bronze	Graffiti	0.9
044	Pier 2 (South Side)	Concrete	Red	Graffiti	-0.1
045	Pier 2 (South Side)	Concrete	White	Graffiti	-0.1
046	Pier 2 (North Side)	Concrete	Aqua	Graffiti	-0.2
047	Pier 1 (South Side)	Concrete	Purple	Graffiti	0.1
048	Pier 1 (South Side)	Concrete	Black	Graffiti	-0.1
<b>049</b>	<b>North Abutment</b>	<b>Metal</b>	<b>Black</b>	<b>Steel Bracket</b> associated with sidewalk support beam	<b>1.0</b>
050	Roadway	Asphalt	White	Graffiti	0.2
051	Calibration	N/A	-	-	0.9
052	Calibration	N/A	-	-	1.1
053	Calibration	N/A	-	-	1.2

Paints/coatings with Lead Concentrations Greater Than 1.0 mg/cm<sup>2</sup> are Denoted In Bold

### 4.3 Bulk Lead Analytical Results

**TABLE 3 – BULK LEAD ANALYTICAL RESULTS  
HAMNER AVENUE BRIDGE – FEBRUARY 12, 2018**

Sample ID	Location	Substrate	Color / Description	% Lead
PB-01	East Concrete Guardrail Traffic Side	Paint over Concrete	White - Graffiti Cover Paint	<0.02
PB-02	Hamner Avenue Roadway Center Dividing Line	Paint on Asphalt	Yellow - Center Stripe	0.15

Paints/coatings with Lead Concentrations Greater Than 0.5 are denoted in Bold

## 5.0 FINDINGS

### 5.1 Asbestos Analytical Results

Based on observations made, information collected during the survey and the laboratory analysis results, ACMs **were not identified** in the sampled suspect materials associated with the bridge structure.

The laboratory analytical results for asbestos are summarized in Table 1. The laboratory analytical report and the associated chain-of-custody document are located in Appendix A.

### 5.2 Lead Analytical Results

Based on observations made, information collected during the XRF survey and the bulk lead sampling laboratory analytical results, the following suspect LBP **was identified** in areas which will likely be impacted during the demolition of the Hamner Avenue Bridge;

- Black Paint located on metal mounting hardware associated with the wood sidewalk support beam (AES XRF Sample: 049) was identified by XRF as containing 1.0mg/cm<sup>2</sup>.

Based on the bulk lead laboratory analytical results, LCPs **was identified** in the Yellow roadway centerline paint which will be impacted during the demolition of the Hamner Avenue Bridge. The laboratory analytical results for bulk lead sample PB-02 determined the lead concentration of the yellow paint to be 0.15 percent lead.

The XRF field results for lead are summarized in Table 2. The laboratory analytical results for the bulk lead samples are summarized in Table 3. The laboratory analytical report and the associated chain-of-custody document are located in Appendix B.

## 6.0 RECOMMENDATIONS

### 6.1 Asbestos

Based on the available information collected during the survey as well as the laboratory analysis results, ACMs **were not identified** in the areas tested; therefore, AES makes no asbestos related recommendations at this time;

### 6.2 Lead

Based on the XRF data and the laboratory analysis results, both LBP and LCPs **were identified** during the inspection; therefore, AES has the following recommendations during this time:

AES recommends that if lead-based paints and/or coatings are going to be disturbed and/or removed, they must be remediated by a State of California Certified Lead-

Based Paint Abatement Contractor. DOSH also requires that if LBPs with a lead concentration over 600 ppm are to be disturbed, the individuals performing the work must have proper Lead Training as well as wear Personal Protective Equipment (PPE).

It is strongly recommended that all paints/coatings which may be impacted during the demolition/renovation of the Hamner Avenue Bridge be treated as LCP for the purpose of determining the applicability of the DOSH lead standard.

When the lead concentration of paint is over 1.0 mg/cm<sup>2</sup>, workers trained in accordance with Title 17, Division 1, Chapter 8 California Code of Regulations Accreditation, Certifications, and Work Practices for Lead-Based Paint and CA Title 8 Section 1532.1 California Code of Regulations Lead in Construction may remove the components that contain lead above the regulated levels.

### 6.3 Unseen Asbestos and /or Lead

While every effort was made to identify all Asbestos-Containing Materials and Lead-Based/Containing Paints/Coatings on the Hamner Avenue Bridge (No. 56C-0446), the potential still exists that some of these types of materials may exist in locations which were not accessible, exposed or available for examination at the time of the site assessment. If, during demolition and /or renovation activities, additional suspect materials are encountered they should be treated as Assumed ACM (AACM) and/or LBP until verified otherwise.

## 7.0 LIMITATIONS

AES is committed to providing quality consulting services. However, asbestos survey work is not an exact science. The possibility of field and general conditions, beyond AES' control, that affect our work or that present a concern for the safety of our employees, our consultants, building occupants and the public at the site, and insurance constraints, requires that we qualify the services we provide with the following limitations:

Reasonable effort is made by AES' personnel to locate and sample all suspect materials. However, for any facility the existence of unique or concealed asbestos-containing materials and debris is a possibility. In addition, sampling and laboratory analysis constraints typically hinder the investigation. AES does not warrant, guarantee or profess to have the ability to locate or identify all asbestos-containing materials in a facility.

Confined spaces, and areas determined by AES' personnel as unsafe to access, are excluded from the scope of work.

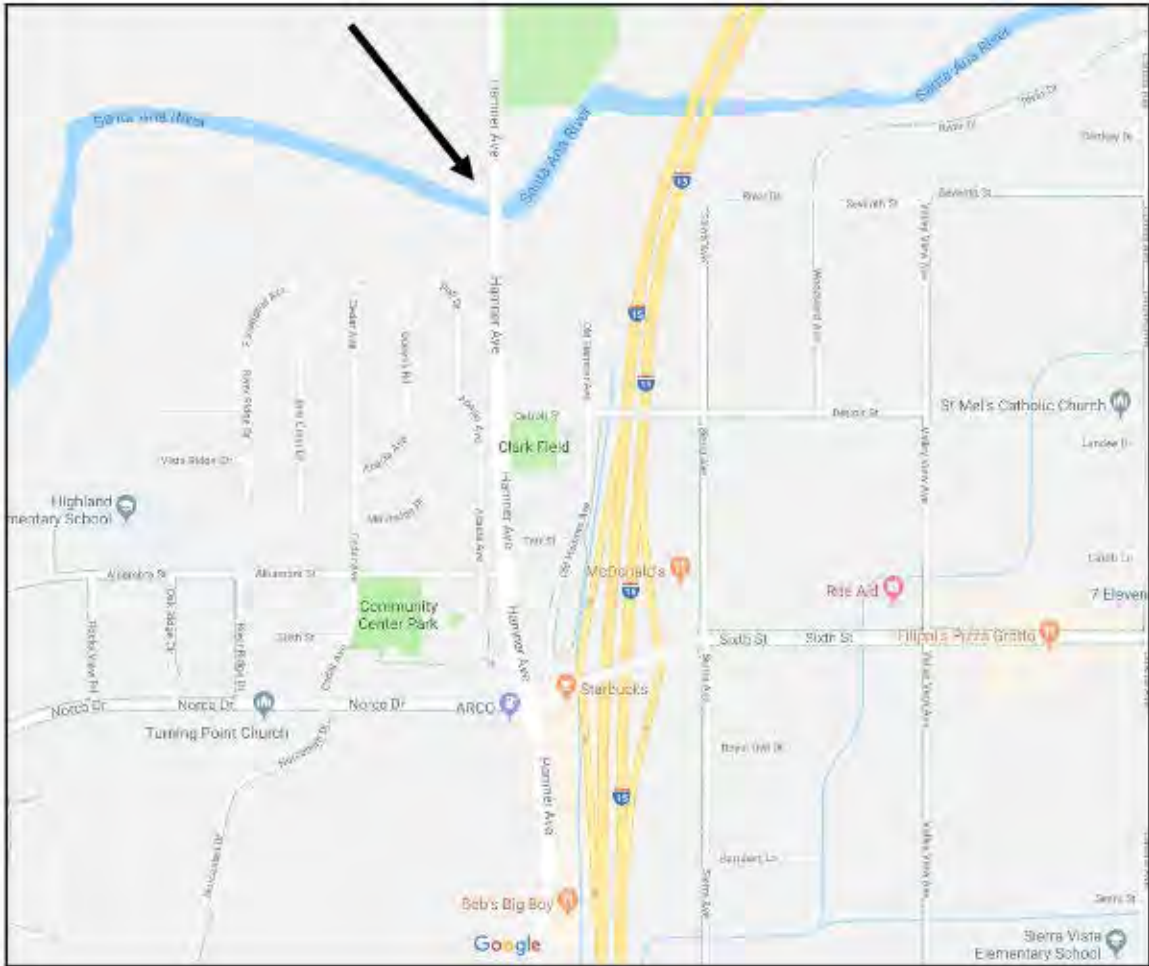
AES is not, and has no responsibility as, a generator, operator, treater, storer, transporter or disposer of hazardous materials or waste found or identified as a result of AES' work.

AES does not guarantee or warrant that the facility or workplace is safe, nor does AES' involvement with this site relieve the Client, Owner or other responsible parties of any continuing responsibility of providing a safe site, structure or workplace.

This report was based on those conditions observed on the days the field evaluation was accomplished. In the event that changes in the nature of the site have occurred, or additional relevant information about the site is subsequently discovered, the findings and recommendations contained in this report may not be valid unless these changes and additional relevant information are reviewed and the conclusion of this report is modified and verified in writing.

It is understood that the asbestos survey is a non-destructive assessment of potential asbestos containing building materials and is to be used expressly for the purpose of evaluating the asbestos risk relative to the planned demolition/renovation on the site. In as such that no destructive investigation has been performed during the survey, the report may not reveal concealed asbestos-containing materials. Subsequently, additional investigation including construction documents review and/or destructive investigation is recommended as a precaution to prevent accidental exposure when construction or demolition is planned for this facility.

**Figure 1 – VICINITY MAP**



**Figure 2 – PHOTOGRAPHS**  
*Continue to following page*





**Photo 01:** Granular traction coating on upper surface of wood sidewalk (AES Samples: MISC-001-01, 02 & 03).



**Photo 02:** Gray, non-resilient filler material associated with the upper surface of the wood sidewalk (AES Samples: MISC-002-01, 02 & 03).



**Photo 03:** Yellow Lane Stripes, Roadway Centerline (Bulk Sample PB-02, XRF Sample 005).



**Photo 04:** White Lane Stripe, Northbound Lane (XRF Samples: 006).



**Photo 05:** White paint covering graffiti, East Guardrail (Bulk Sample PB-01, XRF Sample 004).



**Photo 06:** Representative graffiti, East Guardrail (XRF Sample: 009).



**Photo 07:** Representative graffiti, Pier 10 facing south (XRF Samples: 012, 017 & 018).



**Photo 08:** Representative graffiti, South Abutment (XRF Samples: 011, 013 through 016 and 019 through 021).



**Photo 09:** Representative graffiti, Pier 8 facing south (XRF Samples: 028 and 029).



**Photo 10:** Representative graffiti, Pier 7 facing north (XRF Samples: 030 and 031).



Photo 11: Representative graffiti, Pier 6 facing south (XRF Samples: 035, 036, 037 & 038).



Photo 12: Representative graffiti, Pier 2 facing south (XRF Samples: 046).



**Photo 13:** Representative graffiti, Pier 1 facing north (XRF Samples: 047 and 048).



**Photo 14:** Black (LBP) metal bracket, north abutment, associated with sidewalk support beam (AES XRF Sample: 049).



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**APPENDIX A**

**ASBESTOS ANALYTICAL RESULTS  
AND  
CHAIN-OF-CUSTODY**





**BULK ASBESTOS FIBER ANALYSIS**



12611 Hiddencreek Way Ste #B Cerritos, CA 90703

**Client Name:** American Environmental Specialists  
**Project Manager:** John Brand  
**Client Address:** 15183 Springdale Street Huntington Beach, CA 92649  
**Client Job Number:** 18-028.01  
**Client Job Location:** Hamner Ave Bridge

**Batch Number:** 1801615  
**Total Samples Submitted:** 6  
**Total Samples Analyzed:** 6  
**Analysis Method:** EPA Method 600/R-93-116

Lab ID: 180161501		Client ID: misc-001-01		
Layer	Layer Description	Asbestos Type %	Other Fibrous Material %	Other Non Fibrous Material
1.	Black sandy material	None Detected	Cellulose 2%	Asphalt/Binder, Mineral Grains

Lab ID: 180161502		Client ID: misc-001-02		
Layer	Layer Description	Asbestos Type %	Other Fibrous Material %	Other Non Fibrous Material
1.	Black/white sandy material	None Detected	Cellulose <1%	Binder/Filler, Mineral Grains

Lab ID: 180161503		Client ID: misc-001-03		
Layer	Layer Description	Asbestos Type %	Other Fibrous Material %	Other Non Fibrous Material
1.	Black/white sandy material	None Detected	Cellulose <1%	Binder/Filler, Mineral Grains

Lab ID: 180161504		Client ID: misc-002-01		
Layer	Layer Description	Asbestos Type %	Other Fibrous Material %	Other Non Fibrous Material
1.	Grey vinyl tile	None Detected	None Detected	Vinyl/Binder

Lab ID: 180161505		Client ID: misc-002-02		
Layer	Layer Description	Asbestos Type %	Other Fibrous Material %	Other Non Fibrous Material
1.	Grey vinyl tile	None Detected	None Detected	Vinyl/Binder

Lab ID: 180161506		Client ID: misc-002-03		
Layer	Layer Description	Asbestos Type %	Other Fibrous Material %	Other Non Fibrous Material
1.	Grey vinyl tile	None Detected	None Detected	Vinyl/Binder



**BULK ASBESTOS FIBER ANALYSIS**



12611 Hiddencreek Way Ste #B Cerritos, CA 90703

**Client Name:** American Environmental Specialists  
**Project Manager:** John Brand  
**Client Address:** 15183 Springdale Street Huntington Beach, CA 92649  
**Client Job Number:** 18-028.01  
**Client Job Location:** Hamner Ave Bridge

**Batch Number:** 1801615  
**Total Samples Submitted:** 6  
**Total Samples Analyzed:** 6  
**Analysis Method:** EPA Method 600/R-93-116

**Analyzed by:** Brian Fullaway

**Signature:** *Brian Fullaway*

**Date:** 02-13-2018

**Reviewed by:** Francisco Moreno

**Signature:** *Francisco Moreno*

**Date:** 02-13-2018

Limit of Quantification ("LOQ")=1%, <1% denotes presence of asbestos below LOQ. If the sample was not collected by AIH Laboratory then the accuracy of the results is limited by the methodology and experience of the sample collector. Liability limited to cost of samples analysis. This report shall not be reproduced except in full, without written approval of AIH Laboratory. It shall not be used to claim product endorsement by NVLAP or any other agency of the government. Reported results relate only to the samples tested and may not be the representative of the sample area, AIH Laboratory shall dispose of the Customer's samples 30 days after receiving the samples unless instructed to store them for an alternate period of time in writing.





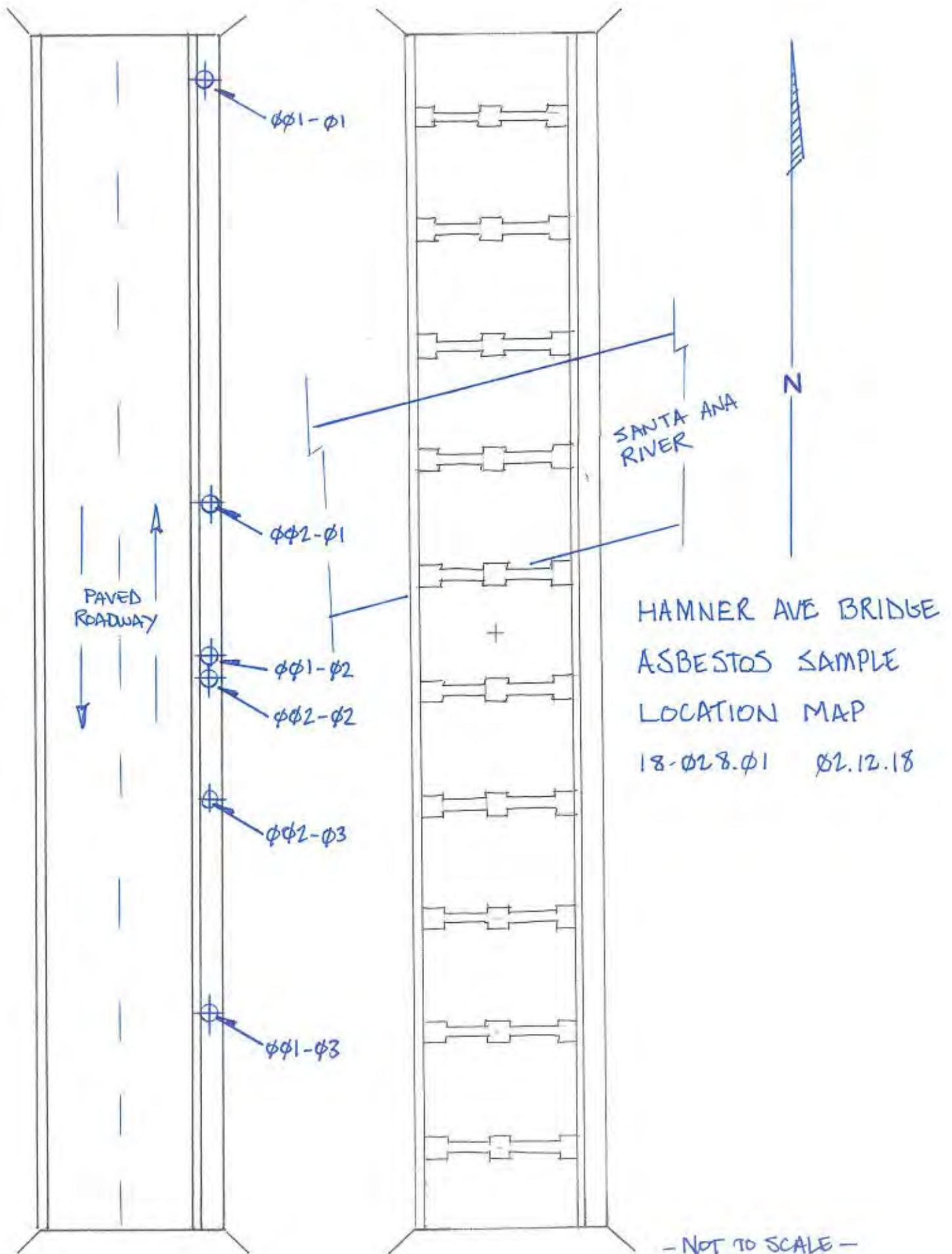
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A M E R I C A N  
E N V I R O N M E N T A L  
S P E C I A L I S T S

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**APPENDIX B**

**ASBESTOS SAMPLE LOCATION DIAGRAMS**





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**APPENDIX C**

**BULK LEAD ANALYTICAL RESULTS  
AND  
CHAIN-OF-CUSTODY**



# Analysis Report

## Total Lead (Pb)

**Client:** American Environmental Specialists  
**Address:** 15183 Springdale Street Huntington Beach, CA 92649

**Report Status:** Final Report

**Lab Batch #:** 1801614

**Matrix:** Paint chips

**Method:** Modified EPA 7420

**Project Manager:** John Brand

**Project #:** 18-028.01

**Project Location:** Hamner Ave Bridge

**Samples Submitted:** 2


**Samples Analyzed:** 2

**Bench Run No:** 51527

Lab ID	Client Sample ID	Sample Weight (g)	RL in percent	Results in mg/kg	Results in percent
180161401	Pb01	0.1022	0.02	<200	<0.02
180161402	Pb02	0.1037	0.02	1522	0.15

**Sampled By:** Client

**Analyzed by:** Efrain Velasco

**Signature:** 

**Date:** 02-13-2018

**Reviewed by:** Zubair Ahmed

**Signature:** 

**Date:** 02-13-2018

Units: mg/kg = milligrams per kilogram; percent = milligrams per kilogram/10000

RL = Reporting limit; "<" = below the reporting limit

Notes: Samples were prepared in accordance with modified EPA 3051 unless stated otherwise. Condition of all samples and method QC results are acceptable unless stated otherwise. Reported results relate only to the samples tested and may not be the representative of the sample area.

AIHA LAP, LLC Accredited Laboratory for Environmental Lead Laboratory ISO/IEC 17025:2005, Lab ID# 203769







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**APPENDIX D**  
**XRF FIELD DATA SHEETS**

### XRF DATA SHEET

1/4

DATE 02.12.18  
 PROJECT NUMBER 18-028, 01

PROJECT NAME HAMNER AVE BRIDGE  
 CLIENT T. Y. LIN INTERNATIONAL GROUP

GR=Green GY=Gray GL=Gold VRN=Varnish  
 BL=Blue BR=Brown BK=Black BE=Beige

CN=Concrete DW=Drywall  
 CM=Cement WD=Wood  
 CR=Ceramic PL=Plaster

Sample #	Sample Location - ROOM Description	Substrate	Color	Int. or Ext.	I F P Paint Condition	Component	A-B-C-D		DETAIL Stairs /Door Window	Sample Results (mg/cm <sup>2</sup> )
							Wall	L-C-R		
1	Calibration									1.0
2	Calibration									0.9
3	Calibration									1.1
4	E. GUARDRAIL	CONC	W	↑	F		-	-	TRAFFIC SIDE	0.1
5	ROADWAY N	ASPH	Y	↑	I		-	-	CNTL LINE	0.8
6	↓	↓	W	↑	I		-	-	E LN STRIP	0.2
7	E. GUARDRAIL	CONC	O	↑	I		-	-	GRAFFITI	0.2
8			BL	↑	I		-	-		0.1
9			Y	↑	I		-	-		0.3
10			R	↑	I		-	-		0.1
11	S. ABUTMENT	CONC	B	↓	I		-	-	GRAFFITI	0.1
12	P-10		PR	↓	I		-	-		0.4
13	S. ABUT		BKGN	↓	I		-	-		0.0

**Stairs** = Baluster, Springer, Newel Post, Wall Baseboard, Tread, Risers

**Door** = L/R Jamb, L/R Casing, Header

**Window** = Header, L/R Jamb, L/R Casing, Sash, Well, Apron, Sill, Part Bead

**Railing** = Upper/Lower, Column, Baluster

18-028-01

02.12-18

Sample #	Sample Location - ROOM Description	Substrate	Color	Int. or Ext.	IFP Paint Condition	Component	A-B-C-D		DETAIL	Sample Results (mg/cm <sup>2</sup> )
							Wall	L-C-R	Stairs / Door Window	
14	SA	CONC	SIL	↓	1				GRAFFITI	0.8
15	↓	↓	SIL	↓	1					0.1
16	↓	↓	LT BR		1					0.7
17	P-10	↓	Y		1					0.7
18	↓	↓	BL		1					0.3
19	SA	↓	LT BL		1					0.6
20	↓	↓	R		1					0.3
21	↓	↓	BK		1					0.2
22	P9 S	↓	BL		1					0.9
23	P9 S	↓	SIL		1					0.6
24	P9 W	↓	O		1					0.1
25	P9 W	↓	LT BL		1					0.0
26	P8 S	↓	O		1					0.5
27	↓ S	↓	R		1					0.6
28	↓ N	↓	PR		1					0.7
29	↓ N	↓	O		1					0.8
30	P7 S	↓	TRAC		1					0.3
31	↓ S	↓	LT BK	↓	1				↓	0.1

18-028.01

02.12.18

Sample #	Sample Location - ROOM Description	Substrate	Color	Int. or Ext.	IFP Paint Condition	Component	A-B-C-D		DETAIL	Sample Results (mg/cm <sup>2</sup> )
							Wall	L-C-R	Stairs / Door Window	
32	P7 N	CONC	Y	U					GRAFF	-0.3
33	P6 S	↓	GREY	↓						0.3
34	↓ S	↓	↓	↓						0.1
35	↓ N	↓	Magenta	↓						0.7
36	↓ N	↓	46	↓						-0.2
37	↓ N	↓	O	↓						0.2
38	↓ N	↓	W	↓						-0.2
39	P3 S	↓	W	↓						0.5
40	↓ S	↓	O	↓						0.0
41	↓ N	↓	B	↓						0.1
42	↓ N	↓	CU	↓						0.5
43	↓ N	↓	BRZ	↓						0.9
44	P2 S	↓	R	↓						0.1
45	↓ S	↓	W	↓						0.1
46	↓ N	↓	ADK	↓						0.2
47	P1 S	↓	PPL	↓						0.1
48	↓ S	↓	BK	↓						-0.1
49	N TREATMENT	M	PK	↓		BEAM BRACKET			Hardware	1.0

\*

18-028.01 02.12.18

4/4

Sample #	Sample Location - ROOM Description	Substrate	Color	Int. or Ext.	IFP Paint Condition	Component	A-B-C-D Wall	L-C-R	DETAIL Stairs / Door Window	Sample Results (mg/cm <sup>2</sup> )
50	ROADWAY S	ASPH	W	↑	1				E LN STRIPE	0.2
51	CAL - OUT									0.9
52										1.1
53										1.2
54										
55										
56										
57										
58										
59										
60										
61										
62										
63										
64										
65										
66										
67										

↓

Diagonal line from row 54 to row 67

Vertical line from row 53 to row 67



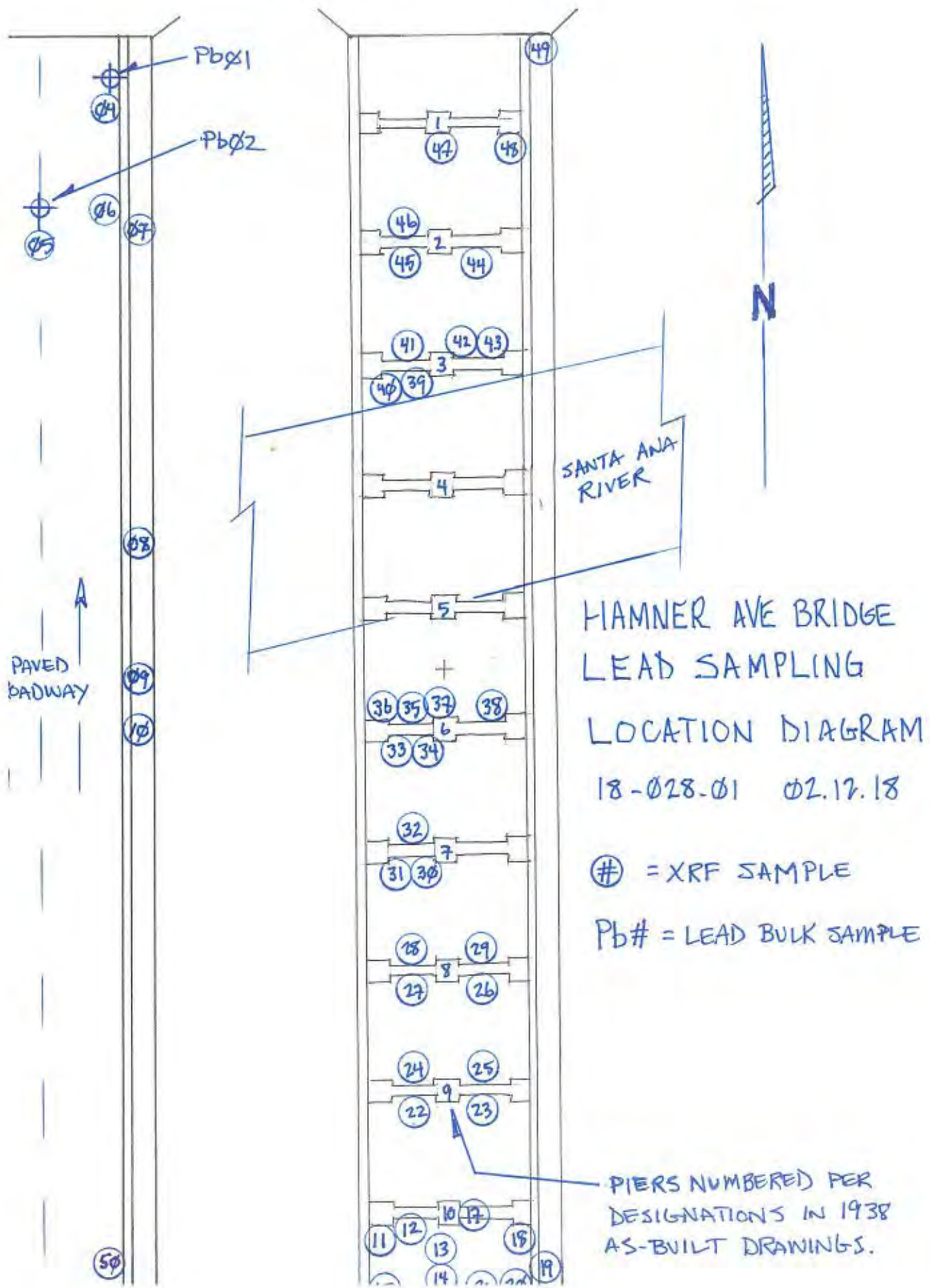
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**APPENDIX E**

**LEAD SAMPLE LOCATION DIAGRAMS**





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**APPENDIX F**  
**ANALYTICAL LABORATORY ACCREDITATION**





STATE WATER RESOURCES CONTROL BOARD  
REGIONAL WATER QUALITY CONTROL BOARDS

**Interim**



**CALIFORNIA STATE**

**ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM**

**CERTIFICATE OF ENVIRONMENTAL ACCREDITATION**

Is hereby granted to

**AIH Laboratory**

12611 Hiddencreek Way

Cerritos, CA 90703

Scope of the certificate is limited to the  
"Fields of Testing"  
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection,  
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of  
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2811**

Expiration Date: **10/26/2018**

Effective Date: **10/27/2017**

Sacramento, California  
subject to forfeiture or revocation

A handwritten signature in blue ink, appearing to read "Christine Solelo".

Christine Solelo, Chief  
Environmental Laboratory Accreditation Program