HAZARDOUS MATERIALS/HAZARDOUS WASTE TECHNICAL MEMORANDUM

for the California Incline Bridge Replacement Project

Prepared for:
City of Santa Monica Civil Engineering Division
Environmental and Public Works Management Department

Prepared by:
ICF Jones & Stokes
Los Angeles, California

December 2009

ERRATA

This technical background report was drafted prior to the final definition of the current Build Alternative, with Design Options 1 and 2, presented in the draft environmental impact report/environmental assessment (DEIR/EA). Accordingly, several additional build alternatives and design options, other than those presented in the DEIR/EA, are still discussed in this report. They no longer apply and should be disregarded.

Table of Contents

List of Figures

Acronyms and Abbreviations

Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CIDH	cast-in-drilled-hole
EDR	Environmental Data Resources
FHWA	Federal Highway Administration
HBP	Highway Bridge Program
MSE	mechanically stabilized earth
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
SR-1	State Route 1

EXECUTIVE SUMMARY

The purpose of this Hazardous Materials/Hazardous Waste Technical Memorandum is to identify potentially hazardous environmental conditions in connection with the proposed project, the California Incline Bridge Replacement Project. The California Incline extends from the intersection of Ocean and California Avenues at the top of the Palisades bluffs to State Route 1 (SR-1) at the base of the Palisades bluffs, a distance of approximately 850 feet. The incline bisects Palisades Park, which extends the length of the bluffs. The California Incline is eligible for inclusion in the National Register of Historic Places (National Register) as a character-defining feature of Palisades Park, which was determined eligible for the National Register in 1998. The incline is located in close proximity (within 950 feet) to the Pacific Ocean coastline and provides pedestrian access to the beach.

No exterior hazardous material storage areas, water supply wells, groundwater monitoring wells, or sumps were visually identified along the corridor during ICF Jones & Stokes' site reconnaissance.

Review of a regulatory agency database search for the project site and surrounding area performed by Environmental Data Resources (EDR) indicated that there are no listed hazardous materials sites within the project area or surrounding vicinity. A search of EDR proprietary records yielded two potential historic hazardous waste sites within 0.5 mile of the project site. Review of the *Final Master Environmental Assessment 1995/1996 Update for the City of Santa Monica* revealed one closed/remediated hazardous waste site. All of the sites identified have either been remediated or are no longer in existence.

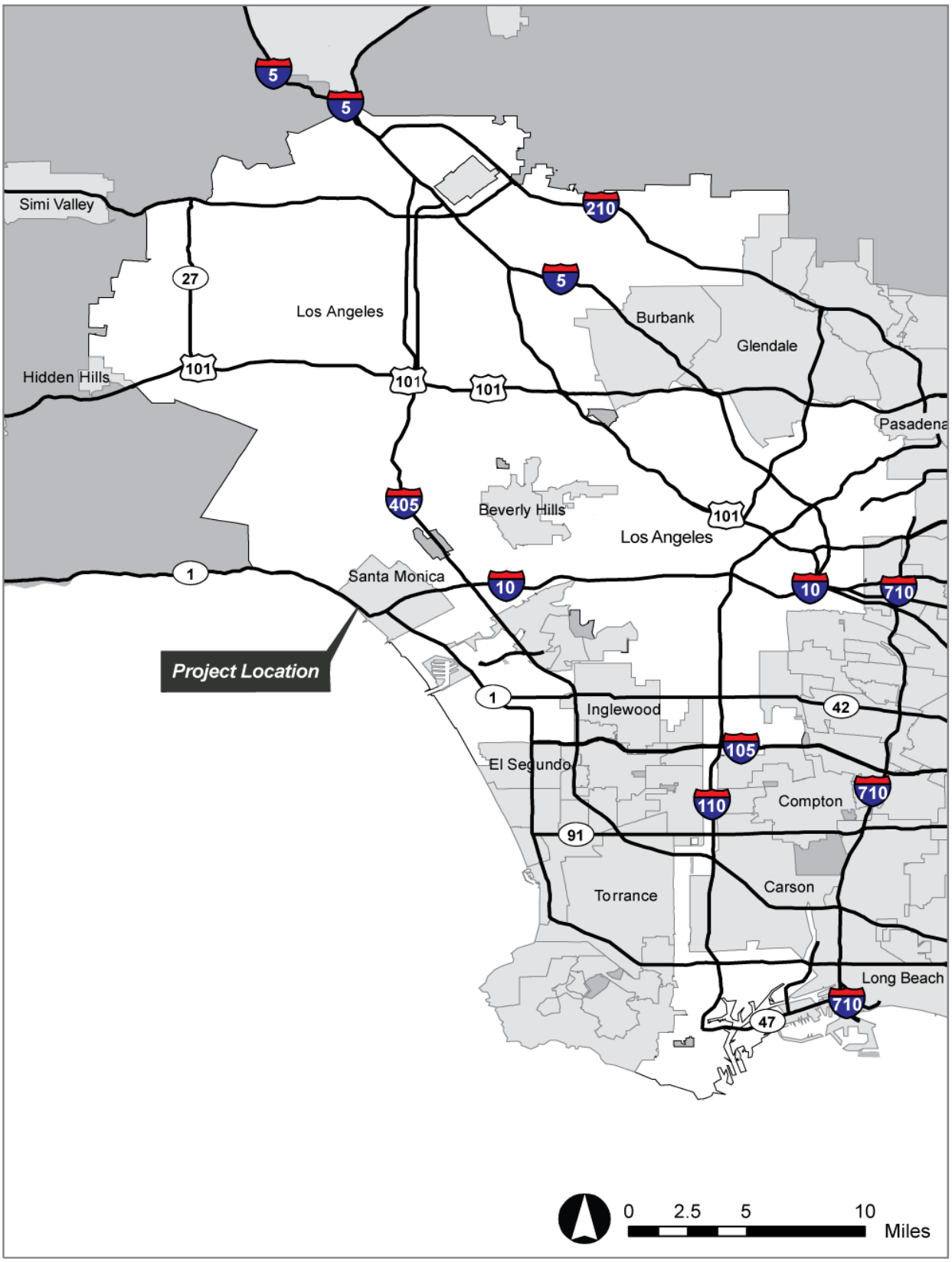
1. PROJECT DESCRIPTION

Located within the City of Santa Monica, the California Incline, which is in proximity to the Pacific coastline (within 950 feet), provides pedestrian and vehicular access to the beach. The incline extends from the intersection of Ocean and California Avenues at the top of the Palisades bluffs to SR-1 at the base of the bluffs, bisecting Palisades Park, which extends the length of the bluffs (see Figures 1 and 2).

Repairs to the existing bridge on the incline are necessary because of the deteriorated condition, which is evidenced by the dilapidated appearance, including spalling (i.e., breaking of concrete into chips or fragments) and cracks. According to bridge inspection reports (1989, 1994), the bridge appears to be in poor condition. The asphalt deck at the south end of the bridge has potholes, and the sidewalk near the north end exhibits spalling of up to 12 inches wide and 3 inches deep. Furthermore, the handrail has exposed, rusted rebar. As of 1994, the California Incline had an estimated sufficiency rating of 35.8. It is classified as structurally deficient and qualifies for replacement under the federal Highway Bridge Program (HBP).[1]

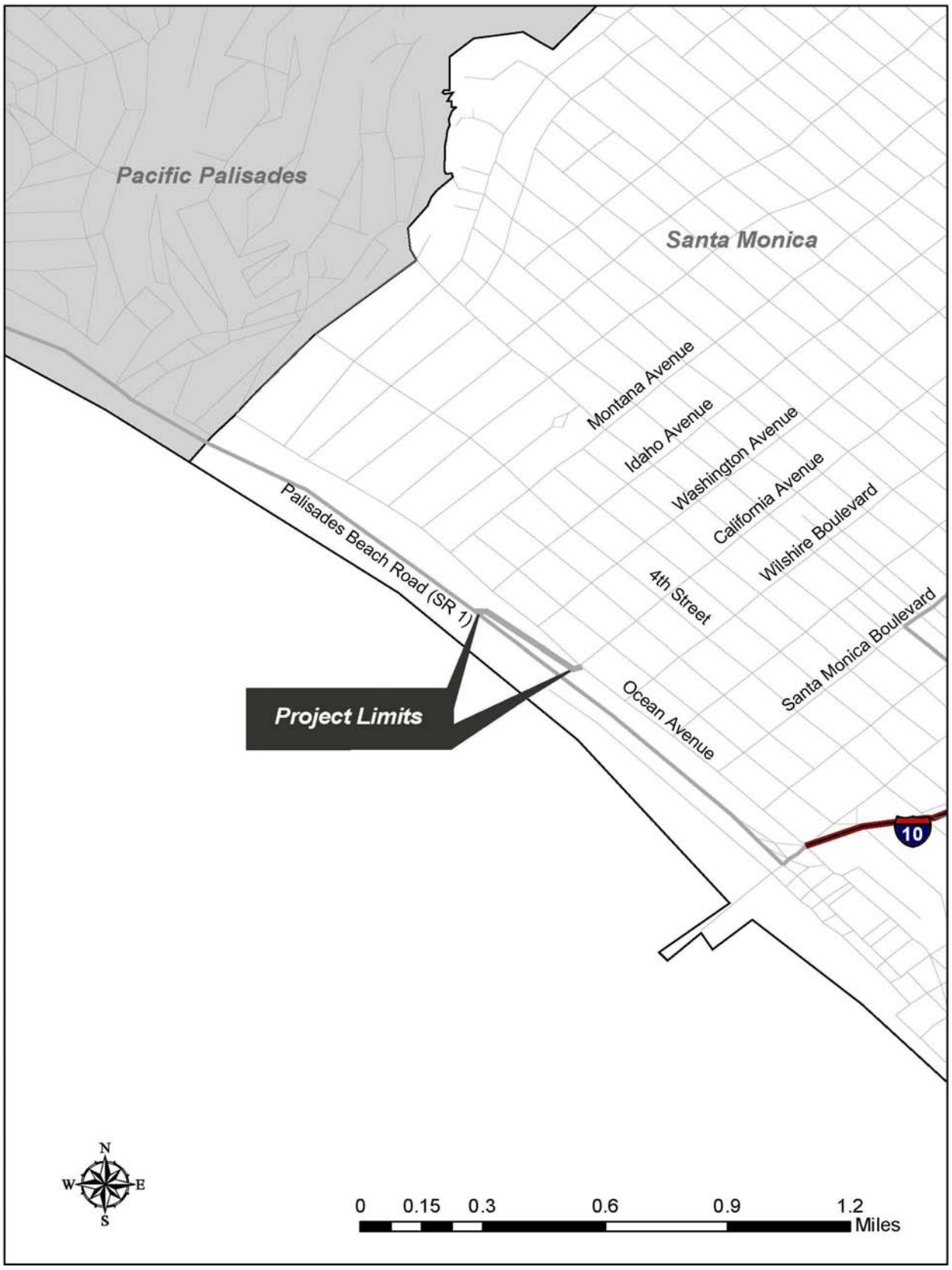
[1] According to FHWA guidelines, if the sufficiency rating for a bridge is less than 50 and it is designated as structurally deficient (SD) or functionally obsolete (FO), the bridge is eligible for replacement using HBP funding.

Figure 1: Regional Location Map



Source: U.S. Census TIGER Data, 2000; Jones & Stokes 2006.

Figure 2: Project Vicinity Map



2. BUILD ALTERNATIVES

After preliminary design review, two build alternatives, a replacement alternative (Alternative 1) with five design options, and a rehabilitation alternative (Alternative 2) were selected for consideration. The California Incline would remain a three-lane roadway (two lanes in the southbound direction toward Ocean Avenue and one lane in the northbound direction toward SR-1) that terminates at each end with a signalized intersection. The three 12-foot-wide vehicular lanes would be maintained, and the proposed improvements would be designed to accommodate both pedestrians and bicyclists. Construction of the incline would also require reconstruction of the upper and lower approaches to the incline at Ocean Avenue and SR-1, respectively. Both build alternatives, including all design options, would require the installation of "soil nails"[2] for the geologic stability of the upper bluff slope. No lighting is proposed on the incline. Construction of the proposed project would last approximately 12 months, beginning in mid-2011 and ending by mid-2012. The California Incline would be closed to traffic for the entire construction period.

The proposed project is subject to federal, state, as well as City of Santa Monica environmental review requirements because the City of Santa Monica proposes the use of federal funds from the Federal Highway Administration (FHWA) and/or the project requires a FHWA approval action. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The City of Santa Monica is the project proponent and the lead agency under CEQA.

FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation (Caltrans) under its assumption of responsibility pursuant to Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, codified at 23 United States Code 327(a)(2)(A). Effective July 1, 2007, FHWA has assigned, and Caltrans has assumed, all of the U.S. Department of Transportation secretary's responsibilities under NEPA.

2.1 Build Alternative 1: Demolition of Existing Structure and Replacement with New Structure

This alternative would entail demolition of the existing incline and construction of a new incline at the same location. To maintain the historic aspects of the bridge, the replacement structure would retain the same alignment and profile as that of the existing roadway. To correct the geometric deficiency, the roadway would be widened by 5 feet 8 inches to allow more shoulder width. However, due to the fixed width of the pedestrian overcrossing, roadway width would remain the same north of the structure. The preliminary slope stability analysis indicates that a portion of the upper bluff slope will need to be strengthened with soil nails. The new incline is anticipated to be a reinforced concrete slab structure with spans of approximately 44 feet. The overall width of the new incline would be 51 feet 8 inches, an increase of 5 feet 8 inches.

Five design options are being considered for the replacement structure. Each is described below.

[2] Closely spaced steel bars that reinforce and strengthen the existing soil layer.

2.1.1 Option A: Earth-Retaining Structure

Due to the alignment of the incline along the bluff slope, an earth-retaining structure in the form of a mechanically stabilized earth (MSE) wall is one of the design options under consideration to replace the existing incline structure. The upper bluff slope would be reinforced with soil nails, and a soil nail wall and MSE wall would be constructed to stabilize the lower bluff slope up to the roadway elevation, as shown in Figure 3.

Construction elements for this design option would involve the following:

- Construction of a temporary access road on the lower bluffs;
- Grading and excavation of the California Incline roadway to a suitable bearing elevation;
- Construction of a soil nail wall, with a shotcrete (spray on concrete) facing on the lower bluff slope;
- Construction of an MSE wall in horizontal lifts up to the original roadway grade, with installation of precast facing panels on the lower bluff slope; and
- Reconstruction of the roadway surface, curbs, gutters, and sidewalks. The temporary access road would be removed, and the disturbed slope would be revegetated.

2.1.2 Option B: Sidehill Viaduct Structure

The existing California Incline is considered a sidehill viaduct structure; therefore, replacing it with a similar sidehill viaduct structure is under consideration. The substructure would be composed of a combination of footings and cast-in-drilled-hole (CIDH) piles. Shallow footings would be cast on the east side, while CIDH piles would be used on the west side (see Figure 4). The superstructure would be a cast-in-place or precast concrete structure and would require a soil nail wall and a concrete facing over the lower slope bluffs to minimize erosion potential at the footings.

Construction of this design option would involve the following:

- Constructing a temporary access road on the lower bluffs;
- Excavating soil for shallow footings and drilling holes for CIDH piles;
- Excavating and smoothing of lower bluff slope and outcroppings for soil nail wall;
- Drilling holes and installing soil nails in the lower slope;
- Placing reinforcing steel on the lower slope, with a shotcrete facing to form a concrete wall;
- Installing reinforcing steel for footings and CIDH piles and pouring concrete;
- Installing temporary falsework footings and erecting temporary columns and beams;
- Installing reinforcing steel and pouring concrete on falsework for sidehill viaduct;

Figure 3: Earth Retaining Structure (MSE Wall)

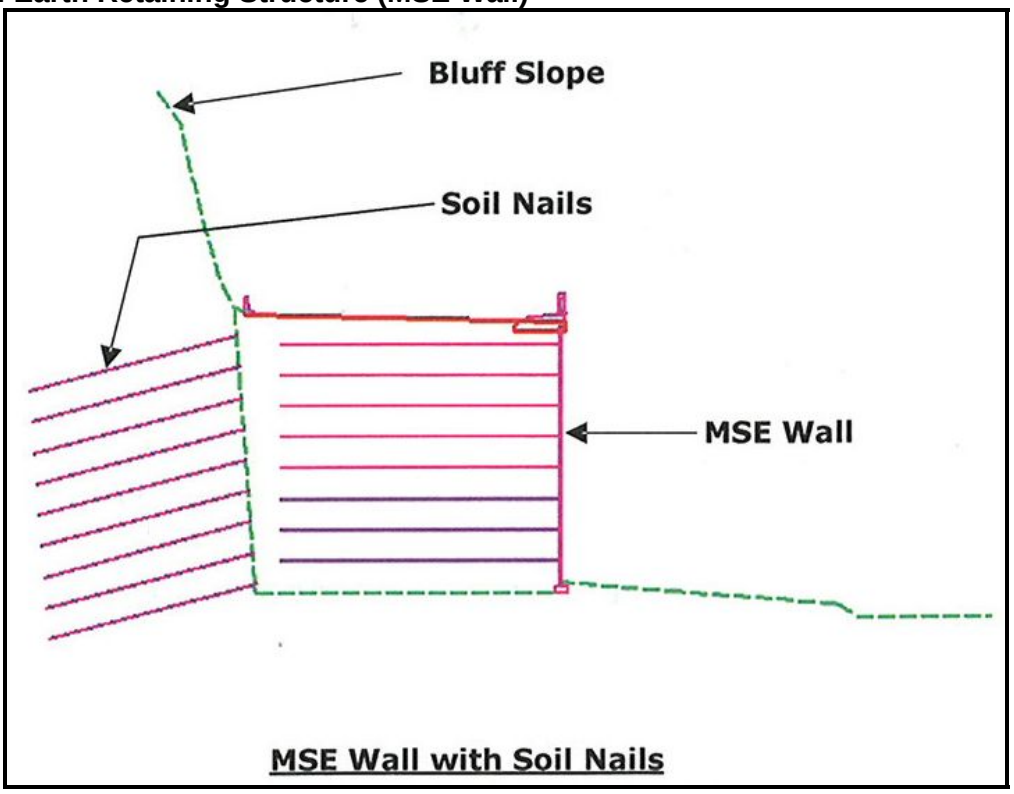
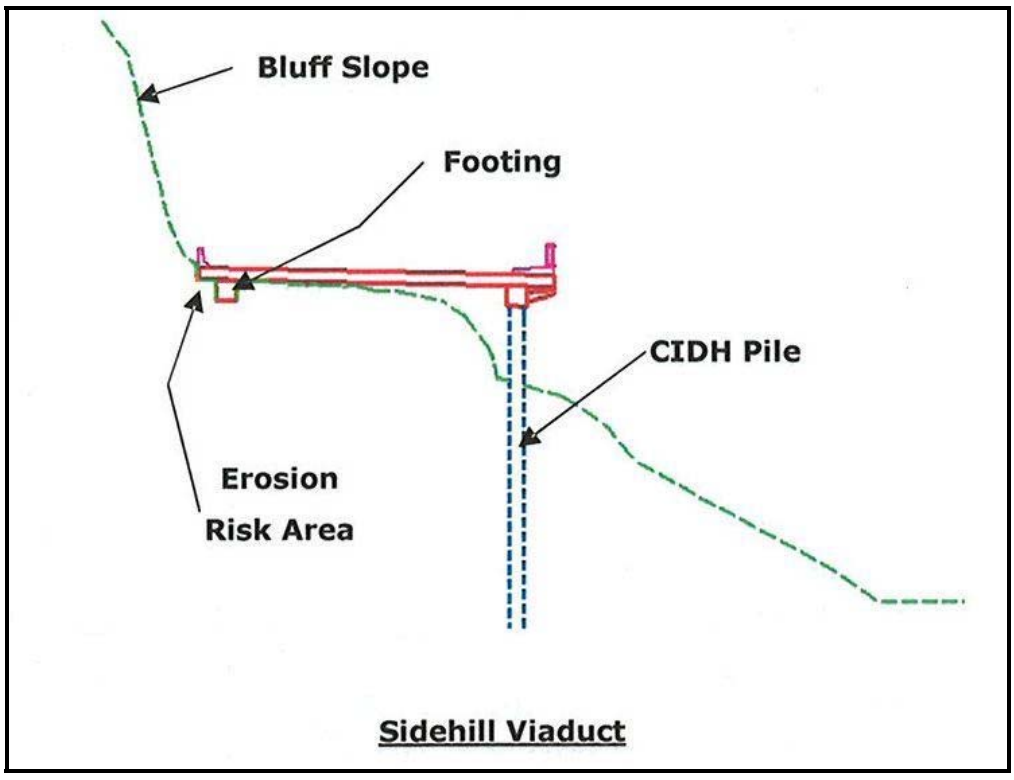


Figure 4: Sidehill Viaduct Structure



- Constructing retaining wall at the north-end curb, gutter, sidewalk, and barrier;
- Placing architectural concrete surface over soil nail wall;
- Reconstructing and restriping the roadway;
- Removing falsework and temporary footings; and
- Removing temporary access road, and regrading and revegetating the disturbed slope.

2.1.3 Option C: Cast-In-Place Concrete Slab Bridge

A standard reinforced concrete cast-in-place slab bridge supported on CIDH piles (see Figure 5) is also being considered for the replacement structure. This structure would require a large amount of falsework during construction, which would be supported on the bluff slope. Temporary footings would be needed to support the falsework bents. Some bluff features may need to be removed to bring in equipment to construct the falsework.

Construction of this design option would involve the following:

- Constructing a temporary access road on the lower bluffs;
- Excavating soil for temporary falsework footings and drilling holes for CIDH piles;
- Installing reinforcing cages and pouring concrete for CIDH piles;
- Erecting temporary falsework columns and beams;
- Placing reinforcing steel and pouring concrete for new bridge deck;
- Constructing a retaining wall at the north-end curb, gutter, sidewalk, and barrier;
- Reconstructing and restriping the roadway and reconstructing the curb and gutter;
- Removing falsework and temporary footings; and
- Removing the temporary access road, and regrading and revegetating the disturbed slope.

2.1.4 Option D: Precast Slab Bridge Spanning Transversely

A precast slab bridge spanning transversely is one of the design options under consideration for the replacement structure. A precast slab bridge would be supported on CIDH piles so that it would be independently stable and protected from slope erosion. Precast panels would span transversely between two longitudinal girders that would be connected directly to the CIDH piles. The CIDH piles would be cast in two lines, one near the slope face and one along the bluff edge to minimize disturbance to the slope (see Figures 6 and 7). The longitudinal bent caps would be cast in place on the ground and on falsework. The falsework needed would be relatively small, and the forms could be supported on pile extensions to minimize ground disturbance.

Figure 5: Cast-In-Place Concrete Slab Bridge

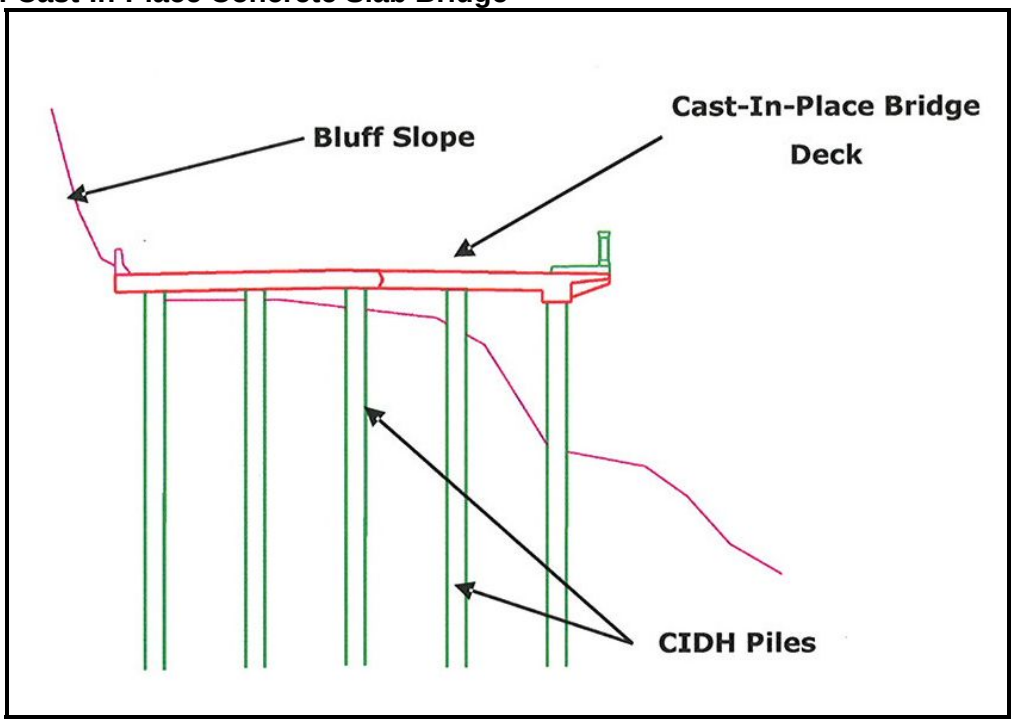


Figure 6: Precast Slab Bridge Spanning Transversely

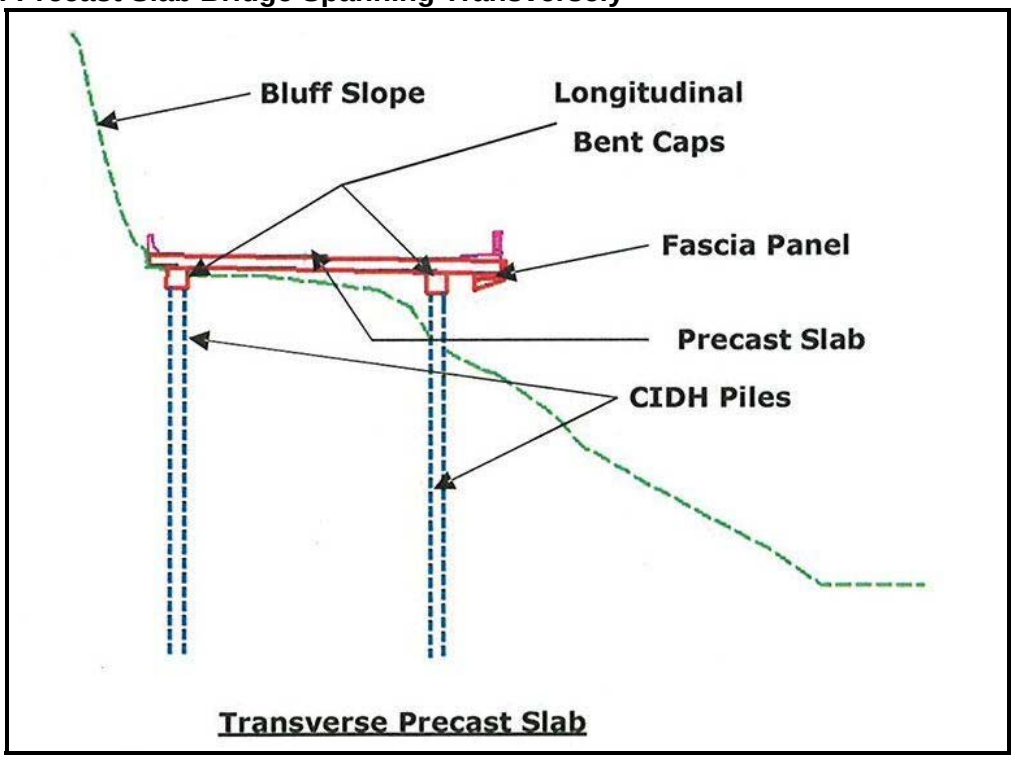
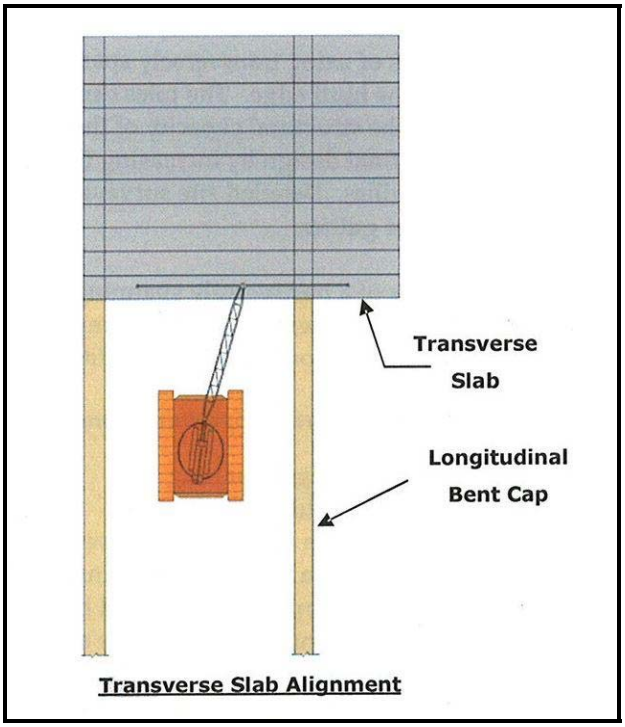


Figure 7: Transverse Slab Placement



The precast slabs would be designed to act compositely with a cast-in-place topping slab. The use of a topping slab would ensure structural continuity between the precast slabs, increase the strength of the superstructure for negative bending over the cantilever, and vary in thickness to provide the desired roadway crown. A fascia panel would be used on the transverse edge to provide a smooth surface at the ends of the slabs and replicate the existing concrete bracket.

Construction of this design option would involve the following:

- Constructing a temporary access road on the lower bluffs;
- Excavating soil for temporary falsework footings and drilling holes for CIDH piles;
- Installing reinforcing cages and pouring concrete for CIDH piles;
- Erecting temporary falsework columns and beams for pile bent caps (smaller falsework than that used for cast-in-place bridge construction);
- Delivering precast beams to the site, lifting, and setting beams on bent caps;
- Pouring composite reinforced concrete slab over precast beams;
- Removing falsework and temporary footings;
- Constructing a retaining wall at the north-end curb, gutter, sidewalk, and barrier;
- Reconstructing and restriping the roadway and reconstructing curb and gutter; and
- Removing the temporary access road, and regrading and revegetating the disturbed slope.

2.1.5 Option E: Precast Slab Bridge Spanning Longitudinally

A precast slab bridge spanning longitudinally is also under consideration; its benefits would be similar to those of the transversely spanning structure described under Option D. This type of structure would be supported on CIDH piles, which would be aligned in transverse bents that are spaced at the span length of the precast slabs (see Figures 8 and 9). A cast-in-place topping slab would be used to provide structural continuity and the desired roadway profile.

Construction of this design alternative would involve the same elements as described above for Option D.

Figure 8: Precast Slab Bridge Spanning Longitudinally

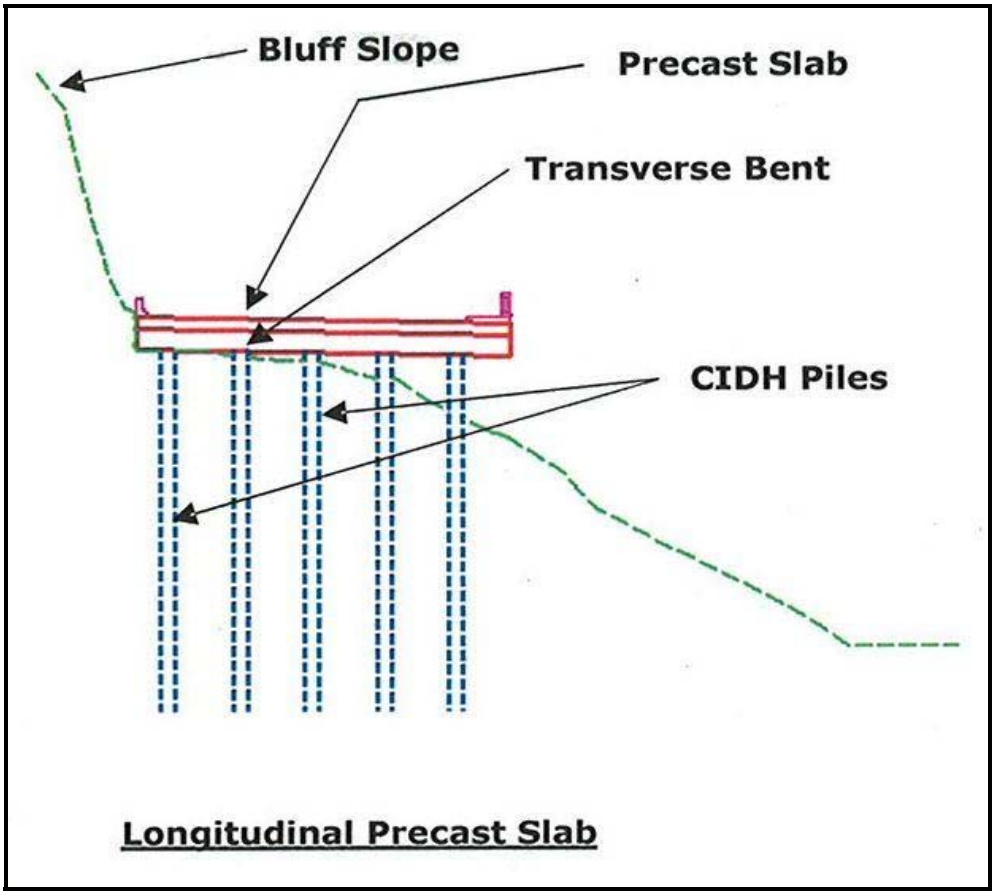
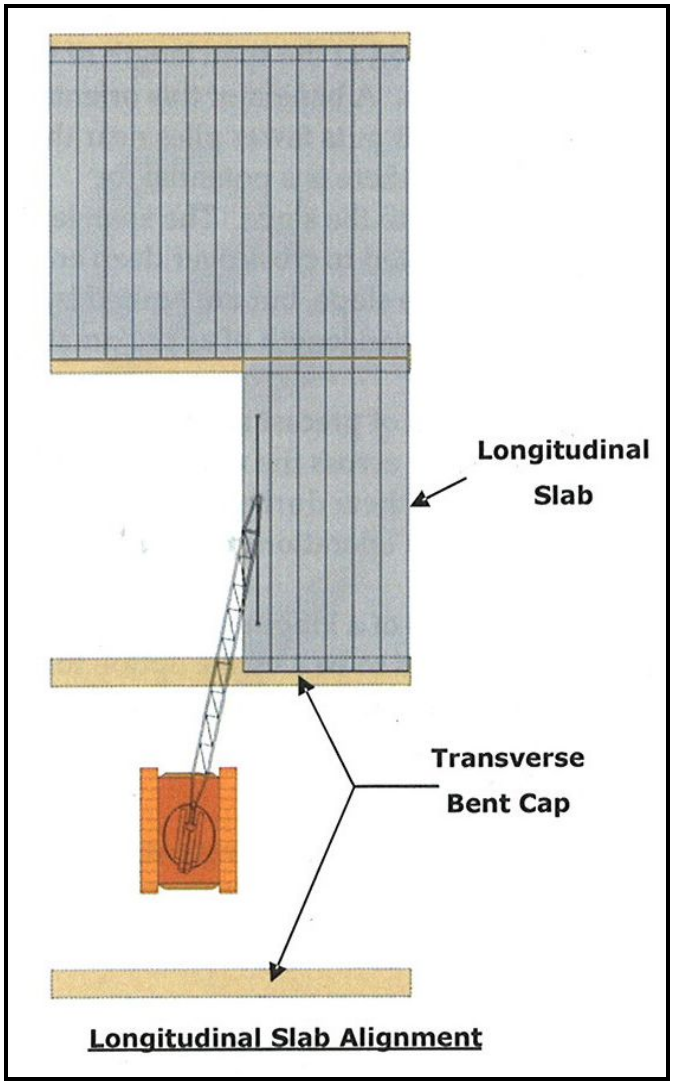


Figure 9: Longitudinal Slab Placement



2.2 Build Alternative 2: Rehabilitate and Widen Existing Structure

Under this alternative, the existing structure would be rehabilitated and strengthened to improve the sufficiency rating. It would also be widened to the proposed roadway width. This alternative would include removing the corroded reinforcing bars, repairing the concrete, and strengthening the existing structure with additional concrete columns and beams. The existing incline structure would be widened by extending the concrete deck slab and adding additional beams, columns, and footings.

Construction of this alternative would involve the following:

- Constructing a temporary access road on the lower bluffs;
- Removing the existing bridge railing as well as the sidewalk and retaining wall at the north end;

- Removing deteriorated concrete and reinforcing bars and patching concrete;
- Excavating soil for temporary falsework footings and permanent footings;
- Installing reinforcing bars and pouring concrete for footings;
- Erecting temporary falsework columns and beams;
- Placing reinforcing steel and pouring concrete for the widened bridge deck;
- Constructing a new retaining wall, curb, gutter, sidewalk, and barrier at the north end;
- Reconstructing and restriping the roadway, and reconstructing the curb and gutter;
- Removing falsework and temporary footings; and
- Removing the temporary access road, and regrading and revegetating the disturbed bluff.

2.3 No-Build Alternative

The No-Build Alternative would result in no structural or physical changes to the incline. Under this alternative, the California Incline would continue to deteriorate.

3. ENVIRONMENTAL SETTING/SITE DESCRIPTION

The project site lies within the City of Santa Monica, Los Angeles County, California, in a densely populated and developed area. Various residential, commercial, recreational, and resort areas are located in close proximity to the California Incline. Figure 1 and Figure 2 show the project site in relation to the regional and local vicinity. Figure 10 shows the project footprint on an aerial photograph.

The California Incline extends from Ocean Avenue to SR-1, diagonally traversing a coastal bluff over a distance of approximately 850 feet. The incline is a three-lane roadway. A 4.5-foot-wide sidewalk is located along the western edge, with a cast concrete balustrade that runs from the park to the bottom of the incline. The incline is entirely supported on soil along the eastern side, while portions along the western side are supported on soil as well as 14 concrete columns. The incline itself consists of an 8-inch concrete slab supported on transverse floor beams made of concrete.

Underlying and surrounding the incline, the exposed soils of the bluff support a variety of native and nonnative grasses, shrubs, and vegetation. At the top of the bluff, the incline bisects Palisades Park. Land uses in this vicinity, the area east of Ocean Avenue and Palisades Park, consist mostly of commercial retail, office, and residential uses. Land uses at the base of the incline, west of SR-1, consist mostly of residential uses. Santa Monica State Beach and the coastline are immediately adjacent.

Groundwater is at a depth of about 10 feet below SR-1 along the base of the bluffs (California Geological Survey 1997). Boreholes drilled by URS (2006) documented the distribution of the groundwater and found groundwater depths ranging from 4 to 100 feet above mean sea level.

Figure 10: Project Footprint

Source: GoogleEarth 2006.

Historic records suggest that the higher groundwater levels probably are a result of perched conditions. URS installed 16 hydraugers along the lower portions of the bluffs but encountered groundwater in only three of them. This indicates that groundwater is distributed in widely scattered zones. However, after long periods of rainfall, local water seeps can be observed in the bluff along with large areas of saturated soils on the bluff face.

4. PUBLIC RECORD REVIEW

4.1 Environmental Data Resources Report

ICF Jones & Stokes contracted with EDR in May 2006 to review databases maintained by various federal and state environmental agencies. The purpose of the review was to identify reported listings for the subject site or other properties in the vicinity. The reviewed databases included federal and state lists of known or suspected contaminated sites, known handlers or generators of hazardous waste, known waste disposal facilities, and permitted underground storage tanks. The databases that were researched, and the radial search distances for each database, if applicable, include the following:

4.1.1 Federal Records

- **NPL** (National Priority List) identifies sites for priority cleanup under the Superfund program; 1.0-mile radius.
- **CERCLIS** (Comprehensive Environmental Response, Compensation, and Liability Information System) contains information on sites identified by the U.S. Environmental Protection Agency (USEPA) as abandoned, inactive, or uncontrolled hazardous waste sites that may require cleanup; 0.5-mile radius.
- **NFRAP** (No Further Remedial Action Planned) lists sites that were on the CERCLIS but have been removed and now "No Further Remedial Action" is planned; 1.0-mile radius.
- **CORRACTS** (Corrective Action Report) identifies hazardous waste handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity; 0.25-mile radius.
- **RCRIS** identifies sites that generate, store, transport, treat, and/or dispose of hazardous waste as identified by the RCRA; 0.25-mile radius.
- **ERNS** (Emergency Response Notification System) stores information on reported releases of oil and hazardous substances; within target property.
- **HMIRS** (Hazardous Materials Information Reporting System); within target property.
- **US ENG CONTROLS** (engineering controls sites list); 0.5-mile radius.
- **US INST CONTROL** (sites with institutional controls); 0.5-mile radius.
- **DOD** (Department of Defense sites) identifies federally owned or administered land of 640 acres or greater; 1.0-mile radius.

- **FUDS** (Formerly Used Defense Sites); 1.0-mile radius.
- **US BROWNFIELDS** (a listing of Brownfields sites); 0.5-mile radius.
- **CONSENT** (Superfund (CERCLA) Consent Decrees); 1.0-mile radius.
- **ROD** (Records of Decision) mandates a remedy at NPL sites pertaining to technical and health information to aid site cleanup; 1.0-mile radius.
- **UMTRA** (Uranium Mill Tailings Sites); 0.5-mile radius.
- **ODI** (Open Dump Inventory); 0.5-mile radius.
- **TRIS** (Toxic Chemical Release Inventory System) identifies facilities that release toxic chemicals to the air, water, or land; within target property.
- **TSCA** (Toxic Substances Control Act) identifies manufacturers and importers of chemical substances included on the TSCA chemical inventory list; within target property.
- **FTTS** (FIFRA/TSCA Tracking System [FIFRA—Federal Insecticide, Fungicide, and Rodenticide Act)/TSCA—Toxic Substances Control Act]); within target property.
- **SSTS** (Section 7 Tracking Systems) reports manufacturing practices for registered pesticide-producing establishments; within target property.
- **ICIS** (Integrated Compliance Information System); within target property.
- **PADS** (Polychlorinated Biphenyls [PCB] Activity Database System) identifies generators, transporters, commercial storage and/or brokers, and disposers of polychlorinated biphenyls; within target property.
- **MLTS** (Material Licensing Tracking System) lists sites that possess or use radioactive materials subject to Nuclear Regulatory Commission licensing requirements; within target property.
- **MINES** (Mines Master Index File); 0.25-mile radius.
- **FINDS** (Facility Index System/Facility Registry System) points to other sources that may contain more information; within target property.
- **RAATS** (RCRA Administrative Action Tracking System) records on enforcement actions under RCRA, within target property.

4.1.2 State Records

- **AWP** (Annual Workplan Sites) is a California Department of Toxic Substances Control (DTSC) database of known hazardous waste sites targeted for cleanup; 1.0-mile radius.
- **Cal-Sites** (Cal-Sites database) is a state database of properties in California where hazardous substances have been released or where potential for such release exists; 1.0-mile radius.
- **CA BOND EXP. PLAN** (Bond Expenditure Plan); 1.0-mile radius.
- **NFA** (No Further Action Determination); 0.25-mile radius.
- **NFE** (Properties Needing Further Evaluation); 0.25-mile radius.

- **REF** (Unconfirmed Properties Referred to Another Agency); 0.25-mile radius.
- **SCH** (School Property Evaluation Program); 0.25-mile radius.
- **Toxic Pits** (Toxic Pits Cleanup Act sites) identifies sites suspected of containing hazardous substances where cleanup has not yet been completed; 1.0-mile radius.
- **SWF/LF** (Solid Waste Information System).
- **CA WDS** (Waste Discharge System); target property.
- **WMUDS/SWAT** (Waste Management Unit Database/Solid Waste Assessment Test) is a state inventory of waste management units; .0.5-mile radius.
- **Cortese** (Cortese Hazardous Waste and Substances Sites list); 1.0-mile radius.
- **SWRCY** (Recycler database); 0.5-mile radius.
- **LUST** (GeoTracker's Leaking Underground Fuel Tank Report); 1.0-mile radius.
- **CA FID UST** (Facility Inventory Database for active and inactive underground storage tanks); 0.25-mile radius.
- **SLIC** (statewide SLIC cases); 0.5-mile radius.
- **AOCONCERN** (San Gabriel Valley Areas of Concern); 1.0-mile radius.
- **UST** (active underground storage tank (UST) facilities) identifies registered underground storage tanks; 1.0-mile radius.
- **HIST UST** (Hazardous Substance Storage Container Database) is a historical UST registered database, 0.25-mile radius.
- **AST** (registered aboveground storage tank facilities); within target property.
- **SWEEPS UST** (SWEEPS UST listing); 0.25-mile radius.
- **CHMIRS** (California Hazardous Material Incident Report System); 1.0-mile radius.
- **Notify 65** (Proposition 65 records); 1.0-mile radius.
- **LA Co. Site Mitigation** (site mitigation list); target property.
- **DEED** (deed restriction listing); 0.5-mile radius.
- **VCP** (Voluntary Cleanup Program properties); 0.5-mile radius.
- **DRYCLE**ANERS (cleaner facilities); 0.25 miles radius.
- **LOS ANGELES CO. HMS** (HMS: street number list); target property.
- **WIP** (Well Investigation Program case list); 0.25-mile radius.
- **CDL** (Clandestine Drug Labs); target property.
- **HAZNET** (facility and manifest data); target property.
- **EMI** (emissions inventory data); within target property.

4.1.3 Tribal Records

- **INDIAN RESERV** (Indian Reservations).

- **INDIAN LUST** (Leaking Underground Storage Tanks on Indian Land).
- **INDIAN UST** (Underground Storage Tanks on Indian Land).

4.1.4 EDR Proprietary Records

- **Manufactured Gas Plants** (MGP) (includes records of coal gas plants [manufactured gas plants] compiled by EDR's researchers).
- **EDR Historical Auto Stations** (EDR has searched selected national collections of business directories and has collected listings of potential gas station sites).
- **EDR Historical Cleaners** (EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites).

4.2 Database Evaluation

The California Incline itself was not listed in any of the databases reviewed as part of the EDR report. However, noted facilities in the vicinity of the target property are as follows:

Database	Listing	Address	Distance from Target Property
EDR Historical Cleaners	Hotel Miramar Valet Service (1954	1133 Ocean Avenue Santa Monica, CA	937 feet
Manufactured Gas Plants	Edison/Santa Monica MGP	Santa Monica, CA	5,129 feet

Source: EDR, 2006.

ICF Jones & Stokes also reviewed the *Final Master Environmental Assessment 1995/1996 Update for the City of Santa Monica.* One site was listed in the project area. This site has been remediated and closed and is not listed within any of the databases searched by EDR.

Database/Source	Listing	Address	Distance from Target Property
City of Santa Monica	Kuruyama USA , Inc.	1535 Ocean Avenue Santa Monica, CA	> 1 mile

Source: City of Santa Monica, 1996.

5. HISTORICAL RECORDS REVIEW

5.1 Aerial Photographic Review

Aerial photographs of the proposed project site and surrounding areas were obtained from EDR to evaluate historical usage of the site and adjacent properties. The photographs were also reviewed to evaluate any discernible evidence of potential sources of negative environmental impact to the site. The following aerial photographs of the site were examined:

1. Photographic Reference: Fairchild
Year: 1928
The California Incline appears to be present, bisecting the park. Due to photograph's scale and quality, it is not readily apparent if the incline connects to SR-1. Dense development appears along the west side of SR-1. Palisades Park appears with meandering walkways. Substantial residential development appears along Ocean Avenue, with few frontage lots appearing undeveloped. East of Ocean Avenue, the Santa Monica area appears substantially developed with residential and commercial uses.

2. Photographic Reference: Laval
Year: 1938
The complete California Incline appears clearly (from Ocean Avenue to SR-1), as does Palisades Park. Little has changed from the previous photograph, though additional development is noticeable along SR-1.

3. Photographic Reference: Fairchild
Year: 1947
The California Incline and Palisades Park appear in the same configuration. Most of the lots along Ocean Avenue are developed. McClure Tunnel is visible to the south.

4. Photographic Reference: Fairchild
Year: 1956
California Incline and Palisades Park appear unchanged. Additional development has occurred.

5. Photographic Reference: Fairchild
Year: 1965
California Incline and Palisades Park appear unchanged. East of Ocean Avenue, several apartment/multifamily dwellings and commercial developments appear to have replaced single-family homes.

6. Photographic Reference: Teledyne
Year: 1976
A small pedestrian overcrossing appears to have been constructed over the California Incline. Otherwise, conditions appear relatively the same. Very few single-family homes remain directly east of the incline, having been almost entirely replaced by apartment buildings or commercial development. A large multistory building has been constructed on the southeast corner of Ocean Avenue and Wilshire Boulevard.

7. Photographic Reference: U.S. Geological Survey (USGS)
Year: 1989
The SR-1 pedestrian overcrossing (extending from the west edge of the incline to west of SR-1) appears near the smaller California Incline pedestrian overcrossing. An additional overcrossing appears north or the incline, extending east–west over SR-1. Overall, the area is densely developed.

8. Photographic Reference: USGS
Year: 1994

Conditions in the immediate vicinity of the incline and surrounding park appear unchanged.

9. Photographic Reference: USGS
Year: 2002
Conditions in the immediate vicinity of the incline and surrounding park appear unchanged.

5.2 Historical Topographic Map Review

EDR researched available historical topographic maps for the vicinity of the incline. ICF Jones & Stokes reviewed each of the maps provided by EDR, dating from 1902 to 1995, including the Topanga, Beverly Hills, Calabasas (historic), Topanga Canyon-Burbank (historic), Camulos (historic), Sawtelle (historic), Los Angeles (historic), and Santa Monica (historic) quadrants. The California Incline was not shown on the 1902 through 1915 maps but is visible on each of the maps dating from 1928 through 1995. The topographic maps do not indicate any historically hazardous conditions in the vicinity.

5.3 City Directory Review

EDR researched available historical city directories for addresses within the vicinity of the incline. The California Incline was not listed in any of the directories. Adjacent listings did not indicate any businesses or uses that could be potential sources of negative environmental impact to the site.

6. CONCLUSIONS

The purpose of this Hazardous Materials/Hazardous Waste Technical Memorandum was to provide a basic background and review of potential existing and historic hazardous environmental conditions on the project site and in the immediate vicinity. Site reconnaissance and a review of regulatory agency databases for the project site and surrounding area did not reveal any listed hazardous sites as being present within the area. EDR's proprietary records revealed the presence of a historic cleaners and a historic manufactured gas plant (not listed on government databases). These sites are located outside of the project footprint. Review of the *Final Master Environmental Assessment 1995/1996 Update for the City of Santa Monica (*1996) revealed one closed/remediated site, located approximately 0.6 mile outside the project footprint.

The age of the incline (bridge) indicates that there is a potential that asbestos-containing material and lead-based paint may be present in the aggregate material of the existing bridge structure, pipe coverings, and/or the pavement paint (e.g., thermoplastic pavement marking).[3] Prior to demolition of the bridge, a Phase II Environmental Site Assessment would be conducted to determine the presence of these materials. If these materials are detected on the site, appropriate safety measures would be implemented for their transport and disposal. Abatement of asbestos and lead paint is required in accordance with South Coast Air Quality Management District Rule 1403 prior to demolition, and consequently, releases of these materials that could pose a hazard to the public or environment are not anticipated during bridge rehabilitation or demolition work.

[3] Asbestos was banned in 1977, and lead paint was banned in 1978. U.S. Environmental Protection Agency. Available: http://www.epa.gov.

During construction, hazardous materials handling could include fueling and servicing construction equipment on-site or removing and exporting contaminated soils from the site. These activities would be short-term or one-time events and would be subject to federal, state, and local health and safety requirements. There is also a potential for the presence of aerially deposited lead (ADL) in unpaved areas within the project limits, as well as potential for hazards from the removal of yellow and white paint traffic stripes on the pavement. .

6.1 Recommended Mitigation Measures

The following mitigation measures are recommended to ensure that any lead-based paint, aerially deposited lead, asbestos-containing material, or other contaminants and hazards present within or on the California Incline do not pose a substantial hazard to workers or the public:

HM-1 Abatement of asbestos and lead-based paint shall be conducted in accordance with Southern California Air Quality Management District Rule 1403 prior to any demolition or bridge rehabilitation activities.

HM-2 In order to address the potential of aerially deposited lead (ADL) in the unpaved areas requiring excavation within 25-30 feet of the edge of the roadway pavement, a Site Investigation (SI) for ADL shall be performed to determine the extent of possible contamination within the State right of way. A work plan for conducting testing for ADL shall be submitted to the Caltrans Hazardous Waste Branch for review and acceptance prior to conducting the SI (testing). The SI report shall be submitted to Caltrans Hazardous Waste Branch for review and approval. Handling and disposal of excavated material shall be determined based on the results of the SI.

HM-3 During excavation for the proposed structure, the contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during excavation or grading activities, all work shall stop and an investigation shall be designed and performed to verify the presence and extent of contamination at the site. A qualified and approved environmental consultant shall perform the review and investigation. Results shall be reviewed and approved by the applicable local and state agencies prior to construction. The investigation shall include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation shall determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the project site.

HM-4 Areas with contaminated soil determined to be hazardous waste shall be excavated by personnel who have been trained through the Occupational Safety and Health Administration (OSHA) recommended 40-hour safety program (29 CFR 1910.120), with an approved plan for excavation, control of contaminant releases to the air, and off-site transport or on-site treatment. Health and safety plans prepared by a qualified and approved industrial hygienist shall be developed to protect the public and all workers in the construction area. Health

and safety plans shall be reviewed and approved by the appropriate local and state agencies.

HM-5 Should construction activities result in the removal of yellow or white paint, or thermoplastic traffic stripes, the age of the traffic striping shall be determined. If lead and or chromium are present in the materials at or above the hazardous waste levels, it shall be disposed of at a permitted Class I disposal facility in California. In addition, a project-specific Lead Compliance Plan (LCP) shall be required to prevent or minimize worker exposure to lead while handling materials containing lead. Attention shall be directed to Title 8, California Code of Regulations, section 1532.1, "Lead," for specific Cal-OSHA

Although there is no evidence that groundwater in the vicinity of the California Incline contains high levels of contaminants or hazardous materials, the following measure shall be implemented:

HM-6 Excavations below the elevations of groundwater could experience strong seepage and require dewatering. The contractor shall observe the groundwater for visual evidence of contamination or unusual odors. The contractor shall comply with all applicable regulations and permit requirements for construction dewatering. This may include laboratory testing, treatment of contaminated groundwater, or other disposal options.

7. LIST OF PREPARERS

Mario Anaya — Environmental Planner

B.A., Global Studies, University of California, Los Angeles

Mr. Anaya has 1 year of experience in the environmental planning field, with a focus on preparing CEQA and NEPA environmental documents including Initial Studies/Environmental Assessments, Negative Declarations/FONSIs, and EIRs/EISs. Mr. Anaya also has experience performing environmental noise measurements and analysis.

Lee Lisecki — Project Director, QA/QC

Masters, Transportation Planning, Cornell University Graduate School of Engineering; B.Sc. Civil Engineering, Brown University.

Mr. Lisecki has 24 years of experience in preparing and managing CEQA and NEPA environmental documents, including Initial Studies/Environmental Assessments, Negative Declarations/FONSIs, and EIRs/EISs for development projects, specific and master plans, highway projects, and transit projects for state and local agencies.

8. REFERENCES

California Geological Survey. 1997. Seismic Hazard Zones, Topanga Quadrangle. Official map. April 7.

City of Santa Monica. 1996. *Final Master Environmental Assessment 1995/1996 Update.* Prepared by Christopher A. Joseph & Associates for the City of Santa Monica, April.

Environmental Data Resources, Inc. 2006. *The EDR Radius Map with GeoCheck.* Inquiry Number 1677233.2s, dated May 17, 2006.

———. 2006. *EDR Historical Topographic Map Report.* Inquiry Number 1677233.4, dated May 17, 2006.

———. 2006. *The EDR City Directory Abstract.* Inquiry Number 1677233.6, dated May 17, 2006.

———. 2006. *The EDR Aerial Photo Decade Package.* Inquiry Number 1677233.5, dated May 18, 2006.

URS Corporation. 2006. Geotechnical Study, Santa Monica Palisades Bluffs, Santa Monica, California. Unpublished consultant's report to City of Santa Monica. Draft. Santa Ana, CA. February 24.