CITY OF HUNTINGTON BEACH
PLANNING & BUILDING DEPARTMENT
ENVIRONMENTAL ASSESSMENT NO. 12-06

1. **PROJECT TITLE:**	Warner Avenue Bridge Preventive Maintenance Project (over Bolsa Chica Channel)
Concurrent Entitlements:	
2. **LEAD AGENCY:**	City of Huntington Beach 2000 Main Street Huntington Beach, CA 92648
Contact:	Hayden Beckman, Project Planner
Phone, email:	(714) 374-5317, HBeckman@surfcity-hb.org
3. **PROJECT LOCATION:**	The proposed project is located in the City of Huntington Beach on Warner Avenue and the Bolsa Chica Channel. **Figure 1-1** presents a vicinity and regional map of the project study area.
4. **PROJECT PROPONENT:**	City of Huntington Beach 2000 Main Street Huntington Beach, CA 92648
Contact Person:	Jonathan Claudio, P.E., Sr. Civil Engineer
Phone, email:	(714) 374-5380, JClaudio@surfcity-hb.org
5. **GENERAL PLAN DESIGNATION:**	Right of Way
6. **ZONING:**	Right of Way

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7. PROJECT DESCRIPTION

Summary

The purpose of the proposed project is to enhance public safety and protect the Bolsa Chica Channel by performing maintenance activities on the existing Warner Avenue Bridge that are intended to restore the integrity of its original design. The Warner Avenue Bridge was constructed in 1981. It is a three-span pre-stressed voided slab bridge with four traffic lanes. Parts of the bridge have deteriorated due to normal wear from vehicular traffic and from tidal flux of the estuarine ecosystem setting during the last three decades. The bridge concrete barriers are cracked and spalled (pieces of concrete have broken off) with exposed internal reinforcing that has noticeably corroded. The bridge columns and bent caps (tops of the bridge supports) have unsound concrete. The asphalt-concrete (AC) overlay on the bridge deck is also cracked, resulting in roadway water leaking through the deck into the Bolsa Chica Channel. Rock slope protection is missing from the channel embankments near the bridge abutments, resulting in the erosion of the embankment and weakening of the bridge substructure. These aspects of the bridge's deterioration will result in conditions which are potentially unsafe to the public, and conditions which could compromise water quality in the Bolsa Chica Channel. Therefore, repair and rehabilitation of the bridge is proposed to address these existing conditions.

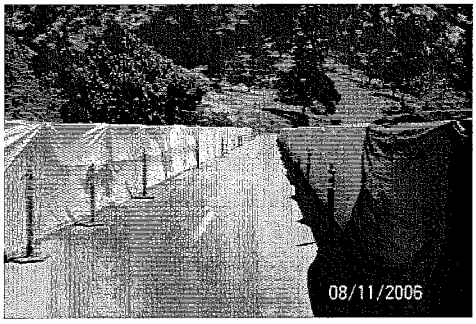
Bridge Repair and Rehabilitation (6 Months)

Repair/rehabilitation would require the following maintenance measures:

- Remove and replace the concrete barrier and chain link railing on both sides of the bridge with corrosion-resistant materials such as stainless steel fence posts and epoxy coated reinforcing steel (2 construction months). Protective measures will be implemented to capture debris from construction activities, preventing the release of concrete or other materials into surrounding sensitive areas.
- Remove and replace existing asphalt concrete (AC) overlay to protect the bridge and channel from water leaks and to provide a durable driving surface (0.5 construction month). Protective measures will be implemented to capture debris from construction activities, preventing the release of AC or other materials into surrounding sensitive areas.
- Remove unsound concrete and patch concrete at the bridge bents and columns. Unsound concrete and patch concrete work over or near the channel will require working platforms with fully enclosed protective covers. (0.5 construction month)
- To prevent further embankment erosion, missing rock slope protection will be restored to the original design and limits. Approximately 310 cubic yards of rock slope protection is missing from the channel embankment area below the south side of the bridge. To restore the original rock slope protection in this embankment area, 85 cubic yards of remaining debris and rock along the channel embankment toe must be removed by excavation and/or dredge methods; 310 square yards of rock slope protection fabric is placed over the area, and finally 310 cubic yards of one-quarter-ton rocks, 3 feet thick is be placed over the area. (3 construction months)
- All existing utilities attached or adjacent to the bridge will be protected in place.

Details of these actions are as follows:

Working Platform with Protective Cover



A working platform with protective cover will be required to contain the construction activities, including removal of unsound concrete with a jack hammer, sandblasting of corroded reinforcing, concrete patching, and curing of concrete patch. This type of containment has been typically used when removing and repainting steel structures near sensitive areas (as shown on the right).

As stated above, the unsound concrete area that will be removed and patched is subject to wet-dry conditions each day. The working platform will need to be installed during low tide and remain in place during high tide. Since the working platform must have sufficient strength and rigidity to support the construction loading, a platform that is installed and removed each shift during the low tide period is unrealistic. Conversely, the protective cover will likely be constructed of a tarp material and easily removed each day before the high tide. A likely construction sequence for a working platform with protective cover follows:

1) The working platform will be prefabricated in pieces, floated by small watercraft into place and installed around the concrete bents and piles. It will be installed during low tide conditions. Small watercraft and the platform itself will either be brought by land or launched at the adjacent marina, or the platform could be towed into place with a small watercraft. It is possible that some of the work to bring in and install the platform could be done overhead from the bridge.
2) During low tide, a protective cover will be installed around the work area to contain and prevent materials, equipment, or debris from falling into the channel or onto adjacent land.
3) Once the working platform with protective cover is in place, removal of unsound concrete, blast cleaning of corroded reinforcing, and concrete patching can begin.
4) Working platforms and protective covers will be cleaned of debris and fine silt at the end of work each day (before high tide). It is assumed that protective covers will not be designed and constructed for channel flow loads, and should be removed at the end of each work day (before high tide).

Replacement of Rock Slope Protection by Small Construction Equipment

Replacement of rock slope protection will likely involve use of small construction equipment; with

additional potential for use of a "barge and rail" option.

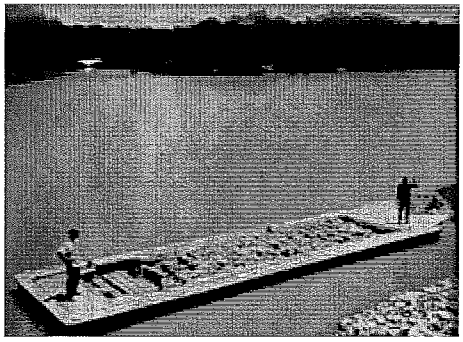
Because of the low overhead clearance, small construction equipment, including small excavators or tractors, could be utilized to excavate, place fill and place rocks under the existing bridge. An example of this type of excavator or tractor is shown on the preceding page. It should be assumed that by working with low overhead clearance and with small construction equipment, the rock slope protection work will take longer to complete than would be the case without this constraint. This work should be done at low tide with silt curtains protecting the channel water.

A likely construction sequence for installing rock slope protection with small construction equipment follows:

1) Silt curtains will be installed during low tide around the work area. The silt curtains must have sufficient strength to support channel flow loads. The silt curtains will be used to keep sediment released from soil excavation work from entering the channel or adjacent property.
2) Utilizing a small excavator or tractor, excess silt, rocks and marine material will be removed.
3) Native soil will be used to fill/backfill exposed piles.
4) Rock slope filter fabric will be placed against the native soil.
5) Finally, using the barges, one-quarter-ton rocks will be placed over the filter fabric, filling the channel slope from the abutment to the channel toe, completing the rock slope protection.

Alternative Method of Rock Slope Protection: Replacement by Barges and Rail

This option may be used in addition to (or instead of) the small construction equipment method outlined above if it is found to serve the project best during the final rock slope protection replacement.



Because of the low overhead clearance, two small barges connected by a rail could be utilized to place rocks under the existing bridge. The barges will be brought by land and launched at the adjacent marina, or be towed into place with a small watercraft. One small barge will be on the upstream side of the bridge, and the other on the downstream side. A rail running under the bridge could connect the two barges. The barges will need to be anchored to the bottom of the channel to prevent them from moving during the operation. Anchors will likely be required at all four corners of each barge. A hoist will lift rocks from the barge, slide the rocks along the rail and lower the rocks into position. It is anticipated that by working with low overhead clearance and barges/rail, the rock slope protection work will take longer to complete than would be the case without this constraint. This work should be done at low tide with silt curtains protecting the channel water.

A likely construction sequence for installing rock slope protection with barges and rail follows:

1) Silt curtains will be installed during low tide around the work area. The silt curtains must have sufficient strength to support channel flow loads. They will be used to keep sediment released from soil excavation work from entering the channel or adjacent property.
2) Utilizing hand-held dredging equipment, the construction contractor will then refine final excavation and removal of excess silt. Rocks and marine material that conflict with the excavation will be removed.
3) Native soil will be used to fill/backfill exposed piles.
4) Rock slope filter fabric will be placed against the native soil.

Finally, using the barges, rail and hoist, one-quarter-ton rocks will be placed over the filter fabric, filling the channel slope from the abutment to the channel bed.

Construction Equipment

Construction methods and equipment for the maintenance activities will include the following:

- Concrete barrier and chain link railing will be removed from the top of the existing bridge utilizing jack hammers, bobcat loaders, tractor loaders and dump trucks. New concrete barrier and chain link railing will be placed from the top of the existing bridge utilizing timber forms, concrete boom pumps and concrete trucks. Measures for preventing material, equipment and debris from falling into the channel are required at all times.
- AC overlay will be removed from the top of the existing bridge utilizing asphalt grinders, bobcat and tractor loaders, and dump trucks. New AC overlay will be placed from the top of the existing bridge utilizing wheeled asphalt pavers and asphalt trucks. Measures for preventing material, equipment, and debris from falling into the channel are required at all times.
- Unsound concrete will be removed from the underside of the bridge on working platforms with protective covers made of a tarp-type material, which will be placed around the area being worked on during low tide and which will be removed before high tide. The working platforms will be constructed of timber, installed during low tide and suspended from the existing bridge soffit and/or piles. The protective covers will contain 100% of any debris produced during the operations. All operations will be required to be performed from within the protective covers during low tide. Small hand-held jack hammers will remove the unsound concrete as required. All exposed and corroded reinforcing will be replaced (if needed) and sandblasted clean. Patching will be done with hand mixed concrete, small forms and hand trowels.
- The project will not add additional material to the channel, but will restore the embankment erosion and missing rock slope protection to its approximate original design and limits, as shown on the bridge as-built drawings. Small tractor loaders, barges and dump trucks will repair and replace the missing rock slope protection in a manner that minimizes impacts to environmentally sensitive areas adjacent to the existing bridge. Silt

fences will be required around the area being worked on to prevent water turbidity from escaping the immediate area around the work. Strict construction access limits will be specified and enforced with fences to minimize disturbance of environmentally sensitive areas.

Construction Staging Area

All construction work is assumed to be done within the City of Huntington Beach (City) or State Lands Commission right-of-way. Temporary construction easements (TCEs) will not be required when working in state lands because the City holds a lease for the bridge that grants it permission to maintain the bridge. At the end of each work day, all contractor equipment, construction materials (rocks, debris, etc.), and other possessions will be taken off site. A construction staging area will not be provided by the City for this project but the construction contractor could secure its own staging area if needed.

A privately owned vacant parking lot and pier are adjacent to the north end of the Warner Avenue Bridge. This parking lot is the most logical location for a construction staging area (if needed), and could be leased from the owner for that use.

Traffic Handling and Construction Schedule (Six Construction Months)

Since Warner Avenue is a major arterial street and a direct link to the beach area, traffic handling and control will be scheduled and phased to minimize traffic disturbance. Construction work will be scheduled during winter and early spring, when beach traffic is lowest. Traffic will be staged around the construction site, with four phases of traffic handling and control:

- During phase 1, vehicular and pedestrian traffic will be moved to the north side of the bridge, allowing for construction on the south side of the bridge (remove and replace the concrete barrier and chain link railing) and work below the bridge (remove unsound concrete and patch unsound concrete, and replace missing rock slope protection). Vehicular capacity will be lowered from four lanes to three lanes and pedestrian traffic will remain on the north sidewalk during this phase. Temporary K railing will provide separation of traffic and construction activities. (3 construction months)
- During phase 2, vehicular and pedestrian traffic will be moved to the south side of the bridge, allowing for construction on the north side of the bridge (remove and replace the concrete barrier and chain link railing). Vehicular capacity will continue to be lowered to three lanes and a pedestrian walkway will be provided between temporary K railing. (2 construction months)
- During phase 3, vehicular and pedestrian traffic will remain on the south side, allowing for construction on the north side of the bridge (remove and replace existing AC overlay). Vehicular capacity will be lowered to two lanes and pedestrians will use the sidewalk on the north side. Temporary K railing will separate traffic and construction activities. (0.5 construction month)

- During phase 4, vehicular and pedestrian traffic will be moved again to the north side of the bridge, allowing for construction on the south side of the bridge (remove and replace existing AC overlay). Vehicular capacity will be lowered to two lanes and pedestrians will use the sidewalk on the north side. Temporary K railing will separate traffic and construction activities. (0.5 construction month)

Project Design Features

Because the project is adjacent to the Channel and to the Bolsa Chica Ecological Reserve, project design features (PDFs) are built into the project design to address and prevent significant impacts before they occur, as a precautionary practice. Through the implementation of these measures, the project will minimize adversely affecting special-status biological resources within the project area.

The proposed PDFs to be incorporated into the project design are:

PDF-1: *Impact Minimization*

This project design feature would minimize impacts to special-status species, surrounding habitat, and waterways.

- The construction contractor will set construction boundaries to avoid environmentally sensitive habitat areas (ESHAs) outside of the construction footprint. Such areas include the stand of southern tarplant and the wetlands found within the biological study area (BSA) for this project.
- Project impact areas would be limited to previously disturbed areas, thus minimizing threats to sensitive areas within the Reserve, when possible.
- All personnel, equipment, and vehicles would remain within the set construction boundaries at all times to prevent impacts to regulatory listed species and special-status vegetation communities.
- Invasive species within the temporary disturbance areas would be controlled to the maximum extent feasible using hand pulling or hand tool removal methods only, per the request of Carla Navarro, Manager of the Bolsa Chica Ecological Reserve, California Department of Fish and Game. Limiting control methods to hand pulling or hand tools will further protect the surrounding habitat and special-status plant species.
- The entire work area will be clearly delineated with flagging and fencing.
- Impacts to the waterway will be minimized by ensuring that all trash will be cleaned up following each work day.
- Equipment will be checked each day to ensure that the contaminants are not leaking.
- Silt fencing would be installed in upland areas in order to avoid any pollutants from entering the channel, including topsoil and construction debris.
- Activities in periodically wetted areas will only occur during low tide to limit introduction of pollutants into the water and to minimize impacts to aquatic life.

- Construction activities will be preceded by the installation of turbidity control measures using silt curtains. The silt curtains will remain in place for the duration of the project and will be secured to maintain their integrity against tidal flux and storm runoff.
    - Fish exclusion measures will be implemented concurrently with the installation of the silt curtains. A typical fish exclusion includes systematic seining for aquatic life, especially fish, within the work area. A seine net, dip net or cast net would be used to physically remove and relocate aquatic wildlife to areas outside of the impact area, within the channel, out of harm's way.
    - The curtains would be maintained through daily above-water and as-needed underwater inspections to ensure their integrity.
    - Damage to the silt curtains would be repaired within 24 hours. If damage to the silt curtains is detected, a fish exclusion process should occur concurrently with each repair, to avoid impacts to fish or aquatic wildlife that may have entered the active construction zone.
    - As a precaution to control and contain incidental water pollutant releases, oil/gas booms will be installed on top of the silt curtains.

PDF-2: *Conduct pre-construction surveys for special-status wildlife species*

The City will retain a qualified project biologist (biological monitor) to conduct a pre-construction survey for special-status wildlife species within 30 days prior to construction and immediately prior to the first groundbreaking activities.

If special-status species are identified within 500 feet of the BSA, proper buffer zones will be delineated and/or monitoring for these species will occur. A permitted biologist will be retained for species requiring a permit for survey. (See PDF-4 below for nesting bird surveys.)

If special-status wildlife species are discovered during pre-construction surveys then the biological monitor will provide a description of each and explain the conservation measures relevant to their protection as part of the Workers' Environmental Awareness Program (WEAP) (See Mitigation Measure BR-1 below.) During each visit, the monitor will ensure that mitigation measures are being implemented and impacts to these species will not be greater than anticipated.

PDF-3: *Conduct pre-construction survey for southern tarplant and other special-status plant species; flag for avoidance*

The City will retain a qualified biologist to delineate and flag the boundaries of the stand of southern tarplant in the project area as an Environmentally Sensitive Habitat Area (ESHA) immediately prior to construction. The biological monitor will perform *bi-monthly* spot checks thereafter. He or she will ensure that the flagging remains in place and that the ESHA is not encroached upon for the duration of the project.

The biological monitor will also conduct pre-construction surveys for the other special-status plant species that have the potential to occur within the project site. If special-status plant species other than Southern tarplant, such as Ventura marsh milk-vetch (*Astragalus pycnostachyus var. lanosissimus*), salt marsh bird's-beak (*Cordylanthus maritimus ssp. maritimus*), Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*) and/or estuary seablite (*Suaeda esteroa*), are detected during pre-construction surveys, then the lead agency will inform the Carlsbad Fish and Wildlife Service Office and the San Diego California Department of Fish and Game (CDFG) office to determine what conservation measures will need to be implemented.

PDF-4: *Conduct pre-construction survey for nesting birds*

Construction activities (including vegetation clearing) conducted between September 15th and February 15th normally avoid impacts on State and federally protected migratory birds, based on accepted protocols. Therefore, if possible, the City will schedule construction activities that may affect nesting birds directly (e.g., vegetation removal) or indirectly (noise/ground disturbance) outside of nesting season.

If construction must be scheduled to occur during the nesting season, then the City will retain a project biologist/biological monitor to conduct pre-construction clearance surveys and a nesting deterrence program as described below, to avoid or reduce impacts on nesting birds.

The pre-construction surveys will identify on-site bird species and any nest-building behavior in advance of any construction activities. The vegetation clearance work would optimally occur outside of nesting season. Such deterrence methods include removal of previous years' nesting materials and removal of partially completed nests in progress. Once a nest is situated and identified with eggs or hatched young, the nest cannot be removed until the young have fledged.

Although there are large variations in nesting behavior among species, bird nests are often built and eggs are often laid within a few days. Incubation and fledgling periods can last up to 45 days or more. Therefore, if construction and/or vegetation removal must be scheduled during nesting season, and nesting behaviors are detected during the pre-construction clearance surveys, a nesting bird deterrence and removal program should be implemented. If *no nesting birds* are found within or adjacent to the project area during the pre-construction survey period, construction activities may proceed as scheduled with a qualified biological monitor present *weekly during nesting season* to prevent nesting within the BSA, due to the presence of suitable nesting habitat within the BSA and the migratory nature of many bird species in Orange County.

If an *active nest is found* within or adjacent to the project work area during construction, a "No Construction" buffer zone will be established around the active nest (usually a minimum radius of 250 feet for passerine birds and 500 feet for raptors) to minimize project impacts on the nesting activity. The project biologist/biological monitor will determine and flag the appropriate buffer size required, based on the specific situation, tolerances of the species, and the nest locations. Project activities may resume in the buffer area when the project

biologist/biological monitor has determined that the nest(s) is (are) no longer active. A biological monitor will be present *weekly* or *as deemed appropriate by the resource agencies.*

Because some bird species may nest early in spring and others nest later in summer, and some species breed multiple times in a season, surveys for nesting birds will continue during construction to address new arrivals. If listed Endangered or Threatened species are found within 500 feet of the project work area, the U.S. Fish and Wildlife Service (USFWS) and CDFG, as appropriate, will be consulted within 24 hours of first nesting observation.

PDF-5: *White Seabass Avoidance*

The City will notify Hubbs-Sea World Research Institute (HSWRI) by letter or e-mail, to disclose the project planned start date, within six months of project commencement. As the project is currently scheduled, it would not interfere with the breeding activities planned for the grow-out pen in Huntington Harbour, since it is not stocked during the fall and winter. If the project schedule changes, then HSWRI will be notified.

PDF-6: *Caulerpa taxifolia Survey*

To satisfy the Essential Fish Habitat Assessment as mandated under Section 305(b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act, the request of Bryant Chesney of the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service, and the anticipated Coastal Development Permit through the California Coastal Commission, the City will conduct one underwater *Surveillance Level Survey* as defined within the Caulerpa Control Protocol (Version 4, February 25, 2008), whereby 20% of the project area with the 10-meter buffer will be surveyed by a certified *Caulerpa* surveyor for the presence or absence of *Caulerpa taxifolia*. The survey will be conducted within 30 to 90 days of project initiation during the high growth season (March 1 – October 31). If project start is outside of the growing season a request will be made to the conduct the survey during that time. If Caulerpa is found, NOAA Fisheries and CDFG will be notified within 24 hours of the discovery and a report will be submitted within 15 days following the discovery.

8. SURROUNDING LAND USES AND SETTING:

The City of Huntington Beach is located in Orange County in southern California, approximately 35 miles south of Los Angeles and 90 miles north of San Diego. The city encompasses an area of 27.7 square miles. It is bounded by the Pacific Ocean to the west, the Cities of Westminster and Fountain Valley to the east, the City of Seal Beach to the north, and the City of Costa Mesa to the south.

The south side of the project is partially located within the Bolsa Chica Ecological Reserve (Reserve), owned by the California State Lands Commission and managed by the California Department of Fish and Game. The Reserve includes a tidally influenced saltwater marsh that receives seawater via Huntington Harbour and freshwater nuisance runoff via the East Garden Grove – Wintersberg flood control channel. This Reserve contains vulnerable natural communities, including coastal salt marsh, coastal strand, coastal sand dunes and coastal sage

scrub (CSS), which are high value habitats to native wildlife. The Bolsa Chica Conservancy and other non-profit groups lead regular public outreach and education talks for school groups and tourists interested to learn about the unique biodiversity of the area.

The surrounding land uses for the project area are as follows:

Direction	Land Use
North	Huntington Harbour - Residential
South	Bolsa Chica Ecological Reserve
East	Residential, Open Space
West	Commercial, Public-Semipublic

Figure 1-1: Warner Avenue Bridge - Regional and Local Vicinity Location Map

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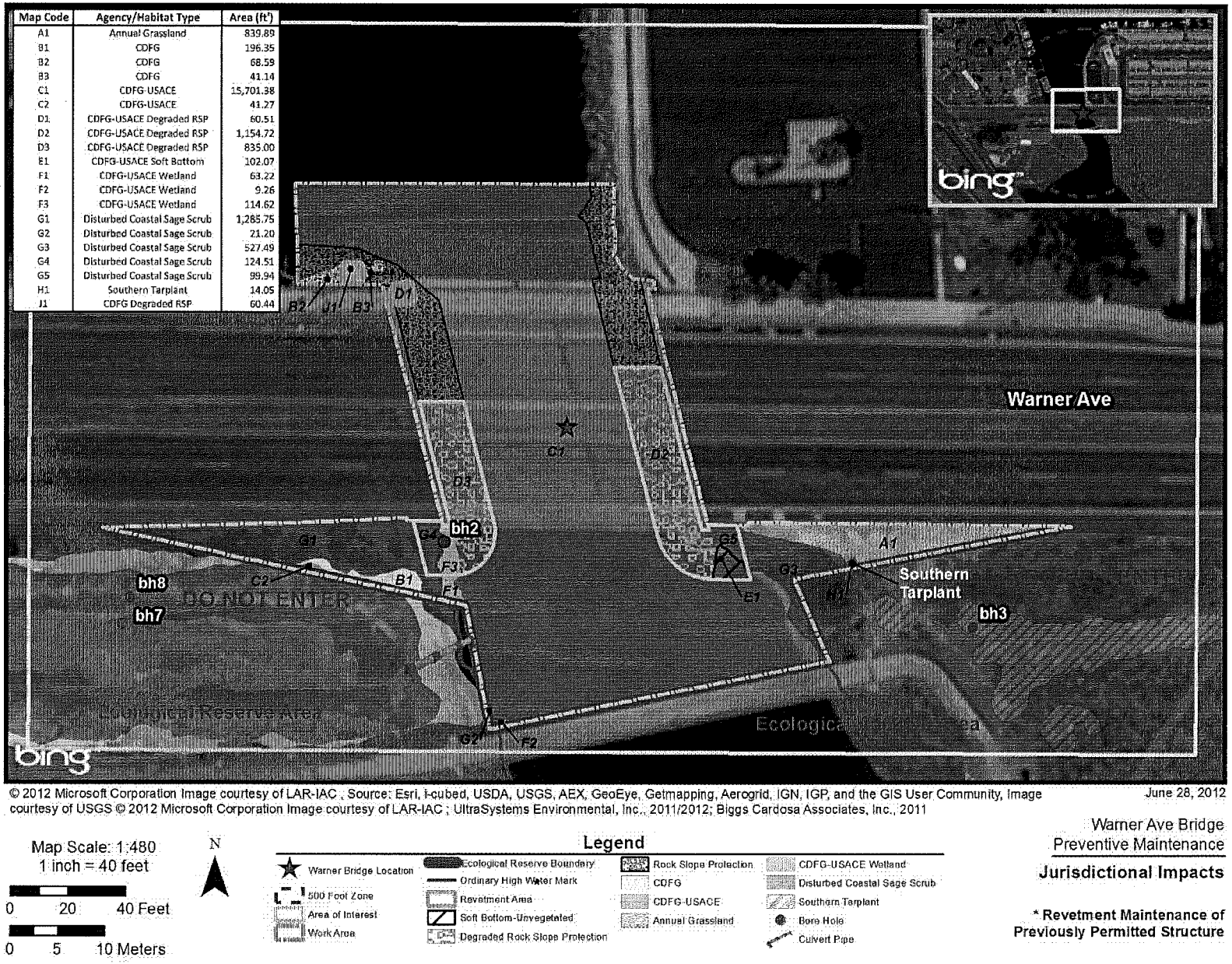

Figure 1-2: Warner Bridge Project Jurisdictional and Vegetation Impacts

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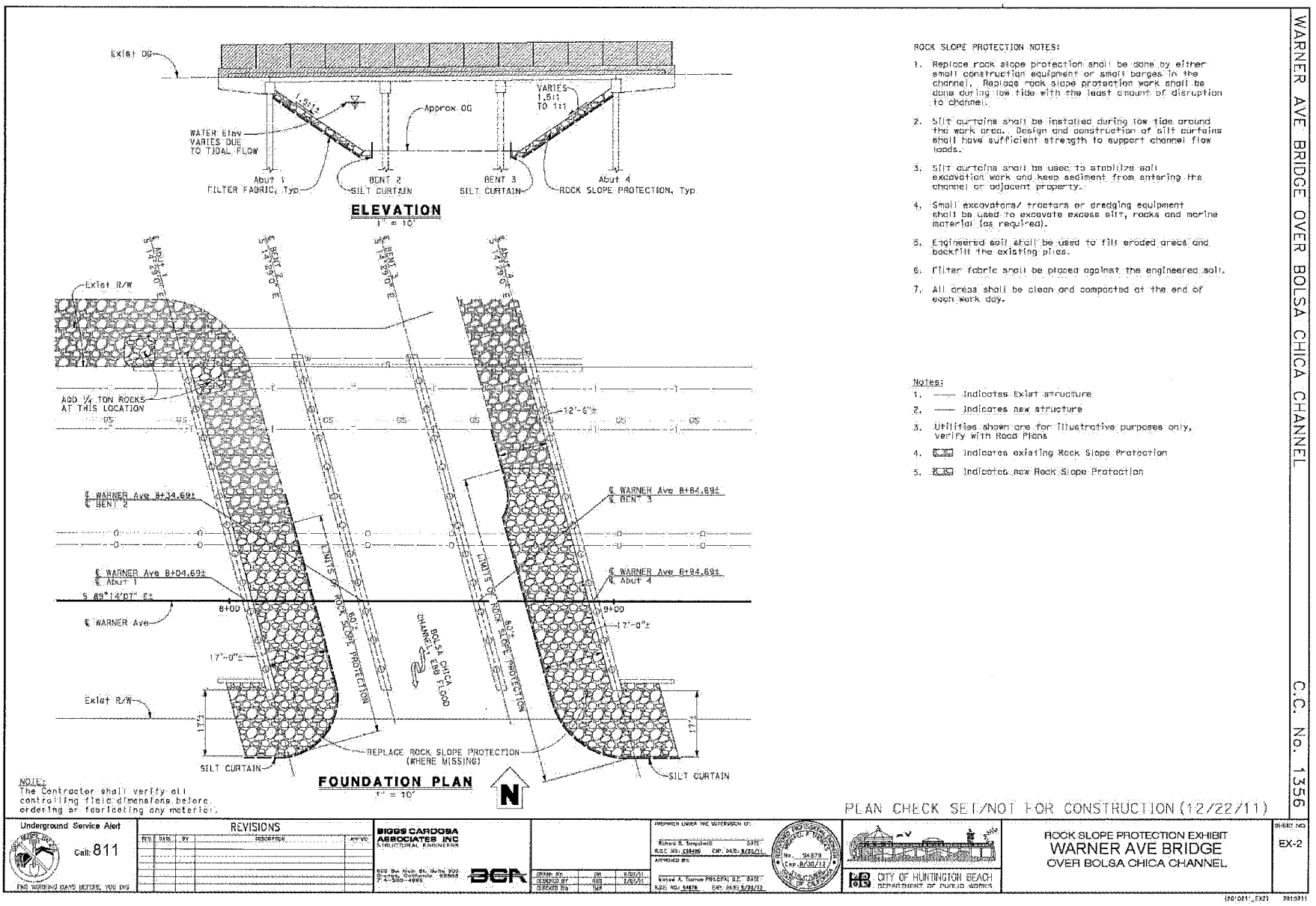

Figure 1-3: Engineering Drawing
Source: Biggs Cardosa Associates 2012.

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9. OTHER PREVIOUS RELATED ENVIRONMENTAL DOCUMENTATION:

- Preliminary Environmental Study (PES) for the Warner Avenue Bridge Preventive Maintenance Project, January 2012.
- National Environmental Quality Act (NEPA) Categorical Exclusion issued March 29, 2012.
- Natural Environment Study (NES) for the Warner Avenue Bridge Preventive Maintenance Project, accepted March 29, 2012.

10. OTHER AGENCIES WHOSE APPROVAL IS REQUIRED (AND PERMITS NEEDED) (i.e. permits, financing approval, or participating agreement):

- U.S. Army Corps of Engineers (USACE): Section 404 Nationwide Permit, Rivers and Harbors Act Section 10 Permit
- Santa Ana Regional Water Quality Control Board: Section 401 Water Quality Certification, National Pollutant Discharge Elimination System (NPDES) Permit
- California Department of Fish and Game (CDFG) Consultation and Agreement, as work is occurring on lands managed by CDFG
- California Coastal Commission (CCC): Coastal Development Permit under Section 30600, California Public Resources Code
- NOAA National Marine Fisheries Service Essential Fish Habitat (EFH) consultation under Sustainable Fisheries Act of 1996 (Public Law 104-267): Consultation
- State Lands Commission would like a copy of the Agreement between project proponent and CDFG
- U.S. Fish and Wildlife Service (USFWS): Federal Endangered Species Act Section 7 Informal Consultation
- U.S. Coast Guard (USCG): Project Start "notification letter" for work occurring on the bridge within navigable waters. (The notification letter is to include project description, dates of project initiation and conclusion; finalized Project permits and approvals will likely be needed at time of signature.)

Considered but determined unnecessary for this Project:

- U.S. Coast Guard: U.S. Coast Guard (USCG) Bridge Permit under Section 9 of the Rivers and Harbors Act (discussions with Commander David Sulouff, USCG, determined that this Project is exempt from the USCG permit process.)
- CDFG Section 1602 Permit (Lake and Streambed Alteration Agreement: Consultation with Marilyn Fluharty of CDFG determined this project is exempt from this permit and a CDFG 1602 Permit is not required for this Project)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

DETERMINATION

(To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. **A MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

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

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

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

Signature

SEPTEMBER 6, 2012
Date

HAYDEN BECKMAN
Printed Name

PLANNING AIDE
Title

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to the project. A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards.

2. All answers must take account of the whole action involved. Answers should address off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. "Potentially Significant Impact" is appropriate, if an effect is significant or potentially significant, or if the lead agency lacks information to make a finding of insignificance. If there are one or more "Potentially Significant Impact" entries when the determination is made, preparation of an Environmental Impact Report is warranted.

4. Potentially Significant Impact Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. (Section 15063(c)(3)(D)) Earlier analyses are discussed in Section XIX at the end of the checklist.

6. References to information sources for potential impacts (e.g., general plans, zoning ordinances) have been incorporated into the checklist. A source list has been provided in Section XIX. Other sources used or individuals contacted have been cited in the respective discussions.

    a) The following checklist has been formatted after Appendix G of Chapter 3, Title 14, California Code of Regulations, but has been augmented to reflect the City of Huntington Beach's requirements.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

I. LAND USE AND PLANNING. *Would the project:*

a) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (Source: 1,2) ☐ ☐ ☐ ☒

Discussion: The project site is an existing bridge, as indicated in the City's General Plan and zoning maps. Implementation of the project will not require a change to the existing land use and zoning designations and will not alter the size or intensity of the existing land use. As stated in the Local Coastal Program, the City intends to assess existing access points for maintenance needs, and repair/maintain as needed (Implementation Program I-C 9). The Local Coastal Program also specifies that the City implement infrastructure improvements to fund the design, construction, and maintenance of the Coastal Zone's Infrastructure System (Implementation Program I-C 10). Therefore, the project is consistent with, and will not conflict with the City's Local Coastal Program. In addition, LU 5 of the General Plan states that one of the City's goals is to ensure that significant environmental habitats and resources are maintained. Therefore, the project is also consistent with the City's General Plan. The project will not conflict with any applicable land use plan, policy, or regulation of the City of Huntington Beach.

b) Conflict with any applicable habitat conservation plan or natural community conservation plan? (Source: 1) ☐ ☐ ☐ ☒

Discussion: The project will not conflict with any applicable and adopted habitat conservation plans (HCPs) or natural community conservation plants (NCCPs). The sole approved and implemented NCCP within Orange County is the Central/Coastal Orange County NCCP. However, the project site is not located within the plan area, and therefore, is not applicable to this NCCP. Although the project site is located within another NCCP/HCP, the Orange County Transportation Authority NCCP/HCP, that plan is currently in preparation and has not been approved or implemented.

c) Physically divide an established community? (Source: 1, 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will conduct preventive maintenance on an existing bridge in the City of Huntington Beach. The project will not physically divide an established community and no impacts will occur.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

II. POPULATION AND HOUSING. *Would the project:*

a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extensions of roads or other infrastructure)? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will perform preventive maintenance on an existing bridge, and restore it to its original design. It will neither directly nor indirectly induce substantial population growth in the area. No impact to population growth will occur due to implementation of the proposed project.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will perform preventive maintenance on an existing bridge, and will not displace existing housing. It will not necessitate the construction of replacement housing elsewhere. No existing housing will be displaced due to implementation of the proposed project.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will perform preventive maintenance on an existing bridge, and will not displace substantial numbers of people. It will not necessitate the construction of replacement housing. No people will be displaced due to implementation of the proposed project.

III. GEOLOGY AND SOILS. *Would the project:*

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Source: 4) ☐ ☐ ☐ ☒

Discussion: The only known fault near the proposed project is the Seal Beach fault, located northeast of the project site. According to the Alquist-Priolo Earthquake Fault Zone Maps published by the State of California Department of Conservation, the proposed project is not within an Alquist-Priolo fault zone. Therefore, no impact from an Alquist-Priolo earthquake fault will occur.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking? (Source: 1, 4, 5, 36)	☐	☐	☒	☐

Discussion: According to the City of Huntington Beach General Plan, all of southern California geology and seismicity is affected by plate tectonics and the forces which cause these plates to move within the earth's crust. The proposed project is for preventive maintenance, and is intended to maintain existing bridges in a structurally safe and serviceable condition, correct minor structural defects, and extend the service life of existing bridges. Therefore, the proposed project will not detrimentally impact the ability of the bridge to withstand seismic ground shaking. Bridge construction would be consistent with standard engineering practices, and would adhere to applicable standards.

iii) Seismic-related ground failure, including liquefaction? (Source: 1, 6, 36)	☐	☐	☐	☒

Discussion: According to the State of California Seismic Hazards Zonation Program, the project is located within an area of high to very high potential for liquefaction (as noted in the City's General Plan); however, the proposed project is for preventive maintenance and will thus not detrimentally affect the ability of the bridge to sustain impacts from liquefaction, should they occur. This bridge has been on the site for 30 years, and no problems related to off-site landslides, lateral spreading, subsidence, liquefaction, expansive soils, or collapse have been noted. No impacts would occur.

iv) Landslides? (Source: 1, 3)	☐	☐	☐	☒

Discussion: According to the City of Huntington Beach's General Plan, potential landslide areas within the City are limited to those areas near the mesa bluffs, although no historical problems associated with landslides have occurred in the area. The Warner Avenue Bridge is located in a relatively flat area with no slopes adjacent to the site. An objective of the project is to prevent further land erosion under the bridge. The project, upon implementation, will not expose people or structures to potential substantial adverse effects because the bridge and rock slope protection will be restored to its original condition. Therefore, there will be no impact resulting from potential landslides.

b) Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill? (Source: 3, 6)	☐	☐	☒	☐

Discussion: The project site is currently developed with an existing bridge. The preventive maintenance of the existing bridge would expose project site soils during short-term project construction activities. However, the exposure of soils during the preventive maintenance activities would be short-term and subject to National Pollutant Discharge Elimination System (NPDES) requirements. One of these requirements is that "construction scheduling should facilitate installation of erosion and sediment control measures prior to construction start, detail

time limits for soil stabilization after grading occurs, and schedule BMP maintenance." Once constructed, the project site will be covered by impervious materials. Embankment erosion repair and missing rock slope protection will be performed from areas which least impact the project site. Small loaders, barges and dump trucks will repair and replace the missing rock slope protection in a manner that minimizes impacts to environmentally sensitive areas adjacent to the existing bridge. Furthermore, strict construction access limits will be given and enforced with fences. With incorporation of these standards for design and construction (including the restoration of the rock slope protection), impacts from soil erosion or the loss of topsoil will be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (Source: 6, 36) ☐ ☐ ☐ ☒

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (Source: 6, 36) ☐ ☐ ☐ ☒

Discussion: c) –d) This bridge has been on the site for 30 years, and no problems related to off-site landslides, lateral spreading, subsidence, liquefaction, expansive soils, or collapse have been noted. According to the State of California Seismic Hazards Zonation Program, the project is located within an area of potential liquefaction; however, the proposed project is for preventive maintenance, and is intended to maintain the existing bridge in a structurally safe and serviceable condition, correct minor structural defects, and extend the service life. With the construction of this project, the stability of the bridge will not be negatively affected. Therefore, the proposed project will have no impact on its geologic stability. The proposed project will not create substantial risk to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater? (Source: 3, 6) ☐ ☐ ☐ ☒

Discussion: The proposed project will perform preventive maintenance on the Warner Avenue Bridge. The proposed project does not presently and will not generate wastewater with project implementation that will require the use of septic tanks or alternative wastewater systems. Therefore, no impact would result from the proposed project.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

IV. HYDROLOGY AND WATER QUALITY.

Would the project:

a) Violate any water quality standards or waste discharge requirements? (Source: 1, 21) ☐ ☐ ☒ ☐

Discussion: Construction of the proposed project would not violate water quality standards or waste discharge requirements due to construction methods. As part of a Stormwater Pollution Prevention Plan (SWPPP), the use of Best Management Practices (BMPs) will be identified and implemented. Examples of BMPs include silt fencing and silt curtains for turbidity control. Also, sandbags and vacuum pumps may be used to collect construction related runoff. A final list will be identified in the SWPPP. Therefore, with compliance with existing regulations, project impacts on water quality will be less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted? (Source: 1, 21) ☐ ☐ ☐ ☒

Discussion: No use of groundwater supplies is proposed and no adverse impacts to groundwater recharge will occur. The level of the local groundwater table will not be affected, and wells supporting existing or planned land uses will continue at the same level of production as without the proposed project. Therefore, no impact will occur to groundwater supplies or groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site? (Source: 1, 21) ☐ ☐ ☐ ☒

Discussion: The project involves the restoration of the embankment's missing rock slope protection to its original design and limits. Thus, the proposed project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, which would result in substantial erosion or siltation on- or off-site. In addition, no impervious surface area or new columns are being added. Therefore, the proposed project will result in no impact to existing drainage patterns or from erosion or siltation.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of ☐ ☐ ☐ ☒

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

the course of a stream or river, or substantially increase the rate or amount or surface runoff in a manner which would result in flooding on or off-site? (Source: 1, 21)

Discussion: The proposed project will not alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The project will not increase the amount of impervious surfaces, nor involve construction of new bridge columns. The project would not encroach onto the floodplain beyond the original conditions, alter any water source such that flooding would occur, and the floodplain will not be affected. Therefore, the proposed project will result in no impact due to flooding.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (Source: 1, 21) ☐ ☐ ☐ ☒

Discussion: The project will not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. As described in (d), above, the proposed project will not generate additional stormwater runoff. Therefore, there would be no impact due to runoff.

f) Otherwise substantially degrade water quality? (Source: 1, 21) ☐ ☐ ☒ ☐

Discussion: The proposed project will not substantially degrade water quality. With adherence to the requirements of Regional Water Quality Control Board and the NPDES permit, the proposed project will not be a source of additional polluted runoff that would substantially degrade water quality. Water quality measures in the form of approved BMPs will be identified and implemented during construction activities as part of a Stormwater Pollution Prevention Plan (SWPPP) to eliminate pollution from stormwater runoff. Examples of these BMPs will include the use of screen and filtering materials, silt fences, sandbags, and vacuum pumps to collect construction related runoff. Therefore, less than significant impacts will occur to water quality.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (Source: 1, 7) ☐ ☐ ☐ ☒

Discussion: The work associated with the proposed project will not place housing within the 100-year flood hazard area. In addition, the project will not increase the areal extent of the flood plain beyond its original limits. Therefore, there is no impact of placing housing within a 100-year

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? (Source: 1, 7) ☐ ☐ ☐ ☒

Discussion: The project is located within a 100-year flood hazard area. The Warner Avenue Bridge is located over the Bolsa Chica Channel. The Flood Insurance Rate Map (FIRM) for Orange County (Map Number 06059C0233J) indicates that the areas immediately adjacent to the bridge are located in Zone AE, or "Special Flood Hazard Areas that are subject to inundation by the 1% annual chance flood" and Zone X, or "areas determined to be outside the 0.2% annual chance floodplain." However, the work associated with the proposed project will not place structures within a 100-year flood hazard area that would impede or redirect flood flows. As discussed in previous sections, the project involves preventive maintenance of an existing bridge. Also, the restoration of embankment due to erosion and rock slope protection to its original design and limits will improve the channel's capabilities to control flood waters. No work involved with this project would impede or alter flood flows. Therefore, no impact will result to flood flows.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (Source: 1, 7) ☐ ☐ ☐ ☒

Discussion: The proposed project will not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a dam. The project site involves the preventive maintenance of the bridge, as well as improvements to erosion control which will restore the channel to its original design. Therefore, there would be no impact in relation to flooding hazards except beneficial impacts.

j) Inundation by seiche, tsunami, or mudflow? (Source: 1) ☐ ☐ ☐ ☒

Discussion: A seiche is an oscillation of a land-locked water body, such as a lake or dam. A tsunami is large ocean wave associated with a seismic event. According to Figure EH-8 of the City of Huntington Beach General Plan, Environmental Hazards Element, the project site is not located within the Moderate Tsunami Run-Up Area. The work associated with the existing project site is located approximately one quarter mile from the Pacific Ocean. However, the bridge is an existing facility, and the preventive maintenance activities that are proposed to be conducted will not increase the likelihood or potential damage associated with inundation by seiche, tsunami, or mudflow.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
k) Potentially impact stormwater runoff from construction activities? (Source: 1, 21)	☐	☐	☒	☐

Discussion: The bridge repair will require barrier replacement, deck repair, and restoration of the existing riprap under the bridge. Water quality measures in the form of approved BMPs will be implemented during construction activities to eliminate most pollution from any runoff from the site, and avoid a significant impact from stormwater runoff from construction activities. These BMPs will include the use of screen and filtering materials, sandbags, and vacuum pumps to collect construction related runoff. With implementation of BMPs as required in the General NPDES Permit, impacts related to stormwater runoff from construction activities would be reduced to less than significant levels.

l) Potentially impact stormwater runoff from post-construction activities? (Source: 1, 3)	☐	☐	☐	☒

Discussion: The project's purpose is to restore the site to its original condition when the bridge was constructed. The drainage patterns will remain the same since the bridge work will maintain its original grades and alignments, and no impacts will occur.

m) Result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas? (Source: 1, 3, 21)	☐	☐	☒	☐

Discussion: Discharge of polluted storm water from construction materials and equipment impacts will be less than significant because stormwater BMPs such as catch basins and temporary sandbag retention basins will collect construction materials and waste from equipment. There will be no vehicular refilling or equipment maintenance on the project site. Waste and hazardous handling storage, delivery, and outside work areas will meet local and State pollution control requirements. Impacts to surrounding waterways will be minimized with implementation of PDF-1, which was described above. As part of this PDF, all trash will be cleaned up following each work day. Also, silt fencing would be installed in upland areas in order to avoid any pollutants from entering the channel, including topsoil and construction debris. Additionally, construction activities will be preceded by the installation of turbidity control measures using silt curtains. The potential for materials/debris to enter the harbor and Bolsa Bay will be minimized with these measures. With implementation of these stormwater BMPs and PDF-1, impacts will be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
n) Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters? (Source: 1, 3, 21)	☐	☐	☐	☒

Discussion: The project would be required to contain project-related construction water run-off within the project area during construction, and therefore will not change the stormwater volume during storm events. The project will not increase either volume or velocity during a stormwater event. There will be no discharge of stormwater to receiving waters, and no impacts will occur.

o) Create or contribute significant increases in the flow velocity or volume of stormwater runoff to cause environmental harm? (Source: 1, 3, 21)	☐	☐	☐	☒

Discussion: The existing drainage patterns will not be impacted and there will be no increased stormwater discharge since the bridge construction is focused only on barrier replacement and repair of the existing deck. The existing bridge and approach roadway will remain the same width, including alignment and grades. Missing rock slope protection underneath the bridge will be repaired to restore the eroded embankment.

p) Create or contribute significant increases in erosion of the project site or surrounding areas? (Source: 1, 3, 21)	☐	☐	☐	☒

Discussion: Since the project will maintain the existing alignment, bridge width, lines and grades, and drainage patterns, it will not contribute or create any additional erosion factors to the existing bridge location. Examples of erosion control BMPs include silt fencing, storm drain inlet protection, and fiber rolls. Also, sandbags and vacuum pumps may be used to collect construction related runoff. Final BMPs will be identified and implemented during construction activities as part of a Stormwater Pollution Prevention Plan (SWPPP) to eliminate pollution from stormwater runoff. No impacts will occur.

V. AIR QUALITY.

Would the project:

a) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? (Source: 8, 9, 10, 11, 37, 50)	☐	☐	☒	☐

Discussion: The project site is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for preparing a regional Air Quality Management Plan (AQMP) to improve air quality in the SCAB. The AQMP includes a variety of strategies to accommodate growth, to reduce the high levels of pollutants within the region, to meet State and federal ambient air quality

standards, and to minimize the fiscal impact that pollution control measures have on the local economy.

The SCAQMD adopted its *CEQA Air Quality Handbook* (Handbook) to assist other public agencies with the preparation of air quality analyses. The SCAQMD-established thresholds for construction and operation emissions are used to evaluate impacts on regional air quality. The following acronyms for studied air pollutants are used in this section:

CO: Carbon monoxide
NO_X: Nitrogen oxides
O_3: Ozone
PM_{10}: Respirable particulate matter up to 10 micrometers in diameter
$PM_{2.5}$: Respirable particulate matter less than or equal to 2.5 micrometers in diameter
VOC: Volatile organic compounds

Note that since sulfur dioxide and lead are not of concern for a bridge preventive maintenance project, they are not discussed in the air quality analysis.

Air quality impacts are typically divided into two categories, short-term impacts and long-term impacts. Short-term impacts are associated with a project's construction activities, such as demolition, site grading, excavation, structural construction, paving, and finishing. Long-term impacts are associated with the operational activities of a proposed project. **Table V-1** (SCAQMD Significance Thresholds) presents the significance thresholds for criteria air pollutants established by SCAQMD. A project is considered to generate a regional air quality impact if emissions from its construction and/or operational activities exceed the corresponding SCAQMD significance thresholds.

Table V-1. SCAQMD Significance Thresholds

Emission Rates	Pollutant Emission Threshold (lbs/day)				
	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	55
Operation	55	55	550	150	55

Source: "SCAQMD Air Quality Significance Thresholds." 2009. Diamond Bar, CA: South Coast Air Quality Management District, www.aqmd.gov/ceqa/handbook/signthres.pdf. March 2011. Accessed December 13, 2011.

Construction (Short-Term Impacts)

Construction of the proposed project will generate temporary, short-term emissions of various air

pollutants. Construction emissions can be distinguished as either on-site or off-site. On-site air pollutant emissions during construction will consist principally of exhaust emissions from heavy-duty construction equipment, and fugitive particulate matter from earthwork and material handling operations. Off-site emissions will result from truck delivery of construction materials and hauling of construction debris, and workers commuting to and from the project site. Pollutant emissions will vary from day to day depending on the intensity and type of construction activity.

The project will remove and replace the concrete barrier and unsound concrete on Warner Avenue Bridge and restore eroded embankment and missing rock slope protection underneath the bridge. Although construction will occur intermittently, the worst-case (maximum) daily construction emissions will be generated when the maximum number of pieces of construction equipment and haul trucks are operating during the same day. For purpose of this analysis, it was assumed that:

- A maximum of six pieces of construction equipment would be operating simultaneously in a given day
- A maximum of four truck trips per day would occur for concrete hauling, and/or for materials delivery
- Minimal fugitive dust from hauling rock for embankment erosion repair will be generated
- There will be four construction phase types: remove and replace existing AC overlay; remove and replace concrete barrier and chain link railing; remove unsound concrete and patch bridge bents and columns; and restore embankment erosion and rock slope protection
- Construction equipment will include: asphalt grinder, skid steer loader, tractor/loader, dump truck, concrete truck/pump, jack hammer, sandblasting tool, air compressor, concrete mixer, and a tugboat-barge combination. (The barges will likely be pulled by small motors, but to be conservative, tugboats were considered in the analysis.)
- Construction will last approximately six months

On-site and off-site emissions of criteria pollutants from construction activities were estimated using CalEEMod. Estimates of the types of equipment anticipated in each phase of construction were based on the project description. Equipment exhaust emissions were determined using the CalEEMod default values for horsepower (hp) and load factors with the exception of two pieces of equipment; the asphalt grinder was assumed to have 80 hp and a default CalEEMod load factor for "Other Construction Equipment;" while the tugboat was assumed to have 300 hp and a load factor of 0.68. Estimated emissions from the proposed project construction are shown in **Table V-2** (Maximum Project Construction Emissions) and are compared with the SCAQMD thresholds of significance. Note that the emission estimates do not take into account emission reductions per implementation of typical fugitive dust control measures that will be required to comply with SCAQMD Rule 403. Further, the emission estimates represent a worst-case scenario, when most construction equipment would occur on the same day. These worst-case predicted emissions will not be continuous, nor would they be typical of emission levels throughout the construction period.

As shown in **Table V-2**, the unmitigated maximum daily emissions will be below the SCAQMD significance thresholds for all criteria pollutants. Therefore, air quality impacts associated with construction of the proposed project will be temporary and less than significant.

Table V-2. Maximum Project Construction Emissions

Emission Source	Pollutant Emission (lbs/day)				
	VOC	*NO_X*	*CO*	*PM_{10}*	*$PM_{2.5}$*
Maximum Daily Construction Emissions	4.75	33.16	18.67	2.30	2.01
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*55*
Significant?	**No**	**No**	**No**	**No**	**No**

Operation (Long-Term Impacts)

Operation of the proposed project would not generate new stationary or mobile sources of emissions. Therefore, no long-term air quality impacts would be anticipated.

b) Expose sensitive receptors to substantial pollutant concentrations? (Source: 12) ☐ ☐ ☒ ☐

Discussion: Sensitive receptors are persons who are more susceptible to air pollution than the general population, such as children, athletes, the elderly, and the chronically ill. Examples of land uses where substantial numbers of sensitive receptors are often found are schools, daycare centers, parks, recreational areas, medical facilities, nursing homes, and convalescent care facilities. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants.

Construction (Short-Term Impacts)

Construction of the proposed project will be intermittent and short-term, and will not generate a substantial amount of air pollutants, as illustrated in **Table V-2**. In addition, construction will occur during the daytime on weekdays, when most people are away from their homes, thus minimizing the number of people who might be affected. A screening analysis based upon the SCAQMD's localized significance threshold (LST) methodology was performed to determine localized exposures. **Table V-3** (Results of Localized Significance Screening Analysis) show the results. Localized exposures will be less than significant.

Table V-3. Results of Localized Significance Screening Analysis

Pollutant	Distance From Receptor (m)[a]	Calculated Emissions (lbs/day)	Threshold Emissions (lbs/day)	Exceeds Threshold?
NO_x	73	33.00	133	No
CO	73	17.55	1,294	No
PM_{10}	73	2.01	25	No
$PM_{2.5}$	73	1.99	7	No

[a] The Final Localized Significance Threshold Methodology from SCAQMD represents distances in meters.

Operation (Long-Term Impacts)

Operation of the proposed project would not generate any new sources of criteria pollutant emissions. Therefore, no operational impacts would occur.

c) Create objectionable odors affecting a substantial number of people? (Source: 3, 21) ☐ ☐ ☒ ☐

Discussion: Construction of the proposed project would potentially generate odors due to operation of construction equipment (diesel exhaust). These odors, which would be temporary in nature, would occur during daytime hours only and be isolated to the immediate vicinity of the construction activities. They would not affect a substantial number of people and the impact would be less than significant.

Operation of the proposed project would not introduce significant odor generating sources, such as wastewater treatment facility, landfill, or other industrial land uses that generate objectionable odors. Therefore, no impact would occur.

d) Conflict with or obstruct implementation of the applicable air quality plan? (Source: 13) ☐ ☐ ☐ ☒

Discussion: The most recently approved applicable air quality plan for the project area is the 2007 Air Quality Management Plan (AQMP), which was designed to meet both federal and State requirements, including achieving ambient air quality standards. The AQMP strategy is based on projections from local general plans and regional growth projections developed by the Southern California Association of Governments (SCAG). A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates

included in the AQMP.

The proposed project is designed to perform preventive maintenance on the Warner Avenue Bridge. Implementation of the proposed project would not affect population, housing units, or employment or otherwise be inconsistent with the growth forecasts identified in the AQMP. Furthermore, the proposed project was included in the regional emissions analysis conducted by SCAG for the conforming 2008 Regional Transportation Plan (RTP), *Transportation Conformity Report*. The proposed project is also included as RTP I.D. ORA020501 in SCAG's 2011 Federal Transportation Improvement Program (FTIP), including Amendments #1 to #15 and #17. The project's design concept and scope have not changed significantly from what was analyzed in the RTP. Therefore, the proposed project would be consistent with the 2007 AQMP and no impact would occur with the project's implementation.

e) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (Source: 9, 12)	☐	☐	☒	☐

Discussion: The SCAB is currently in non-attainment for both the state and federal ambient air quality standards for O_3, PM_{10} and $PM_{2.5}$, and in non-attainment for the state nitrogen dioxide (NO_2) standard. During construction, the proposed project's emissions of NO_x and ROG (the O_3 precursors), and PM_{10} and $PM_{2.5}$ will not exceed SCAQMD thresholds. Given the intermittent and short-term nature of construction emissions, the impacts will be less than significant.

The proposed project will not have any new sources of criteria pollutant emissions. Further, the proposed project will not be population and/or job growth inducing, and therefore would be consistent with the AQMP. Therefore, a cumulatively considerable air quality impact would not occur.

VI. <u>TRANSPORTATION/TRAFFIC</u>. *Would the project:*

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? (Source: 1, 42)	☐	☐	☐	☒

Discussion: The project will conduct preventive maintenance on an existing bridge on Warner Avenue. Warner Avenue is designated as a major arterial street, with a vehicle capacity of 45,000

average daily trips (ADT). It is currently classified as a Class II bikeway, and is also an existing transit route. The project will not conflict with the current Orange County Congestion Management Program (CMP), which requires that CMP Highway System (CMPHS) intersections maintain a LOS grade of 'E' or better, unless the baseline is lower than 'E.' Traffic handling and control would be scheduled during winter and early spring, when beach traffic is at its lowest. The proposed project is temporary and will not result in long-term impacts associated with the performance of the existing circulation system. During construction, transit routes will be slightly altered but access will still be maintained. Similarly, the bicycle route on Warner Avenue will remain accessible. Therefore, the project will not conflict with an applicable plan or policy that measures effectiveness of the circulation system, including intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? (Source: 1, 39, 42) ☐ ☐ ☐ ☒

Discussion: As stated above, the current CMP requires that CMPHS intersections maintain a LOS grade of 'E' or better, unless the baseline is lower than 'E.' The intersection LOS at Pacific Coast Highway and Warner Avenue is 'D' during both AM and PM peak hours. Access on one lane in each direction would be restricted during construction; the restriction may result in a short-term increase in vehicular congestion. CMP legislation specifies that construction is excluded from deficiency determination. After the maintenance activities have been completed, no increase in traffic will result. Implementation of the project will neither generate significant numbers of additional vehicle trips nor lower the level of service. Therefore, the project will not conflict with the CMP LOS for designated roads or highways.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (Source: 3, 40) ☐ ☐ ☐ ☒

Discussion: The proposed project site is located approximately 5.6 miles southeast of the nearest airport, the Joint Forces Training Center, Los Alamitos, and will not require additional freight or passengers that will affect air traffic patterns. Therefore, the proposed project will not result in any impacts to traffic patterns.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will conduct preventive maintenance on an existing bridge to

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

restore the bridge's original design. It will not introduce new design features or incompatible uses, and therefore, will not substantially increase hazards. No impacts would occur.

e) Result in inadequate emergency access? (Source: 1, 3) ☐ ☐ ☒ ☐

Discussion: The proposed project will conduct preventive maintenance on an existing bridge, and will not alter access to and from the bridge on a permanent basis. During the bridge deck resurfacing phase, one lane will be temporarily restricted, but two-way traffic will be maintained without negatively affecting emergency access. Therefore, the project will result in less than significant impacts to emergency access.

f) Result in inadequate parking capacity? (Source: 3) ☐ ☐ ☐ ☒

Discussion: Warner Avenue from Pacific Coast Highway through the project area is posted as a "No Parking" zone. This condition will remain in the post-construction condition. Therefore the project will not have an impact on parking or parking capacity.

g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (Source: 1, 3) ☐ ☐ ☐ ☒

Discussion: Warner Avenue, where the project is located, is currently classified as a Class II bikeway, and is an existing transit route. During construction activities, transit routes will be temporarily altered. However, with implementation of a city approved traffic control plan, impacts would be reduced or no impacts would occur (see Warner Avenue Bridge Preventive Maintenance Traffic Control Plans Sheet TC1-TC4). Implementation of the project will neither alter the bikeway classification nor transit service on a permanent basis. Therefore, the project will not conflict with adopted policies, plan, or programs supporting alternative transportation.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

VII. BIOLOGICAL RESOURCES.

Biological resources are any naturally occurring plants, animals, and habitats that exist in a given area. The two main agencies that regulate and protect biological resources within California are the United States Fish and Wildlife Service (USFWS) and California Department of Fish Game (CDFG). Each agency has classifications for species that are vulnerable to extinction; these classifications are referred to in general terms as "special-status." The primary law that defines special-status biological resources at the federal level is the Federal Endangered Species Act (FESA), which is enforced by the USFWS. Likewise, the State of California has conferred protections to special-status biological resources in the creation of the California Endangered Species Act (CESA), which is enforced by the CDFG. *Endangered* species are in danger of becoming extinct through all or a significant portion of their ranges. *Threatened* species are those species that are likely to become endangered within the foreseeable future. In addition, CDFG classifies species that are vulnerable to become listed as the threatened, endangered, or extinct, as "species of special concern." Both USFWS and CDFG also have jurisdiction to protect migratory birds under the Migratory Bird Treaty Act and Section 3513 of the California Fish and Game Code (CFGC) respectively. Each agency protects the species that it has defined as special-status, but they do not regulate each other's species, unless they have defined them with the same status. Since this project is a federally-funded local action, it is subject to the provisions of FESA and CESA.

The California Native Plant Society (CNPS) is an organization that monitors the status of plants native to California and determines whether they are vulnerable to extinction. CNPS designates ranks that indicate how likely a plant species is to become extinct within the state of California. Plant species assigned a rank of 1 are rare within the state of California and elsewhere and those with the rank of 2 are defined as rare within California but more common elsewhere. Although the CNPS is not a government agency, any federal/state action in California considers impacts to rank 1 and 2 plants that have the potential to worsen their status.

In addition to protecting plants and wildlife, the federal government and CDFG also protect special-status habitats and rare ecosystems, including riparian habitats within and adjacent to waterways. The federal government, through the US Army Corps of Engineers, protects jurisdictional wetlands as defined by Section 404 of the Clean Water Act. CDFG protects jurisdictional wetlands/streambeds according to Section 1600 *et seq.* of the CFGC. Lastly, the National Marine Fisheries Service protects aquatic habitats that are vital to the survival of marine fisheries; the Magnuson-Stevens Act defines these habitat areas as "Essential Fish Habitat." In Section 1700 of the CFGC, the State of California defines protections for aquatic life. The code calls for the cultivation of local commercial fisheries.

Existing Setting:

The project is located immediately adjacent to and within the Bolsa Chica Ecological Reserve. The Reserve includes a tidally influenced saltwater marsh that receives seawater via Huntington Harbour and freshwater nuisance runoff via the East Garden Grove – Wintersberg flood control channel.

South of Warner Avenue Bridge are stands of salt marsh vegetation. These stands are dominated by pickleweed (*Salicornia* spp.) and alkali heath (*Frankenia salina*), a type of coastal saltmarsh wetland. Adjacent to the saltmarsh habitats are upland areas vegetated with a mosaic of coastal sage scrub and annual grassland, resulting in diverse biological resources throughout the Reserve. Included amongst the diverse biological resources are a number of special-status species, such as breeding California least tern and light-footed clapper rail, which are known to breed beyond the 500 foot buffer area of the project. See **Figure 1-2** *Warner Bridge Project Jurisdictional and Vegetation Impacts Map.*

Baseline Data/Background Research:

A number of resources were consulted to determine which special-status resources are present within the project area. The first source was the California Natural Diversity Database (CNDDB). The CNDDB maintains records of all known special-status biological resources throughout the state of California. Records from the CNDDB within a 10-mile radius of the project site were reviewed to identify species that have the potential to occur in the project area.

Second, a reconnaissance biological survey was performed within the project buffer on May 27, 2011, by biologist Michelle Tollett. A subsequent and more detailed evaluation of the BSA was conducted on July 13, 2011 by biologists Michelle Tollett, Hugo Flores, and Stephen Blackwell. A jurisdictional delineation was conducted by biologists Michelle Tollett, Mario Mariotta, Joyce Mak, and jurisdictional delineation specialist Debbie Kinsinger throughout the BSA on November 25 and November 28, 2011. A final survey was conducted on July 3, 2012, within the project area and associated buffer, by biologists Michelle Tollett and Elizabeth Kempton, Ph.D. to confirm species identified during the 2011 surveys.

The biological surveys identified the biological resources (plant and animal species), the habitats present and other environmental factors related to biological resources (i.e. developed land, human use of the project area, climate, etc.) in the project buffer. This information was referenced to evaluate the likelihood for special-status species to occur within the project buffer. The data gathered during the biological survey were augmented by background research conducted through interviews with agency staff, members of the Bolsa Chica Conservancy and a literature review.

Background research and observation during field surveys has indicated that many special-status species have a considerable potential to, or do, occur in the project area. The special-status species are listed with their status in **Table VII-1** (Special Status Species with the Potential to Occur in the Project Area) below:

Table VII-1: Special Status Species with the Potential to Occur in the Project Area

Species Name (*Scientific Name*)	Status	Occurrence Potential
Ventura marsh milk-vetch (*Astragalus pychostachys var. lanosissimus)*	FE, SE, 1B	Moderate
southern tarplant (*Centromadia parryi ssp. australis)*	1B.1	Observed
western snowy plover (*Charadrius alexandrinus nivosus*)	FT, SSC	Observed
salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum)*	FE, SE, 1B	Moderate
northern harrier (*Circus cyaneus*)	SSC	Observed
white-tailed kite (*Elanus leucurus)*	FP	Observed
peregrine falcon (*Falco peregrinus*)	FP	Observed
Coulter's goldfields (*Lasthenia glabrata ssp. coulteri)*	1B.1	Moderate
south coast marsh vole (*Microtus californicus stephensi)*	SSC	Moderate
coast woolly heads (*Nemacaulis denudata* var. *denudata*)	1B.2	Observed
Belding's savannah sparrow (*Passerculus sandwichensis beldingi)*	SE	Observed
coastal California gnatcatcher (*Polioptila californica californica*)	FT, SSC	High
light-footed clapper rail (*Rallus longirostris levipes*)	FE, SE	Moderate
black skimmer (*Rynchops niger*)	SSC	Observed
southern California saltmarsh shrew (*Sorex ornatus salicornicus)*	SSC	Moderate
California least tern (*Sternula antillarum browni*)	FE, SE	Observed
estuary seablite (*Suaeda esteroa)*	1B	Moderate

Key:	
FE Federally-listed Endangered Species	SE State-listed Endangered Species
FT Federally-listed Threatened Species	SSC State Species of Special Concern
	FP Fully Protected
	1B CNPS Ranked Rare Plant, Rare in California and Elsewhere

Impact Discussion

Special-status Plants

A stand of southern tarplant (*Centromadia parryi* ssp. *australis*), a California Native Plant Society Rank 1B.1, was observed southeast of Warner Avenue Bridge and mapped by UltraSystems biologists in July and November 2011. According to Kelly O'Reilly of CDFG, this stand is a new population resulting from compaction of the soils and subsequent ponding of water in the area following the 2010 construction of the pedestrian bridge. The population is largely outside of the planned construction area and will be avoided to the maximum extent practicable. Implementation of PDF-3 will aid to identify other newly established populations of special-status plants, should they occur.

Temporary impacts to southern tarplant may be necessary to enable construction access under the eastern bank of the bridge. Impacts are not expected to exceed 14 square feet or 30 individuals within the population mapped southeast of the bridge.

Special-status Birds

The wetland vegetation within the project buffer provides nesting habitat for Belding's savannah sparrow (*Passerculus sandwichensis* ssp. *beldingi*), a California state endangered species, which was observed foraging within the pickleweed. Although this species uses the project area for foraging, it is not expected to nest there due to the constant disturbance generated by the vehicular traffic on Warner Avenue. According to Richard Zembal, Belding's savannah sparrow would not likely nest within the Project buffer (Zembal, R. 2011. Personal Communication with Richard Zembal December 2011). Nonetheless, it is advised to schedule construction activities outside of nesting season. The nesting season for Belding's savannah sparrow is from April to September.

Western snowy plover, black skimmer, light-footed clapper rail, and California least tern have the potential to forage in the project area. However, the project area lacks quality nesting habitat for these species. The northern harrier, peregrine falcon and white-tailed kite depend upon grasslands and estuarine habitats in order to forage, but they are not expected to nest in the project area or associated buffer zone. The coastal scrub vegetation within the BSA is suitable for the California gnatcatcher (CAGN), which has a high likelihood of inhabiting the BSA, as suggested in the Natural Environment Study (NES). **PDF-2** and **PDF-4,** described in the in Project Description will be implemented to avoid impacts to these special-status species and other native species that have the potential to be present on site.

Special-status Mammals

The saltmarsh vegetation found within the BSA has the potential to be inhabited by two mammalian species of special concern, the south coast marsh vole and the Southern California saltmarsh shrew. According to the Bolsa Chica Conservancy's former restoration coordinator, Patrick Scott and the current restoration coordinator, Austin Parker, these species are known to inhabit the southern portion of the Reserve, which is not within the vicinity of the project site. Furthermore, no burrows or any signs of bioturbation were observed during the biological surveys. Therefore, these species are not expected to occur within the project area.

Fisheries Management Species

CDFG, Hubbs-Sea World Research Institute (HSWRI) and the Harbour Ocean Preservation Enhancement (HOPE) manage a grow-out pen for white sea bass (*Atractoscion nobilis*), which is a CDFG fishery managed species. (It does not have a formal regulatory status.) The grow-out pen is in Huntington Harbour, northwest of Warner Bridge. On a seasonal basis, fish are raised to the juvenile life stage in order to acclimate to the estuarine waters and are then released into the harbor (Shane, 2012). The pen is occupied annually during spring and summer and will be vacant during fall and winter, to avoid seasonal runoff and other factors unsuitable for raising the fish (Finkbeiner, 2012). Through conversations with Hubbs-Sea World Research Institute, it was discovered that the white sea bass pen is intermittently stocked each year. In accordance with **PDF-5**, HSWRI has been notified of the project and is aware that it should not stock it for the upcoming season.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

Jurisdictional Areas

Portions of the saltmarsh vegetation qualify as USACE jurisdictional wetlands based on the three-parameter system in the 1987 Wetlands Delineation Manual. Bolsa Chica Channel (Bolsa Bay) is a USACE Waters of the United States and CDFG Waters of the State jurisdictional area. The project is also within the State of California Coastal Zone. Finally, the National Marine Fisheries Service (NMFS) regards Bolsa Chica Channel as an estuarine Habitat Area of Particular Concern (HAPC), which is a class of EFH.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S, Fish and Wildlife Service? (Source: 14, 16, 44, 46)	☐	☒	☐	☐

Discussion: As discussed in the NES and summarized herein, surveys conducted prior to preparation of this Initial Study indicate the need to incorporate mitigation measures to reduce potential impacts below significant levels for special-status species that have a moderate or greater potential to occur on the project site. These mitigation measures are in addition to the PDFs incorporated in the project to avoid impacts.

The implementation of **BR-1, Workers Environmental Awareness Program,** below will inform construction personnel of the likelihood of occurrence of special-status species and ensure that the project will not significantly impact these species or their associated habitats.

Likewise, the implementation of **BR-2, Biological Monitoring,** below will ensure that project activities will not extend beyond the necessary construction footprint into the ESHA, which is established in **PDF-1**. In addition, BR-2 will ensure that the project meets regulatory requirements concerning special-status plants and wildlife species. Monitoring will focus on findings resulting from implementation of **PDF-2**, **PDF-3**, and **PDF-4**.

With the implementation of the mitigation measures, impacts from project activities to species identified herein will be less than significant.

BR-1: Implement Workers' Environmental Awareness Program.

The presentation of a Workers' Environmental Awareness Program (WEAP) will decrease the likelihood of incidental impacts to special-status species on the project site. Prior to construction activities, a qualified biological monitor will present a WEAP to all construction personnel. The WEAP will also be given to any new personnel who work onsite during the duration of the project. The purpose of the WEAP is to inform the construction personnel of the special-status species that will likely occur in the project area, species identification, and the conservation

measures implemented to protect the biological resources onsite. The WEAP will incorporate any special-status species that are discovered during project activities.

BR-2: Conduct Biological Monitoring.

Since this project is occurring adjacent to and within the Reserve, it is necessary for the biological resources of this project to be monitored during construction for the duration of project. A qualified and/or permitted biologist will be essential for conducting this monitoring.

A qualified biological monitor (qualified biologist) will be present during all vegetation clearing activities to monitor habitat conditions and construction impacts at the project site in order to ensure that impacts remain less than significant.

Following the initial vegetation clearing and grading activities, the biological monitor will be present *every two weeks*, *outside of nesting season*, to ensure that project-related activities do not incur impacts greater than anticipated. *During nesting season*, the biological monitor should be presented *weekly* to survey for nesting birds, with focus on special-status and MBTA-protected species.

The monitor will establish a buffer area around any occupied special-status and MBTA-protected species nests that are discovered, as described in **PDF-4**. A permitted biologist will be used if required by the resource agencies; otherwise an experienced, qualified biologist will conduct the surveys.

A qualified biological monitor is an individual who has professional experience working with the dominant flora and fauna of southern California present in the project area. He or she is knowledgeable of the life history and survey techniques/protocols of salt marsh and coastal sage scrub species, specifically California least tern, western snowy plover, light-footed clapper rail, and coastal California gnatcatcher. He or she has professional experience in construction monitoring, finding and monitoring bird nests and is familiar with biological regulations, particularly those pertaining to migratory birds and their nests. In addition, a qualified biologist may have the added benefit of observing ESA-protected species with a permitted biologist.

A permitted biologist is an individual who can serve as a qualified biologist and also holds a scientific permit, issued by the United States Fish and Wildlife Service under Section 10(a)(1)(A) of the federal Endangered Species Act. He or she has professional knowledge and experience with special-status species, specifically California least tern, western snowy plover, light-footed clapper rail, and coastal California gnatcatcher. Such a biologist has several years of experience in field surveys and species monitoring. A permitted biologist also possesses all of the qualifications of a qualified biologist described above.

For the purposes of this project, a qualified biologist would bear the qualifications, prerequisites, experience, and knowledge to conduct biological monitoring at the project site. While there is potential for special-status species to forage in and temporarily occupy the project site, it is

unlikely that any listed species would nest within the project buffer. *Breeding* of avian or mammalian species has not been documented within the project footprint area. This area has high disturbance generated by pedestrian and vehicular traffic on the roadway proximate to the project site. Furthermore, the project site is relatively limited in geographic extent, thus special-status species have a lower likelihood of occurring within the project footprint, despite its location at the border of the Reserve. For these reasons, a qualified biologist would satisfy the requirements for biological monitor for this project. If listed species are observed breeding within the project footprint or nesting bird buffer (250 feet for passerine species, 500 feet for raptors), a permitted biologist will be used to fulfill the *weekly* monitoring requirement *during nesting season.*

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service? (Source: 15, 44, 46, 47)	☐	☒	☐	☐

Discussion: Contained within the Bolsa Chica Ecological Reserve are extensive southern coastal saltmarshes, which are identified by the CDFG as a sensitive vegetation community. An area designated as "problematic wetland," classified as a 115-square-foot area containing a layer of algae only, within the patchy saltmarsh mosaic, will be permanently impacted in order to replace and install rock slope protection.

A stand of southern tarplant on the eastern bluff within the project impact area is also protected. An estimated 14 square feet or approximately 30 individuals of this species may be removed in order to allow access to the project area. Other sensitive natural habitats that will be temporarily and permanently impacted include Waters of the United States (WOUS) channel, and coastal sage scrub.

Impacts to USACE WOUS unvegetated streambed may occur when replacing the rock slope protection and when providing a work area for the replacement activities. Although this repair will return the rock slope protection to original design, the streambed is currently jurisdictional and is regarded as such due to loss of soft bottomed-substrate within the channel. This intertidal area was classified as soft-bottom channel mudflat. A 102-square-foot area will be permanently impacted. Jurisdictional impacts are discussed under Section c, below.

The CSS southwest and southeast of the bridge will be temporarily and permanently impacted to allow access to the project site and to allow for the placement of rock slope protection on eroded slope areas. **Table VII-2** (Habitat Impacts) summarizes the impacts to each habitat type and jurisdictional area. Due to the high value of coastal sage scrub on the Reserve, these areas will be returned to existing or better conditions and annual grassland will be enhanced through plantings of coastal sage scrub species. The project will implement mitigation measure **BR-3** below following project activities in order to reduce potential impacts to a less than significant level.

Table VII-2: Habitat Impacts

Habitat/Area*	Temporary Impact		Permanent Impact	
	Acres	Square Feet	Acres	Square Feet
Annual Grassland (A1)	0.019	839.889	0.000	0.000
CDFG (B1 - B3)	0.007	306.080	0.000	0.000
CDFG-USACE (Waters of the US) (C1, C2, E1)	0.361	15,742.643	0.002	102.069
CDFG Degraded RSP (J1)	0.001	60.440	0.000	0.000
CDFG-USACE Degraded RSP (D1 - D3)	0.047	2,050.236	0.000	0.000
CDFG-USACE Problematic Wetland (F1 - F3)	0.002	72.474	0.003	114.620
Disturbed Coastal Sage Scrub (G1 - G5)	0.042	1,834.431	0.005	224.455
Southern Tarplant (H1)	0.000	14.047	0.000	0.000
*Refer to Figure 1-2: Warner Bridge Project Jurisdictional and Vegetation Impacts for Habitat Code locations				

BR-3: Conduct Restoration Enhancement in the BSA through preparation and implementation of a Habitat Mitigation and Monitoring Plan (HMMP):

The City will return the temporary construction impact areas to pre-project contours and will revegetate in accordance with a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP will be finalized through agency approvals (USACE, CDFG, RWQCB, and CCC) prior to project construction. Revegetation efforts will focus on creating, enhancing or maintaining areas of pickleweed, CSS, and the southern tarplant located immediately south of Warner Avenue. The City will also mitigate for the permanent loss of tidal mudflats in the areas where new rock slope protection must be installed.

The HMMP will discuss planting designs and descriptions of the plant species that will be used to revegetate the site. In addition, the HMMP will contain an appropriate seed mix and native plant list, methodology for planting plan, watering schedule, quarterly qualitative and annual quantitative monitoring, photo documentation locations, success criteria, contingency measures and invasive species control. Plant species will be taken from locally grown stock or from other sources per the direction of the Bolsa Chica Conservancy or CDFG. Monitoring for at least *three years* following planting will occur. If special-status species other than those presently known at the site are found during construction activities, then these species will be included in the restoration plan.

The HMMP will recommend that temporary and permanent impacts to the pickleweed and CSS (with southern tarplant stand) habitat be restored at an agreed upon ratio between the City and the resource agencies.

Areas at the project site currently classified as non-native grassland have been proposed to be revegetated with the CSS vegetation, which provides an overall *net gain* of approximately 0.02 acre of native communities. Therefore, that restoration would be considered an *enhancement*. A 1:1 ratio is typically suggested for enhancement restoration of non-sensitive communities; however, the resource agencies will have final comment on this approach.

The HMMP will also compensate for the impacts upon the Waters of the United States (WOUS) and jurisdictional wetlands described in section **VII (c)** below. Mitigation for permanent impacts to WOUS and jurisdictional wetlands will be determined by the resource agencies, with a standard mitigation of 3:1 to 10:1 restoration to impacts ratio. The mitigation ratio will be based on factors of the mitigation site including, but not limited to, proximity to the disturbance/project impact area.

The HMMP may be implemented by the Bolsa Chica Conservancy or another organization contracted by the City that is qualified to implement restoration projects for coastal sage scrub and salt marsh habitats. If an in-lieu fee program can be established, this may be an alternative way to satisfactorily meet this mitigation measure. Payment into an in-lieu fee program would provide funds for a non-profit or other professional organization to fulfill the obligations of the HMMP.

Other measures will be contained within the anticipated USACE 404 permit, RWQCB Section 401 Water Quality Certification and California Coastal Commission Coastal Development Permit.

Table VII-3 (Mitigation Ratios and Areas Needed to Mitigate Impacts) summarizes the mitigation ratios typically required by the resource agencies and the amount of area that would be used to mitigate each impact addressed by **BR-3**.

Table VII-3: Mitigation Ratios and Areas Needed to Mitigate Impacts

Habitat/Area*	Planned Restoration Areas	
	Mitigation Ratio	**Mitigation Purpose**
Annual Grassland (A1)	None required	No mitigation required, however, this area will be restored through enhancement, replanting of non-native grassland with CSS species.
CDFG (B1 - B3)	None required	Return to pre-project contours
CDFG-USACE (Waters of the US) (C1, C2, E1)	1:1	All temporarily impacted areas will be returned to original contours. E1: This area of existing soft bottom will have rock slope protection placed on it as part of the work. Pending final agreements with the resource agencies, this will be a temporary or permanent impact, likely permanent. If necessary, recontouring, improvements or revegetation of 102 square feet will be accomplished within the Bolsa Chica Reserve.
CDFG Degraded RSP (J1)	None required	No mitigation required
CDFG-USACE Degraded RSP (D1 - D3)	None required	No mitigation required
CDFG-USACE Problematic Wetland (F1 - F3)	1:1	All temporarily impacted areas will be returned to original contours. F3: This calculation includes the 115 square feet of "problematic wetland" where rock slope protection will be placed. Pending agreements with the resource agencies, this will be a temporary or permanent impact. If necessary, recontouring, improvements or revegetation of 115 square feet of mudflat will be enhanced or restored within the Bolsa Chica Reserve.
Disturbed Coastal Sage Scrub (G1 - G5)	1:1	Enhancement with CSS species, under the direction of CDFG and the Bolsa Chica Conservancy.
Southern Tarplant (H1)	1:1	Revegetation by seeding within CSS area

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Source: 16, 45)

☐ ☒ ☐ ☐

Discussion: The proposed project site is a bridge that spans Bolsa Chica Channel, an Army Corps of Engineers jurisdictional waterway. Installation of rock slope protection (RSP) is

proposed as part of the project. The majority of the RSP installed will be within the original design specifications, returning the bridge to as-built specifications. However, the banks of Bolsa Chica Channel have eroded and receded from their extent at time the bridge was originally constructed. The area where the erosion has occurred has resulted in the creation of a tidal mudflat, which is a special aquatic site as defined by Section 404 of the Clean Water Act. The new contours of the banks require the installation of rock slope protection extending beyond the original design specifications, which will constitute a permanent impact to the tidal mudflats now present in the project area. This impact area is 102 square feet. **BR-1** through **BR-3** will mitigate these impacts to a less than significant level.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites? (Source: 17, 18, 44, 46, 47) ☐ ☐ ☒ ☐

Discussion: The proposed action is located in an estuary designated as essential fish habitat for groundfish, according to the National Marine Fisheries Service (NMFS). The project does not propose to change the streambed aside from minor fill associated with the installation of rock slope protection, which will not permanently interfere substantially with groundfish use of the estuary. The silt curtains will be situated along the length of the streambed edge and will not impede water flow or access (ingress/egress) of any aquatic species during construction. Huntington Harbour was the site of a *Caulerpa* infestation in 2000. It has since been eradicated and declared a *Caulerpa*-free zone in 2008, according to Eric Chavez of NMFS. However, if there were any remnant *Caulerpa* within the channel, the project could incidentally initiate an infestation, which would degrade the quality of the habitat for native fish. In order to verify the absence of *Caulerpa* within the project impact area, **PDF-6** was incorporated into the project design and will ensure that this impact remains less than significant.

Migratory avian wildlife move through and depend upon the Bolsa Chica Ecological Reserve because it is a stopover along the Pacific Flyway. The Pacific Flyway is an avian migratory corridor that provides habitat for a variety of migratory species, including special-status species. Construction noise, generated from the use of asphalt grinders and jackhammers and other activities, may discourage nesting by migratory birds in the immediate project area during nesting bird season (February 15th to September 15th). This impact may not be significant due to the perennial disturbance generated by the routine road noise and other urban noise already present in the project area. Implementation of **PDF-4** is intended to avoid impacts to special status species to a less than significant level.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Source: 21) ☐ ☐ ☐ ☒

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion: It is not expected that the proposed project would conflict with any local policies or ordinances protecting biological resources. There are no mature trees within the project impact area and the project is consistent with city ordinances and policies. Therefore, no impacts will result.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (Source: 19)	☐	☐	☐	☒

Discussion: No HCP, NCCP, or other approved local habitat conservation plans have jurisdiction in the proposed project area. The closest NCCP is the Orange County Central and Coastal Subregion Natural Community Conservation Plan (OC NCCP), which does not include the City of Huntington Beach. Therefore, no impacts would occur.

VIII. MINERAL RESOURCES. *Would the project:*

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (Source: 1)	☐	☐	☐	☒

Discussion: Although the City of Huntington Beach has been the site of oil and gas, sand and gravel, and peat extraction, only one oil well is located within a 500-feet radius of the project site (**Figure VIII-1**). No other mineral resources are located near the project. The project will perform preventive maintenance on an existing bridge. Implementation of the project will therefore not affect the oil well. The project will have no impact in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.

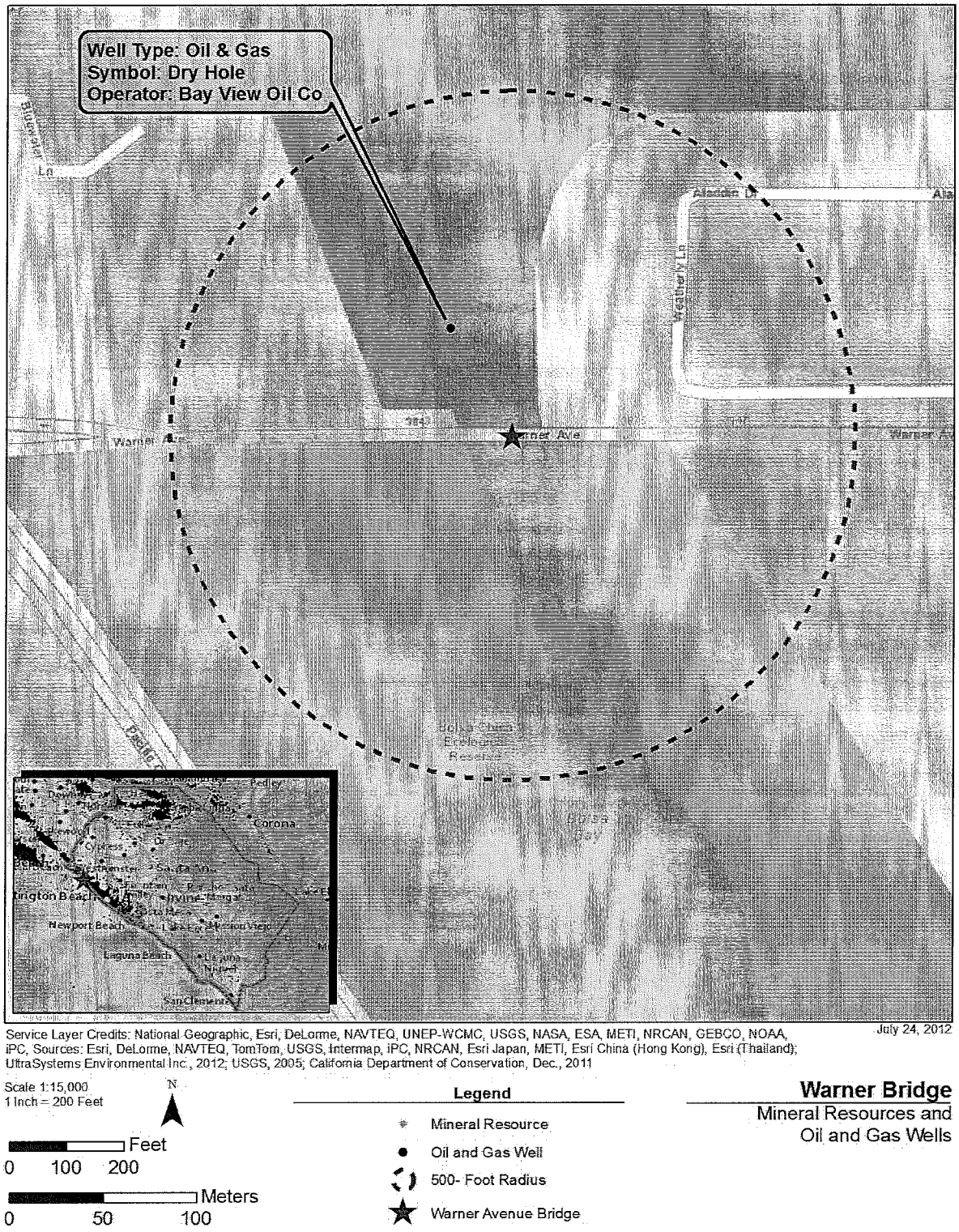


Figure VIII-1: Mineral Resources, Oil and Gas Wells in Project Vicinity

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? (Source: 1)	☐	☐	☐	☒

Discussion: The project site is not located within a mineral resource recovery site delineated in the City's General plan. Therefore, the project will have no impact resulting in the loss of availability of a locally important mineral resource recovery site.

IX. HAZARDS AND HAZARDOUS MATERIALS.

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Source: 21)	☐	☐	☐	☒

Discussion: The proposed project will conduct preventive maintenance on an existing bridge. After the maintenance work has been completed, no routine transport, use, or disposal of hazardous materials will occur that is not already in practice, such as the use of sealants on the asphalt surface of the roadway, paints, replacement of street lighting, and other materials associated with the routine maintenance of above ground infrastructure. No impacts would occur.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Source: 21)	☐	☐	☒	☐

Discussion: Hazardous materials that are used during construction (e.g., petroleum-based products, paints, solvents, sealers, etc.) would be transported, used, stored and disposed of according to City, County, state, and federal regulations. Any reasonably foreseeable upset and accident condition involving these materials could occur with or without implementation of the proposed project. However, the proposed project will conduct preventative maintenance on an existing bridge. With adherence to existing construction standards and requirements, the risk of release of hazardous materials into the surrounding environment is low. Less than significant impacts would occur.

c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school? (Source: 3)	☐	☐	☐	☒

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion: There are no schools within one-quarter mile of proposed project site. While road sealant and paint may emit odors, they are safe for use outdoors or in well-ventilated areas. No impacts would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (Source: 3, 41) ☐ ☐ ☐ ☒

Discussion: A search of California's Department of Toxic Substances Control EnviroStor website did not identify any Federal Superfund Sites, State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Permitted Sites, or Corrective Action Sites on the project site or immediately adjacent to project site. Therefore, no project impact will result.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or pubic use airport, would the project result in a safety hazard for people residing or working in the project area? (Source: 20, 40) ☐ ☐ ☐ ☒

Discussion: The Joint Forces Training Center, Los Alamitos, located about 5.6 miles to the north, is the closest airport to the project. Therefore, the project will not result in a safety hazard for people residing or working in the project area.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project is not in the vicinity of a private airstrip and will conduct preventative maintenance on an existing bridge only. Thus, the proposed project will not generate a safety hazard for people residing or working in the project area relative to the current land use, and no adverse impacts will occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Source: 1, 21) ☐ ☐ ☐ ☒

Discussion: The proposed project will conform to applicable local ordinances during both the construction and operation of the proposed project. By conforming to these regulatory and programmatic controls and coordinating with the City of Huntington Beach's emergency service providers, the proposed project will not cause any interference with an emergency response plan or emergency evacuation plan. The proposed project is needed to enable the City to execute emergency response and evacuation as Warner Avenue (and the bridge) provides the only east-west access in the northern part of the city from/to Pacific Coast Highway.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (Source: 1)	☐	☐	☐	☒

Discussion: Wildlands can be defined as wholly undisturbed areas where wildlife remains in its natural state. The project site is located in an urban area. The City of Huntington Beach's Fire Department reviews development proposals to ensure that there is adequate staffing, water pressure, and emergency access. Thus, the proposed project would not expose people or structures to a significant risk of loss, injury or death from wildland fires. Therefore, the project would have no impact.

X. NOISE.

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Source: 21, 22)	☐	☐	☒	☐

Discussion: Noise is defined as sound that is unwanted, undesirable, or annoying. Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and is most commonly characterized by pressure level. Noise measurements are weighted more heavily within the frequencies of maximum human sensitivity; these measurements are written as dBA, or A-weighted decibels.

A noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

To the human ear, a sound 10 dBA higher than another is judged to be twice as loud; 20 dBA higher is four times as loud; and so forth. In general, a difference of more than 3 dBA is a

perceptible change in environmental noise, while a 5-dBA difference typically causes a change in community reaction, and an increase of 10 dBA is perceived by people as doubling of loudness.

Noise Scales

Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales account for the dependence of the effect of noise on the total acoustical energy content as well as the duration of occurrence. The noise scales that are typically used are the equivalent noise level (L_{eq}), and the community noise equivalent level (CNEL). L_{eq} is a measurement of the acoustic energy content of noise averaged over a specified time period. Thus, the L_{eq} of a time-varying sound and that of a steady sound are the same if they deliver the same amount of energy to the receptor's ear during exposure. CNEL is a 24-hour average L_{eq} that accounts for the sensitivity to noise during evening and nighttime hours. CNEL is calculated by adding 5 dBA to sound levels in the evening (7:00 p.m. to 10:00 p.m.) and adding 10 dBA to sound levels at night (10:00 p.m. to 7:00 a.m.). Another noise metric is the L_{dn}, a 24-hour average L_{eq} that accounts for the sensitivity to noise during nighttime hours. L_{dn} is calculated by adding 10 dBA to sound levels at night (10:00 p.m. to 7:00 a.m.).

Noise Level Standards

The proposed project is located in the City of Huntington Beach. To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the City of Huntington Beach has established standards and ordinances to control noise. The proposed project involves preventive maintenance to the Warner Avenue Bridge over Bolsa Chica Channel, and will not increase roadway capacity. Since operation of the proposed project will not change the noise environment pre-existing in the project vicinity, only construction-related noise standards will be discussed here.

Ch. 8.40 of Municipal Code Noise Provisions

The City of Huntington Beach Municipal Code (Code) includes a section designed to control unnecessary, excessive and annoying sounds (Chapter 8.40). The Code's standards apply to any noise sources generated on private property, including continuous and impulsive noise. The City restricts the maximum allowable sound levels generated on residential and commercial land uses during the daytime and nighttime. These levels, when measured at any point on the property line, are shown in **Table X-1** (Exterior Noise Standards for Source Land Uses).

Table X-1: Exterior Noise Standards for Source Land Uses

Type of Land Use	Time Period	Noise Levels (dBA)
Residential Properties	Daytime	55
	Nighttime	50
Professional Office and Public Institutional Properties	Daytime	55
	Nighttime	55
Commercial Properties	Daytime	60
	Nighttime	60
Industrial Properties	Daytime	70
	Nighttime	70

Source: City of Huntington Beach Noise Municipal Code Chapter 8.40.050.

According to the Code, the exterior noise standards in **Table X-1** are prohibited as follows:

- For a cumulative period of more than thirty (30) minutes in any hour;
- Plus 5 dBA for a cumulative period of more than fifteen (15) minutes in any hour;
- Plus 10 dBA for a cumulative period of more than five (5) minutes in any hour;
- Plus 15 dBA for a cumulative period of more than one (1) minute in any hour; or
- Plus 20 dBA for any period of time.

For all construction activities, Huntington Beach prohibits any construction during the hours of 8:00 p.m. to 7:00 a.m. from Monday through Saturday and any time on Sundays or Federal Holidays.

The Code also states that noise sources associated with "construction, repair, remodeling, or grading" of any "real property" are exempt from the provisions of Chapter 8.40 (Noise Control) of the Code as long as a permit has been obtained from the City of Huntington Beach and the construction activities do not take place between the hours of 8 p.m. and 7 a.m. on weekends and Saturdays, or any time on Sunday or a Federal Holiday. (According to Treasury Regulations Subchapter A, Section 1.263 A-8(c)(2), one type of real property is defined as "Inherently Permanent Structures," which includes, but is not limited to: roads, bridges, and tunnels.)

Construction of the proposed project may expose persons to or generate noise levels in excess of standards established in the municipal code; however, because the proposed project involves construction and repair of a real property, Chapter 8.40.090 of the Code exempts the proposed construction from the provisions of the Noise Control section of the Code. Operation of the proposed project will not change the pre-existing noise environment in the project vicinity.

Construction (Short-Term Impacts)

Construction of the proposed project may generate short-term and intermittent high noise levels. Construction noise levels would fluctuate depending on construction activity, equipment type and

duration of use, and the distance between noise source and receiver. Typical sound emission characteristics of construction equipment are provided in **Table X-2** (Construction Equipment Noise Levels).

Table X-2: Construction Equipment Noise Levels

Equipment Type	Range of Noise Level of Equipment at 50 ft. (in dBA)	Suggested Noise Level for Analysis at 50 ft. (in dBA)
Dump Truck	81-95	76
Loader	81-90	80
Cement and Mortar Mixer	74-84	79
Forklift	81-86	84
Pneumatic Tools	78-88	85
Air Compressor	76-89	81
Concrete Pump Trailer	74-84	82
Concrete Mixer Truck	69-89	85
Grinder	75-82	82
Tugboat/Barge	N/A	68[a]

a. At 160 feet.

Source:

1. U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December 1971.
2. County of Ventura, Construction Noise Threshold Criteria and Control Measures, May 2002.
3. U.S. Department of Transportation, Federal Highway Administration, FHWA Highway Construction Noise Handbook, FHWA-HEP-06-15. August, 2006.
4. *Dutra Haystack Landing Asphalt and Recycling Facility Draft EIR*, Prepared by Christopher A. Joseph and Associates, Petaluma, CA for County of Sonoma, Santa Rosa, CA. January, 2008.

The proposed project would involve the removal and replacement of unsound concrete, and embankment erosion repair. Each construction phase involves the use of a different mix of construction equipment and therefore, has its own distinct noise characteristics. A schedule of equipment use, matching that used for the air quality analysis, was set up to determine the phase of greatest noise impacts. Microsoft Excel worksheets were used to calculate one-hour noise exposures (L_{eq}) at the nearest sensitive receivers. Given the noise standards in **Table X-1**, construction at the site was determined to have a significant impact if the L_{eq} is greater than 55 dBA during the daytime. **Table X-3** (Noise Exposure from Construction Activities Without Mitigation) shows the noise exposures from construction activities.

Table X-3: Noise Exposure from Construction Activities Without Mitigation

Sensitive Receiver	Distance To Site (feet)	L_{eq} (dBA)	Potential Issue or Potentially Significant Impact?
Nearest Residence	240	69.1	**No**[a]
Most Distant Residence Exposed to 55 dBA L_{eq}	1,223	55.0	**No**[a]

Source: UltraSystems, 2011.
[a]See text.

Based on the L_{eq} of 69.1 dBA below, impacts from construction activities at the nearest sensitive receiver would be significant without mitigation. In addition, the analysis determined that the sensitive receiver distance within which noise exposure will be significant without mitigation is 1,223 feet. However, because the proposed project involves construction and repair of a real property, Chapter 8.40.090 of the Code exempts the proposed construction from the provisions of the Noise Control section of the Code and subsequently its exterior noise standards. On this basis, impacts from construction activities will be less than significant. However, in the interest of reducing noise levels, the contractor will follow the following mitigation measures.

Mitigation of Construction Noise Impacts

N-1 Equipment Tuning and Use of Mufflers

The construction contractor shall ensure that all construction equipment, fixed or mobile, is properly operating (tuned-up) and that mufflers are working adequately.

N-2 Direct Noise Away From Sensitive Receivers

The construction contractor shall ensure that all construction equipment is located so that emitted noise is directed away from sensitive noise receivers.

N-3 Stockpiling and Vehicle Staging Distant Sensitive Receivers

The construction contractor shall ensure that stockpiling and vehicle-staging areas are located as far as practical from noise-sensitive receivers during construction activities.

N-4 Notify Residences Within 150 Feet of Construction

Two weeks prior to the construction, the construction contractor shall provide notification in writing to adjacent residences if they would be located within 150 feet of the active construction activity.

N-5 Use Temporary Noise Barriers if Necessary

The construction contractor shall, as necessary, provide temporary noise barriers, including sound blankets, between the areas of active construction and sensitive receivers.

Operation (Long-Term Impacts)

Operation of the proposed project will not change the pre-existing noise environment in the project vicinity. Therefore, no impact will occur.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (Sources: 23, 24)	☐	☐	☒	☐

Discussion: Vibration is sound radiated through the ground. The rumbling sound caused by vibration is called groundborne noise. The ground motion caused by vibration is measured as peak particle velocity (PPV) in inches per second and is referenced as vibration decibels (VdB). Typical outdoor sources of perceptible groundborne vibration are construction equipment and traffic on rough roads.

The American National Standards Institute (ANSI) indicates that vibration levels in critical care areas, such as hospital surgical rooms and laboratories, should not exceed 0.2 inch per second of PPV.[1] The Federal Transit Administration (FTA) also uses a PPV of 0.2 inch per second as vibration damage threshold for fragile buildings and a PPV of 0.12 inch per second for extremely fragile historic buildings. The FTA criterion for infrequent groundborne vibration events (less than 30 events per day) that may cause annoyance are 80 VdB for residences and buildings where people normally sleep, and 83 VdB for institutional land uses with primarily daytime use.

Construction (Short-Term Impacts)

It is expected that groundborne vibration from project construction activities would cause only intermittent, localized intrusion. The FTA has published standard vibration level and peak particle velocities for construction equipment operations. The calculated root mean square (RMS) velocity level expressed in VdB and PPV for construction equipment at distances of 25, 50, and 100 feet are listed in **Table X-4** (Vibration Levels of Construction Equipment).

Table X-4: Vibration Levels of Construction Equipment

Equipment	PPV at 25 ft (in/sec)	RMS at 25 ft (VdB)	PPV at 50 ft (in/sec)	RMS at 50 ft (VdB)	PPV at 100 ft (in/sec)	RMS at 100 ft (VdB)
Loaded Truck	0.0760	86	0.0269	77	0.0095	68
Jackhammer	0.0350	79	0.0124	70	0.0044	61
Small Bulldozer	0.0030	58	0.0011	49	0.0004	40

Source: Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Impact Assessment*. May. Chapter 12.

As shown in **Table X-4**, the vibration level of construction equipment would be below the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings at a distance of 25 feet from the construction equipment operation. Since no building structures would be located within 25 feet of the construction site, vibration from the project's construction would not cause any structural damage. Further, since no sensitive receptors are located within 100 feet of the project site, construction of the proposed project would not generate groundborne vibrations that would cause human annoyance either. Therefore, the construction impact would be less than significant.

Operation (Long-Term Impacts)

Operation of the proposed project will not introduce new sources of groundborne vibration. Therefore, no impact will occur due to the proposed project's operation.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? (Source: 1, 21) ☐ ☐ ☐ ☒

Discussion: As discussed previously, operation of the proposed project will not introduce new stationary and/or mobile noise sources. Therefore, no impacts will occur from the proposed project operation.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? (Source: 1, 21) ☐ ☐ ☒ ☐

Discussion: As discussed previously, the proposed project will potentially generate high noise levels during the short-term construction activities. However, because the proposed project involves construction and repair of a real property, Chapter 8.40.090 of the Code exempts the proposed construction from the provisions of the Noise Control section of the Code and subsequently its exterior noise standards. Thus, the impact of the proposed project on temporarily increasing ambient noise levels in the vicinity of the proposed project will be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (Source: 1, 3, 21, 40)	☐	☐	☐	☒

Discussion: The project does not include habitable structures and is not located within two miles of a public airport. The nearest airport is the Joint Forces Training Center, Los Alamitos, which is a military airport about 5.6 miles north of the project site; however, the nearest public airport is Long Beach Municipal Airport, which is about nine miles northwest of the project site. No impacts would occur.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (Source: 1, 3, 21, 40)	☐	☐	☐	☒

Discussion: The project is not in the vicinity of a private airstrip; the closest private air strip is the Joint Forces Training Center, Los Alamitos, which is about five miles from the project site. No impacts would occur.

XI. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection? (Source: 3)	☐	☐	☐	☒
b) Police Protection? (Source: 3)	☐	☐	☐	☒
c) Schools? (Source: 3)	☐	☐	☐	☒
d) Parks? (Source: 3)	☐	☐	☐	☒
e) Other public facilities or governmental services? (Source: 3)	☐	☐	☐	☒

Discussion a) to e): The proposed project will perform preventive maintenance on an existing bridge, which is a public facility, but will not result in population growth that would otherwise require the need for additional fire protection services, police protection services, schools, parks or other public facilities or governmental services. The project will result in a beneficial impact to the bridge, the repair of which will enable the nearby fire station to maintain response times in

the area as Warner Avenue is the only roadway that provides east-west access in the vicinity. The project will have no impact on other public facilities or services.

XII. UTILITIES AND SERVICE SYSTEMS. Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will not result in the construction of new housing or businesses, which could otherwise induce population growth. The project will conduct preventive maintenance on an existing bridge, and project operation will not generate additional wastewater that could exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (Source: 3) ☐ ☐ ☐ ☒

Discussion: As previously discussed in XII a), the proposed project will not induce population growth and will not generate additional wastewater that would otherwise require additional wastewater treatment facilities. No impacts would occur.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will not create significant additional impermeable surfaces that would otherwise require additional storm water drainage facilities. Any storm water generated within the project area will drain into existing facilities. Therefore, the project will not require the construction or expansion of storm water drainage facilities. No impacts would occur.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? (Source: 3) ☐ ☐ ☐ ☒

Discussion: As previously discusses in XII a), the proposed project will not induce population growth, which may otherwise require additional water supplies. The project is adequately served by existing entitlements, and will not require new or expanded entitlements for water supplies.

e) Result in a determination by the wastewater

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (Source: 1, 3)	☐	☐	☐	☒

Discussion: As previously discussed in XII a), the proposed project will not induce population growth, which may otherwise require additional wastewater treatment providers. The City of Huntington Beach is served by two wastewater treatment plants, whose current operating capacity exceeds existing operations.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? (Sources: 25)	☐	☐	☒	☐

Discussion: Solid waste generated within the City of Huntington Beach is transported to the Frank R. Bowerman Landfill in the City of Irvine. As of 2000, the remaining estimated capacity is 59,411,872 cubic yards, and the landfill is anticipated to close in 2022. The project will not result in an increase of solid waste production during its operational phase. Any increased generation of solid waste will be generated during the construction phase, be short-term in nature, and will be accommodated by existing landfills with sufficient capacity.

g) Comply with federal, state, and local statutes and regulations related to solid waste? (Source: 3, 25)	☐	☐	☐	☒

Discussion: The project will comply with federal, state and local statutes and regulations related to solid waste, which can be accommodated by local landfills. No impacts would occur.

h) Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g. water quality treatment basin, constructed treatment wetlands?) (Source: 3)	☐	☐	☐	☒

Discussion: The project will not change existing storm water treatment systems or include or modify BMPs. No impacts would occur.

XIII. AESTHETICS. *Would the project:*

a) Have a substantial adverse effect on a scenic vista? (Source: 26)	☐	☐	☒	☐

Discussion: Visual resources in the vicinity of the project site include the Pacific Ocean and the Bolsa Chica Ecological Reserve. According to the city's General Plan, Pacific Coast Highway is classified as a major urban scenic corridor, and Warner Avenue as a landscape corridor. Implementation of the proposed project will result in maintenance activities on an existing bridge,

restoring the bridge to its original design condition, and will not alter the size or bulk of the bridge. Some plants on the south side of the bridge within the Reserve will be removed for grading and construction purposes, but will be replaced after construction. In addition, the project will restore the embankment rock slope protection to its original condition, and therefore, will not result in adverse impacts on the scenic vista in the project vicinity.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (Source: 26) ☐ ☐ ☐ ☒

Discussion: According to the Caltrans' Scenic Highway Program, the project site is not located within a California scenic highway. The bridge is located in an urban setting that does not have natural scenic resources such as trees or rock outcroppings, Therefore, the project will not damage scenic resources, including trees, rock outcroppings, and historic buildings within a state scenic highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings? (Source: 1, 3) ☐ ☐ ☒ ☐

Discussion: The project site is located on an existing four-lane bridge within an urban environment on Warner Avenue. The project vicinity has two distinct visual characters to the north and to the south of the site. The area north of Warner Avenue includes Huntington Harbour, and is largely marked by residential and commercial development. South of Warner Avenue is the vast expanses of the Bolsa Chica Ecological Reserve, which is a natural wildlife setting.

The proposed project will restore the existing bridge to its original design condition. It would not change the size or location of the bridge, and the aesthetics of the surroundings will essentially remain the same. Some plants on the south side of the bridge within the Reserve will be removed for grading and construction purposes, but will be replaced after construction; the project will not substantially degrade the aesthetic quality of the Bolsa Chica Ecological Reserve. Therefore, the project will result in a less than significant impact on the existing visual character of the site and its surroundings.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The proposed project will conduct preventive maintenance on an existing bridge, and will not create new sources of light or glare, which would adversely affect day or nighttime views in the area. No impacts would occur.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

XIV. CULTURAL RESOURCES. *Would the project:*

a) Cause a substantial adverse change in the significance of a historical resource as defined in δ15064.5? (Sources: 27, 28) ☐ ☐ ☐ ☒

Discussion: The National Register of Historic Places was reviewed, and no historic places are located within a half mile of the Warner Avenue Bridge. The listing of California Historic Landmarks was also reviewed, and no historic landmarks are located within a half mile of the Warner Avenue Bridge. Therefore, no impact to known historic resources will occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Sources: 27, 28) ☐ ☒ ☐ ☐

Discussion: Six cultural resources inventory surveys have been conducted on lands encompassing the Warner Avenue Bridge project site or within approximately 500 feet of it. No prehistoric or historic archaeological sites have been located adjacent to or in the immediate vicinity of the project area.

There is one archaeological site, CA-ORA-1699, a small shell midden which has not been tested, within a half-mile radius of the project area. Seven prehistoric and one historic (with a prehistoric component) archaeological sites are within a mile of the project area (CA-Ora-78/H, -83/86/144, -84, -85, -288, -289, -698, and -1700), all on the Bolsa Chica Mesa to the east and southeast of the bridge. Prehistoric archaeological sites CA-Ora-83, -84 and -85 are very significant sites, dating to approximately 8,660 years before present, containing the enigmatic "cogged stone" type artifacts and other caches of ideological artifacts, human burials and cremations, and evidence of social interaction not typically found within sites of this period. Given the sensitivity for prehistoric sites within the area, the possibility exists for discovery of further cultural resources during construction. Implementation of mitigation measure **CU-1** will reduce potential impacts to less than significant levels.

CU-1: Archaeological Monitoring

If unexpected archaeological features are discovered during ground-disturbing construction work, a qualified archaeologist will be retained to investigate and report such findings to the City if deemed necessary. If the archaeological resources are found to be significant, the archaeological observer will determine appropriate actions, in cooperation with the City, for exploration and/or salvage. These actions, as well as final disposition of the resources, will be subject to the approval of the City.

c) Directly or indirectly destroy a unique paleontological resource or site unique geologic feature? (Sources: 3, 27, 28) ☐ ☐ ☐ ☒

Discussion: The soils underneath the Warner Avenue Bridge are recent alluvial fill into the Bolsa Chica Marsh and there is little potential for paleontological resources to be present. There is the possibility for paleontological resources to be uncovered if there is deep excavation (five feet or deeper) of the project area. However, since deep excavation is not planned for this project, no impacts would occur.

d) Disturb any human remains, including those interred outside of formal cemeteries? (Sources: 3, 27, 28) ☐ ☒ ☐ ☐

Discussion: Archaeological sites within a half mile radius of the Warner Avenue Bridge project site have not uncovered any human remains; however, two prehistoric archaeological sites (CA-ORA-84 and CA-ORA-83/86/144) within a one mile radius on the Bolsa Chica Mesa to the east of the project site did contain several sets of human remains There are two prehistoric shell midden sites on the west edge of the Bolsa Chica Mesa that have not been tested, one of which, CA-ORA-1699, is approximately 2,100 feet east of the east edge of the project site. Given the cultural sensitivity for prehistoric sites within the area, the possibility exists for discovery of unknown human remains during construction within the project area if excavation and grading continues out from the east edge of the bridge. With the incorporation of mitigation measure **CU-2**, this impact will be reduced to less than significant.

CU-2: Notify County Coroner of Human Remains

In accordance with the Public Resources Code §5097.94, if human remains are found, the Orange County Coroner must be notified within 24 hours of the discovery. If the Coroner determines that the remains are not recent, the Coroner will notify the Native American Heritage Commission in Sacramento to determine the most likely descendent for the area. The designated Native American representative then determines in consultation with the City of Huntington Beach the disposition of the human remains.

XV. RECREATION. *Would the project:*

a) Would the project increase the use of existing neighborhood, community and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (Source: 3) ☐ ☐ ☐ ☒

Discussion: The project will perform preventive maintenance on an existing bridge, which will not result in an increased use of existing neighborhood and regional parks, and other recreational facilities. Therefore, the proposed project will have no impact on the physical deterioration of any recreational facilities.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (Source: 3)	☐	☐	☐	☒

Discussion: The proposed project will perform preventive maintenance on an existing bridge, which will not include recreational facilities or require the expansion of existing recreational facilities. Therefore, the proposed project will have no impact regarding recreational facilities.

c) Affect existing recreational opportunities? (Source: 3)	☐	☐	☐	☒

Discussion: The proposed project will perform preventive maintenance on an existing bridge, which will not include recreational facilities or require the expansion of existing recreational facilities. Therefore, the proposed project will have no direct impact on existing recreational facilities. The bridge includes an existing sidewalk and bike lane, which are part of the circulation network that provides access to Bolsa Chica State Beach on the seaward side of PCH. Therefore, repair of the bridge is essential in maintaining long term coastal access via Warner Avenue. During construction, the existing bike lane will be restricted but a temporary bike lane adjacent to the existing lane will be available. In sum, pedestrian and bicycle access will be maintained at all times. Therefore there will be no impact on existing recreational opportunities.

XVI. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. *Would the project:*

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (Sources: 1, 2, 29)	☐	☐	☐	☒

Discussion: The Orange County Important Farmland 2010 Map, produced by the California Resources Agency, identifies the project site as "Urban and Built-Up Land." The project site is not designated prime farmland, unique farmland, or farmland of statewide importance. Therefore, implementation of the proposed project will have no impact on farmlands, and will not have the potential to convert any farmland to non-agricultural use.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? (Source: 1, 2)	☐	☐	☐	☒

Discussion: The existing zoning for the adjacent land uses includes Commercial General, Water

Recreation Subdistrict, Residential Low Density, and Parks and Recreation Subdistrict to the north of the project site. The Bolsa Chica Wetlands are located south of and adjacent to the project site. Therefore, the project will not conflict with existing zoning for agricultural use, and no adverse impacts to agricultural resources will occur as a result of the proposed project. Williamson Act contracts are contracts with counties and cities to restrict land use to agricultural and compatible open space uses to discourage conversion to urban uses. Due to the zoning of the proposed project area, it is evident that the city is not restricting this land for agricultural purposes, so no conflict with a Williamson Act contract will occur.

d) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? (Sources: 1, 2, 29) ☐ ☐ ☐ ☒

Discussion: As previously discussed in the above responses, the project site is not located within an area designated for agricultural uses. The project will conduct preventive maintenance on an existing bridge, and will not result in the cumulative loss of farmland to non-agricultural use.

XVII. GREENHOUSE GAS EMISSIONS.

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Sources: 30, 31, 32, 33, 34, 37, 50) ☐ ☐ ☒ ☐

Discussion: California has been in the forefront in developing legislation and regulations aimed at reducing GHG emissions. The following is a brief summary of the developments over the past few years.

Executive Order #S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80% reduction in GHG emissions to below 1990 levels by 2050.

The California Global Warming Solutions Act of 2006 (AB 32). In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code § 38500 et seq.), into law. AB 32 was intended to effectively end the scientific debate in California over the existence and consequences of global warming. In general, AB 32 directs the California Air Resources Board (CARB) to do the following:

- On or before June 30, 2007, publicly make available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- By January 1, 2008, determine the statewide levels of GHG emissions in 1990, and adopt a statewide GHG emissions limit that is equivalent to the 1990 level (an approximately 25%

reduction in existing statewide GHG emissions);

- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources as CARB finds necessary to achieve the statewide GHG emissions limit; and
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

On December 11, 2008, the CARB approved the *Climate Change Scoping Plan* pursuant to AB 32. The Scoping Plan recommends a wide range of measures for reducing GHG emissions, including (but not limited to):

- Expanding and strengthening of existing energy efficiency programs;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a GHG emissions cap-and-trade program;
- Establishing targets for transportation-related GHG emissions for regions throughout the state, and pursuing policies and incentives to meet those targets;
- Implementing existing state laws and policies, including California's clean car standards, goods movement measures and the Low Carbon Fuel Standard; and
- Targeted fees to fund the state's long-term commitment to administering AB 32.

Executive Order S-01-07 (Low Carbon Fuel Standard). Executive Order #S-01-07 (January 18, 2007) establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 through establishment of a Low Carbon Fuel Standard. Carbon intensity is the amount of CO_2e (CO_2 equivalent) per unit of fuel energy emitted from each stage of producing, transporting and using the fuel in a motor vehicle. On April 23, 2009 the Air Resources Board adopted a regulation to implement the standard.

Senate Bill 97. Senate Bill 97 was signed by the governor on August 24, 2007. The bill required the Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop and transmit to the resources agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. On April 13, 2009 OPR submitted to the Secretary for Natural Resources its proposed amendments to the *State CEQA Guidelines* for greenhouse gas emissions. The Resources Agency adopted those guidelines on December 30, 2009, and they became effective on March 18, 2010. The amendments treat GHG emissions as a separate category of impacts (i.e., they are not to be addressed as part of an analysis of air quality impacts.)

Section 15064.4, which was added to the CEQA Guidelines, specifies how the significance of impacts from GHGs is to be determined. First, the lead agency should "make a good faith effort" to describe, calculate or estimate the amount of GHG emissions resulting from a project. After that, the lead agency should consider the following factors when assessing the impacts of the GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions, relative to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions.

The Governor's Office of Planning and Research (OPR) asked the CARB to make recommendations for GHG-related thresholds of significance. On October 24, 2008, the CARB issued a preliminary draft staff proposal for *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act.* After holding two public workshops and receiving comments on the proposal, CARB staff decided not to proceed with threshold development. Quantitative significance thresholds, if any, are to be set by local agencies.

Senate Bill 375. Senate Bill 375 requires coordination of land use and transportation planning to reduce GHG emissions from transportation sources. Regional transportation plans, which are developed by metropolitan transportation organizations such as the Southern California Association of Governments (SCAG), are to include "sustainable community strategies" to reduce GHG emissions.

Title 24. The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the *California Code of Regulations*) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Compliance with Title 24 will result in decreases in GHG emissions. The California Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards on April 23, 2008 with an aim to promote the objectives listed below.

- Provide California with an adequate, reasonably-priced and environmentally-sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the findings of California's Integrated Energy Policy Report (IEPR) that Standards are the most cost effective means to achieve energy efficiency, expects the Building

Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.

- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- Meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

The provisions of Title 24, Part 6 apply to all buildings for which an application for a building permit or renewal of an existing permit is required by law. They regulate design and construction of the building envelope, space-conditioning and water-heating systems, indoor and outdoor lighting systems of buildings, and signs located either indoors or outdoors. Title 24, Part 6 specifies mandatory, prescriptive and performance measures, all designed to optimize energy use in buildings and decrease overall consumption of energy to construct and operate residential and nonresidential buildings. Mandatory measures establish requirements for manufacturing, construction and installation of certain systems; equipment and building components that are installed in buildings.

The SCAQMD has prepared a Draft Guidance Document entitled *Interim CEQA Greenhouse Gas Significance Thresholds* (October 2008) for evaluating operational and construction impacts of proposed industrial projects, and has adopted an interim threshold of 10,000 tonnes of CO_2-equivalent per year. (One tonne, or "metric ton," is equivalent to 1,000 kilograms.) Per SCAQMD guidance, construction emissions should be amortized over the economic life of the project, which is proposed at 30 years.

Construction GHG emissions for CO_2, CH_4, and N_2O, and total carbon dioxide equivalent (CO_2e) were determined using CalEEMod. Operation of the proposed project would not generate new stationary or mobile sources of emissions; therefore, operational GHG emissions were not included in the analysis.

The proposed project will generate approximately 162 tonnes CO_2e over the construction period. Amortized over 30 years, construction will generate approximately 5.4 tonnes CO_2e emissions annually over the life of the project. Therefore, the proposed project will generate less than the SCAQMD interim threshold of 10,000 tonnes of CO_2e, and will have a less than significant impact on the environment.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Source: 30) ☐ ☐ ☒ ☐

Discussion: Currently, statewide GHG emissions are regulated through AB 32, which requires the State's GHG emissions be reduced to 1990 levels by 2020. As discussed in **Section XVII a**, the proposed project is well below the SCAQMD interim threshold and therefore would not conflict with any local or state targets for GHG emission reductions. The proposed project would not

conflict with plans to meet the goals of AB32; therefore, the project will have a less than significant impact.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (Source: 1, 3, 14, 15, 16, 45) ☐ ☒ ☐ ☐

Discussion: The project has the potential to affect jurisdictional waterways, sensitive natural communities, and special-status species. Implementation of the project design features and mitigation measures will bring these effects to a less than significant level, as described in Section VII above.

Implementation of the proposed project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) (Source: 1, 3, 16, 23, 49) ☐ ☐ ☒ ☐

Discussion: The project's incremental effects are not cumulatively considerable. As the project does not have any individually significant impacts that cannot be mitigated, it would not add cumulatively to any impacts by other surrounding projects. Considered individually with mitigation, the proposed project will result in less than significant impacts in the areas of biological resources and noise (construction-related). A database query on CEQAnet found that several projects are located within the project vicinity on Warner Avenue and Pacific Coast Highway, including the Warner Avenue Sewer Lift Station Project, Lower Mesa Restoration

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact

Project at the Bolsa Chica Reserve and the Bolsa Chica Roadway Embankment Reconstruction Project. The Sewer Lift Station Project and the proposed project will coincide in their construction schedules. Consequently, the improvements associated with the proposed project will be constructed in coordination with the Sewer Lift Station Project. This Sewer Lift Station Project would result in no significant environmental or cumulative operational impacts. Any minor short-term impacts related to construction would be reduced to below a level of significance or reduced to below a level of significance with mitigation measures incorporated. Both projects are relatively small in scale and scope; any potential impacts remain localized. When viewed in connection with other projects, the proposed project will also not result in significant cumulative impacts, with implementation of the proposed project design features and mitigation measures recommended in this document.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (Source: 1, 3, 16, 23, 49) ☐ ☒ ☐ ☐

Discussion: The project will conduct preventive maintenance on an existing bridge to restore its original design. As described in this environmental assessment, construction and operation of proposed project would not cause substantial adverse effects on human beings, either directly or indirectly. Potential impacts to humans would be reduced to below a level of significance by mitigation measures included in this project (see Attachment No. 2, Summary of Mitigation Measures).

XIX. EARLIER ANALYSIS/SOURCE LIST.

Earlier analyses may be used where, pursuant to tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). Earlier documents prepared and utilized in this analysis, as well as sources of information are as follows:

Earlier Documents Prepared and Utilized in this Analysis:

Reference #	Document Title	Available for Review at:
1	City of Huntington Beach General Plan	City of Huntington Beach Planning and Building Dept. 2000 Main Street Huntington Beach and at http://www.huntingtonbeachca.gov/Government/Departments/Planning/gp/index.cfm
2	City of Huntington Beach Zoning and Subdivision Ordinance	City of Huntington Beach City Clerk's Office, 2000 Main St., Huntington Beach and at http://www.huntingtonbeachca.gov/government/elected_officials/city_clerk/zoning_code/index.cfm
3	Reduced Site Plans	See Attachment #1
4	Earthquake Fault Zones	http://www.consrv.ca.gov/CGS/rghm/ap/Pages/index.aspx
5	Significant Earthquakes and Faults	http://www.data.scec.org/significant/fault-index.html
6	Seismic Hazards Zonation Program	http://www.conservation.ca.gov/cgs/shzp/Pages/Index.aspx
7	FEMA Flood Insurance Rate Map (September 27, 2011)	http://gis1.msc.fema.gov/Website/newstore/viewer.htm
8	Email from Richard Sanguinetti, Biggs Cardosa Associates, Inc., Orange, California to Kendall Jue, UltraSystems Environmental, Inc., Irvine, California	City of Huntington Beach Planning and Building Department 2000 Main Street Huntington Beach, CA 92648
9	CalEEMod User's Guide Version 2011.1.	South Coast Air Quality Management District (SCAQMD), http://www.aqmd.gov/caleemod/guide.htm
10	Technical Specification Cold Milling Machine W 50 - 2009	Wirtgen, http://www.wirtgen.de/en/produkte/kaltfraesen/w_50/W50_Produktseite.php
11	Port of Long Beach Air Emissions Inventory – 2005	http://www.polb.com/civica/filebank/blobdload.asp?BlobID=4414
12	Final Localized Significance Threshold Methodology	South Coast Air Quality Management District (SCAQMD) http://www.aqmd.gov/ceqa/handbook/lst/lst.html
13	Regional Transportation Plan.	Southern California Association of Governments

Reference #	Document Title	Available for Review at:
		(SCAG), http://rtpscs.scag.ca.gov/Pages/default.aspx
14	California Natural Diversity Database, Biogeographic Information Observation System	California Department of Fish and Game http://www.dfg.ca.gov/biogeodata/
15	Email from Marilyn Fluharty, California Department of Fish and Game, San Diego, California to Michelle Tollett December 14, 2011	City of Huntington Beach Planning and Building Department 2000 Main Street Huntington Beach, CA 92648
16	Natural Environment Study (NES) for the Warner Avenue Bridge Maintenance Project (over Bolsa Chica Channel), March 2012	See Attachment #3
17	Essential Fish Habitat Mapper	http://www.habitat.noaa.gov/protection/efh/habitatmapper.html
18	Animals of Bolsa Chica	http://www.bolsachicalandtrust.org/animals.html
19	Natural Community Conservation Planning (NCCP)	http://www.dfg.ca.gov/habcon/nccp/status/OrangeCoastal
20	Cleanup Sites and Hazardous Waste Permitted Facilities	http://www.envirostor.dtsc.ca.gov/public/
21	City of Huntington Beach Municipal Code	City of Huntington Beach City Clerk's Office, 2000 Main St., Huntington Beach and at http://www.huntingtonbeachca.gov/government/charter_codes/municipal_code.cfm
22	Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety	http://www.nonoise.org/epa/Roll1/roll1doc11.pdf
23	Guide to the Evaluation of Human Exposure to Vibration in Buildings	American National Standards Institute (ANSI)
24	Transit Noise and Vibration Impact Assessment	http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf
25	California Department of Resources Recycling and Recovery Data Central	http://www.calrecycle.ca.gov/DataCentral/default.htm
26	Eligible and Officially Designated Routes	http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm
27	National Register of Historic Places. Orange County, California	http://www.nationalregisterofhistoricplaces.com/CA/Orange/state.html
28	California Office of Historic Preservation (OHP). Historic Landmarks, Orange County, CA	http://ohp.parks.ca.gov/?page_id=21445
29	Farmland Mapping and Monitoring Program	http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx

Reference #	Document Title	Available for Review at:
30	Climate Change Scoping Plan, a Framework for Change, Pursuant to AB32, the California Global Warming Solutions Act of 2006	California Air Resources Board (CARB) http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm
31	Preliminary Draft Staff Proposal. Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act	California Air Resources Board (CARB) http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/prelimdraftproposal102408.pdf
32	Personal communication from Douglas Ito, California Air Resources Board, Sacramento, California, to Michael Rogozen, UltraSystems Environmental, Inc.	City of Huntington Beach Planning and Building Department 2000 Main Street Huntington Beach, CA 92648
33	2008 Building Energy Efficiency Standards	http://www.energy.ca.gov/title24/2008standards/index.html
34	2008 Building Energy Efficiency Standards for Residential and Nonresidential Buildings	California Energy Commission
35	HB Goes Green	http://www.huntingtonbeachca.gov/residents/green_city/mayor.cfm
36	City of Huntington Beach Geotechnical Inputs Report	City of Huntington Beach 2000 Main Street Huntington Beach
37	CEQA Air Quality Handbook South Coast Air Quality Management District (1993)	South Coast Air Quality Management District (SCAQMD)
38	City of Huntington Beach CEQA Procedure Handbook	City of Huntington Beach Planning and Building Department 2000 Main Street Huntington Beach, CA 92648
39	Trip Generation Handbook, 7th Edition, Institute of Traffic Engineers	Institute of Traffic Engineers
40	Airport Environs Land Use Plan for Joint Forces Training Base Los Alamitos (Oct. 17, 2002)	Airport Land Use Commission Document available only upon request http://www.ocair.com/commissions/aluc/
41	Hazardous Waste and Substances Sites List	http://www.calepa.ca.gov/sitecleanup/corteselist/
42	Congestion Management Program	http://www.octa.net/pdf/2011-CMP.pdf
43	Personal Communication between Commander David Sulouff (US Coast Guard) and Mario Mariotta (UltraSystems Biologist), January 20, 2012	City of Huntington Beach Planning and Building Department* 2000 Main Street Huntington Beach, CA 92648
44	Personal Communication between Kelly O'Reilly (CDFG) and Michelle Tollett (UltraSystems Sr. Biologist)	City of Huntington Beach Planning and Building Department 2000 Main Street

Reference #	Document Title	Available for Review at:
		Huntington Beach, CA 92648
45	1987 Wetland Delineation Manual	United States Army Corps of Engineers
46	Personal communication between Eric Chavez (NOAA Marine Fisheries) and Michelle Tollett (UltraSystems Sr. Biologist) November 18, 2011	City of Huntington Beach Planning and Building Department 2000 Main Street Huntington Beach, CA 92648
47	E-mail from Bryant Chesney (NOAA Marine Fisheries) to Charles Baker (Caltrans) April 10, 2012	City of Huntington Beach Planning and Building Department 2000 Main Street Huntington Beach, CA 92648
48	Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October, 2008.	South Coast Air Quality Management District (SCAQMD), http://www.aqmd.gov/ceqa/handbook/GHG/2008/oct22mtg/GHGguidance.pdf
49	Warner Avenue Sewer Lift Station Project Environmental Assessment	http://www.huntingtonbeachca.gov/files/users/planning/Warner_Ave_Sewer_Lift_Station_Final_EA.pdf
50	Criteria Air Pollutant and Greenhouse Gas Emissions Modeling Output	City of Huntington Beach Planning and Building Department 2000 Main Street Huntington Beach, CA 92648

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

WARNER AVENUE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)

BRIDGE No. 55C-0417
BPMPL-5181(169)
C.C. No. 1356

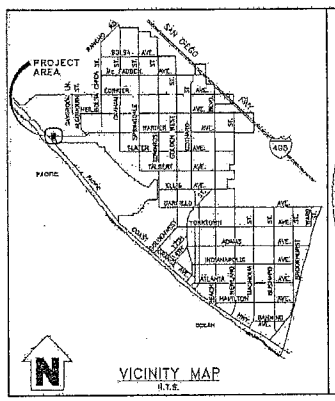
APPROVED: _____ 5/9/12
TRAVIS K. HOPKINS, P.E.
DIRECTOR OF PUBLIC WORKS
DATE

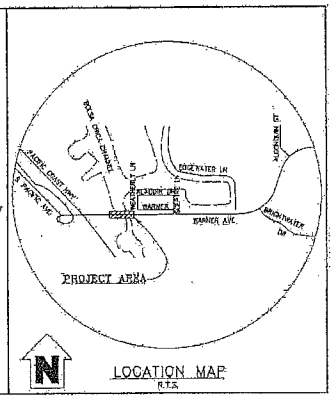
GENERAL NOTES:

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE BASED ON A SEARCH OF THE AVAILABLE RECORDS. UTILITY SURFACE FEATURES ARE BASED ON FIELD OBSERVATION. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITY LINES, SHOWN OR NOT SHOWN ON THESE PLANS.
2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COMPLETE AND SUBMIT TO THE AGENCY THE UNDERGROUND SERVICE ALERT IDENTIFICATION FORM WHICH HAS BEEN PROVIDED IN THE PROJECT SPECIFICATIONS.
3. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AGENCY'S STANDARD PLANS, PROJECT PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL KEEP A COPY OF THIS INFORMATION ON THE JOB SITE.
4. A PRE-CONSTRUCTION MEETING SHALL BE HELD A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCING OF WORK.
5. THE CONTRACTOR SHALL NOTIFY THE AGENCY'S CONSTRUCTION MANAGER, ERIC CHARLONNE, @ (714) 536-5430, A MINIMUM OF 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND 48 HOURS IN ADVANCE FOR PROJECT INSPECTION. SURVEY STAKING SHALL BE PROVIDED BY THE CONTRACTOR.
6. PROJECT STATIONING REFERS TO THE CENTERLINE OF STREET.
7. STOCKPILING OF REMOVAL MATERIAL WILL NOT BE ALLOWED IN OR AROUND THE PROJECT SITE OR PUBLIC RIGHT OF WAY.
8. DOORKNOB NOTIFICATION OF RESIDENTS AND BUSINESS OWNERS DIRECTLY AFFECTED BY CONSTRUCTION AND THE POSTING OF "NO PARKING" NOTIFICATION SIGNS SHALL OCCUR A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
9. PUBLIC AND/OR PRIVATE IMPROVEMENTS TO BE PROTECTED IN PLACE ARE NOT LIMITED TO THOSE SPECIFICALLY CALLED OUT ON THE PLANS. ALL EXISTING IMPROVEMENTS WHICH ARE NOT IDENTIFIED FOR REMOVAL AND/OR RECONSTRUCTION ON THE PLANS AND/OR SPECIFICATIONS SHALL BE PROTECTED IN PLACE AT THE CONTRACTOR'S EXPENSE PER SECTION 7-9 OF THE SPECIFICATIONS.
10. PRIOR TO THE END OF EACH WORKING DAY, THE CONTRACTOR SHALL CONSTRUCT THE A.C. BASE COURSE SECTION REQUIRED WITHIN EACH AREA OF PAVEMENT EXCAVATED DURING THAT WORKING DAY, UNLESS OTHERWISE PERMITTED BY THE CITY ENGINEER. TRAVEL LANES SHALL BE OPEN TO TRAFFIC AT THE END OF EACH WORKING DAY PER SECTION 6-7.2 AND 7-10.3 OF THE SPECIFICATIONS.

NPDES GENERAL NOTES:

1. SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS AS REQUIRED BY THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
2. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND AS REQUIRED BY THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
3. APPROPRIATE BMPS FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTY BY WIND OR RUNOFF AS REQUIRED BY THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
4. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES AND MUST NOT BE DISCHARGED TO RECEIVING WATERS OR TO THE LOCAL STORM DRAIN SYSTEM.
5. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
6. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED IN TRASH OR RECYCLE BINS.
7. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT A STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OF MATERIALS OTHER THAN STORMWATER (NON-STORMWATER DISCHARGES) ARE PROHIBITED EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NPDES PERMIT OR THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
8. POTENTIAL POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDE, HERBICIDE, FERTILIZERS, WOOD PRESERVATIVES AND ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; CONCRETE AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM ENGINE / EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; WASTES FROM STREET CLEANING; AND SUPER-CHLORINATED POTABLE WATER FROM LINE FLUSHINGS AND TESTING.
9. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED, TEMPORARY AREA ON-SITE AND PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
10. DISCHARGING CONTAMINATED GROUNDWATER, PRODUCED BY DEWATERING GROUNDWATER THAT HAS INFILTRATED INTO THE CONSTRUCTION SITE IS PROHIBITED. DISCHARGING OF CONTAMINATED SOILS VIA SURFACE EROSION IS ALSO PROHIBITED. DISCHARGING NON-CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING ACTIVITIES REQUIRES A NATIONAL POLLUTANTS DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.
11. NOTICE: ALL CONTRACTORS AND CONSTRUCTION PERSONNEL SHALL MEET THE REGULATORY CONSTRUCTION REQUIREMENTS ON THE PROJECT SITE, AS SHOWN IN THE LATEST EDITION OF THE ORANGE COUNTY STORMWATER PROGRAM "CONSTRUCTION RUNOFF GUIDANCE MANUAL".





BID ITEM		QUANTITY	
1.	MOBILIZATION	1	LS
2.	PREPARE STORM WATER POLLUTION PREVENTION PLAN	1	LS
3.	WATER POLLUTION CONTROL	1	LS
4.	ACCESS GRADING	1	LS
5.	TRAFFIC CONTROL	1	LS
6.	SAW CUT, GRIND AND REMOVE AC PAVEMENT	13020	SF
7.	ASPHALT TACK COAT AND ARHM PAVEMENT	144	TN
8.	SAW CUT AND REMOVE EXISTING PCC CURB AND GUTTER	8	LF
9.	CONSTRUCT VARIABLE HEIGHT PCC CURB AND GUTTER	8	LF
10.	INSTALL 4' HIGH ENVIRONMENTAL PROTECTION FENCE	230	LF
11.	ADJUST GAS VALVE FRAME AND COVER TO GRADE	2	EA
12.	INSTALL STRIPING AND PAVEMENT MARKINGS	1	LS
13.	REMOVE UNSOUND CONCRETE	33	SF
14.	REMOVE CONCRETE BARRIER	234	LF
15.	REMOVE CHAIN LINK RAILING	234	LF
16.	RECONSTRUCT METAL BEAM GUARD RAILING	50	LF
17.	RECONSTRUCT WOOD RAIL FENCE	100	LF
18.	PORTLAND CEMENT CONCRETE (PATCH)	33	SF
19.	ROCK SLOPE PROTECTION (1/4 TON METHOD A)	310	CY
20.	ROCK SLOPE PROTECTION FABRIC (CLASS B)	310	SY
21.	CONCRETE BARRIER (TYPE 26 MODIFIED)	117	LF
22.	CONCRETE BARRIER (TYPE 732 MODIFIED)	117	LF
23.	CHAIN LINK RAILING (TYPE 7)	234	LF
24.	SEAL CONCRETE BRIDGE DECK	6483	SF

SHEET INDEX		
SHEET NO.	DRAWING NO.	DESCRIPTION
1	T1	TITLE SHEET
2	T2	SITE PLAN
3	C1	CIVIL PLAN
4	TC1	TRAFFIC CONTROL PLAN 1
5	TC2	TRAFFIC CONTROL PLAN 2
6	TC3	TRAFFIC CONTROL PLAN 3
7	TC4	TRAFFIC CONTROL PLAN 4
8	S51	SIGN AND STRIPING PLAN
9	S1	GENERAL PLAN
10	S2	GENERAL NOTES
11	S3	FOUNDATION PLAN
12	S4	ABUTMENT DETAILS
13	S5	TYPICAL SECTION
14	S6	TYPICAL SECTION DETAILS

NOTICE TO THE CONTRACTOR

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				
NO.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
BCA

PREPARED UNDER THE SUPERVISION OF:
KEVIN A. JOHNSON, PRINCIPAL S.E. DATE
R.E.C. NO.: 54673 EXP. DATE: 6/30/13
APPROVED BY:
D. TODD BIRMINGHAM, PRINCIPAL S.E. DATE
R.C.E. NO.: 52214 EXP. DATE: 12/31/13

DRAWN BY	DN	4/3/12
DESIGNED BY	RBS	4/3/12
CHECKED BY		

CITY ENGINEER
Travis Hopkins, P.E. DATE 5/9/12
R.C.E. NO.: 52819 EXP. DATE: 9/30/13

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

TITLE SHEET
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

SHEET NO. 1 OF 14
T1

(2012211A1T1) 2012211

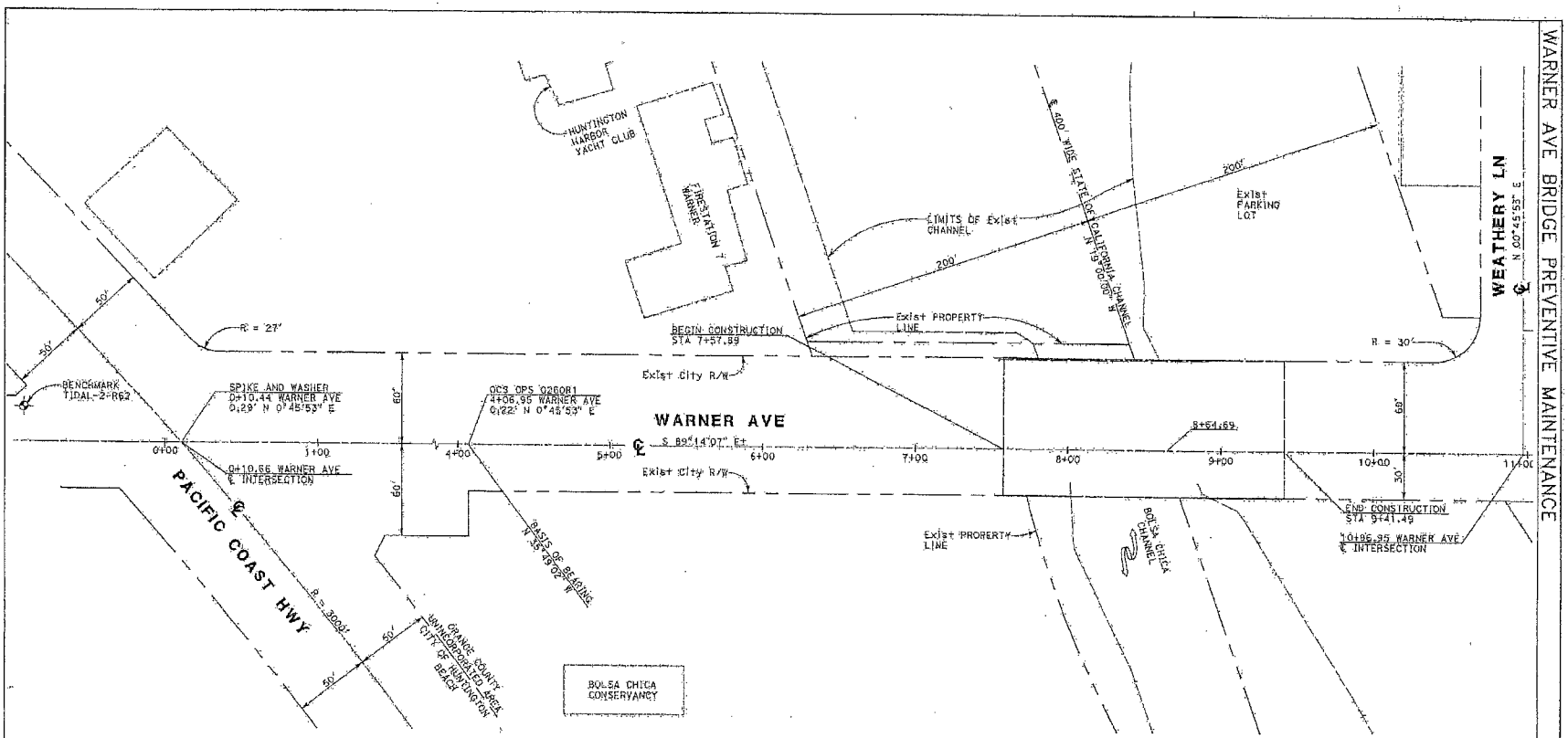
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE C.C. No. 1356

ATTACHMENT NO. 1
1-1

ATTACHMENT NO. 1.2

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE

C.C. No. 1356



PLAN
1" = 30'

BENCHMARKS AND BASIS OF BEARINGS:

HORIZONTAL CONTROL:
THE HORIZONTAL COORDINATES OF THIS SURVEY ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83); ZONE VI, 1983 MAD. (1991.35 EPOCH OCS OPS ADJUSTMENT).
THE BASIS OF BEARINGS WAS DETERMINED BASED ON THE SURVEY PERFORMED BY JOSEPH E. TRUZAW AND ASSOCIATES, INC. (CIVIL ENGINEERS & LAND SURVEYORS). THE BEARING BETWEEN O.C.S. HORIZONTAL CONTROL STATION OPS NO. 026OR1 & CONTROL STATION OPS NO. 5077, BEING N35°49'02"W PER O.C.S. HORIZONTAL CONTROL DATA SHEET ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY.

VERTICAL CONTROL:
BENCHMARK: TIDAL-2-R62

FOUND ORANGE COUNTY PUBLIC WORKS 3 3/4" NATIONAL GEODETIC SURVEY BRONZED DISK IN THE TOP OF A CONCRETE FOOTING FOR A TRAFFIC SIGNAL POLE. MONUMENT IS LOCATED IN THE NORTHWESTERLY CORNER OF THE INTERSECTION OF PACIFIC COAST HIGHWAY AND WARNER AVENUE, 17.2 FEET NORTHERLY OF THE CENTERLINE PROJECTED TO THE WEST OF WARNER AVENUE. DISK IS STAMPED "TIDAL-2".

ELEVATION = 8.775 FEET (NAVD 88) - YR. LEVELED 2005/1995 O.C.S ADJ.

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS					
REV	DATE	BY	DESCRIPTION	APP'VD	

REFERENCES

BOGGS CARDOSA ASSOCIATES INC. STRUCTURAL ENGINEERS
BCA

DRAWN BY: DH 8/7/11
DESIGNED BY: RBS 8/7/11
CHECKED BY:

PREPARED UNDER THE SUPERVISION OF:
Michael A. Jenkins PRINCIPAL E.E. DATE
R.E.E. NO. 54670 EXP. DATE: 9/30/12
APPROVED BY:
N. Todd Brummer PRINCIPAL E.E. DATE
R.E.E. NO. 52714 EXP. DATE: 12/31/12

REGISTERED PROFESSIONAL ENGINEER No. 54670 Exp. 9/30/12 STRUCTURAL STATE OF CALIFORNIA

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

SITE PLAN
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

SHEET NO. 2 OF 14
T2

(201021)A(T2) 2010211

CONSTRUCTION NOTES:

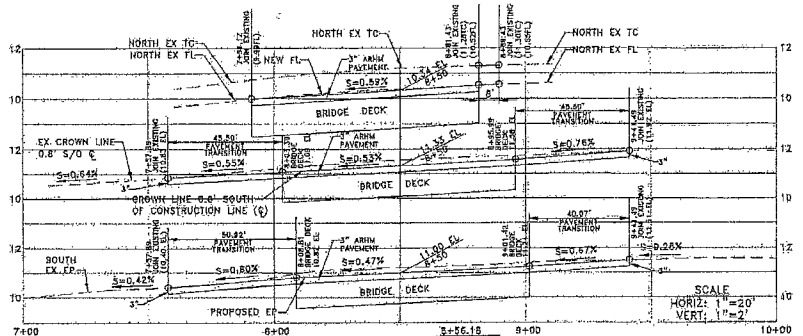
1. SAWCUT, GRIND AND REMOVE EXISTING AC PAVEMENT 3" DEPTH AT SAWCUT AND GREATER DEPTH (5"±) AT BRIDGE DECK TO EXPOSE EXISTING CEMENT CONCRETE BRIDGE DECK. APPLY SS-1h TACK COAT ON ALL SURFACES AND EDGES TO BE PAVED. CONSTRUCT 2" ARHM-GG-C1" PG 64-16 FINISH COURSE ON 1" ARHM-GG-C1" PG 64-16 LEVELING COURSE.
2. SAWCUT AND REMOVE EXISTING CURB & GUTTER. CONSTRUCT 10" TO 8.8" VARIABLE HEIGHT PCC CURB AND 2' GUTTER (A2) PER APWA STD PLAN 120-2.
3. ADJUST GAS VALVE FRAME AND COVER TO FINISH GRADE.
4. CONSTRUCT 4' HIGH ENVIRONMENT PROTECTION ORGANIC PLASTIC SAFETY MESH FENCE WITH METAL STAKES, CORTINA BARRIER FENCE, OR EQUAL.
5. ACCESS GRADING: CONTRACTOR ACCESS AREA SHALL BE GRADED BY THE CONTRACTOR AS NEEDED AND AS APPROVED BY THE CITY ENGINEER AND SHALL BE RECONSTRUCTED AND REPLANTED TO ITS ORIGINAL CONDITION AS APPROVED BY THE CITY ENGINEER.
6. RECONSTRUCT METAL BEAM GUARD RAIL FENCE IN THE ORIGINAL LOCATION USING THOSE ORIGINAL SALVAGED MATERIALS WHICH ARE IN GOOD CONDITION AND REPLACING DAMAGED OR POOR CONDITION MATERIALS WITH NEW MATERIALS IN KIND PER CALTRANS STANDARD SPECIFICATIONS 15-2.04 AS APPROVED BY THE CITY ENGINEER.
7. PROTECT IN PLACE.
8. RECONSTRUCT WOOD RAIL FENCE IN THE ORIGINAL LOCATION USING THOSE ORIGINAL SALVAGED MATERIALS WHICH ARE IN GOOD CONDITION AND REPLACING DAMAGED OR POOR CONDITION MATERIALS WITH NEW MATERIALS IN KIND PER CALTRANS STANDARD SPECIFICATIONS 15-2.04 AS APPROVED BY THE CITY ENGINEER.

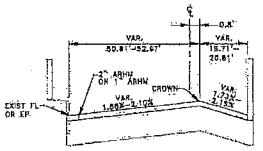
STRIPING NOTES:

FOR FINAL SIGNING, STRIPING, AND PAVEMENT MARKINGS, SEE SHEET 8 OF 14, SS1, SIGN AND STRIPING PLAN.

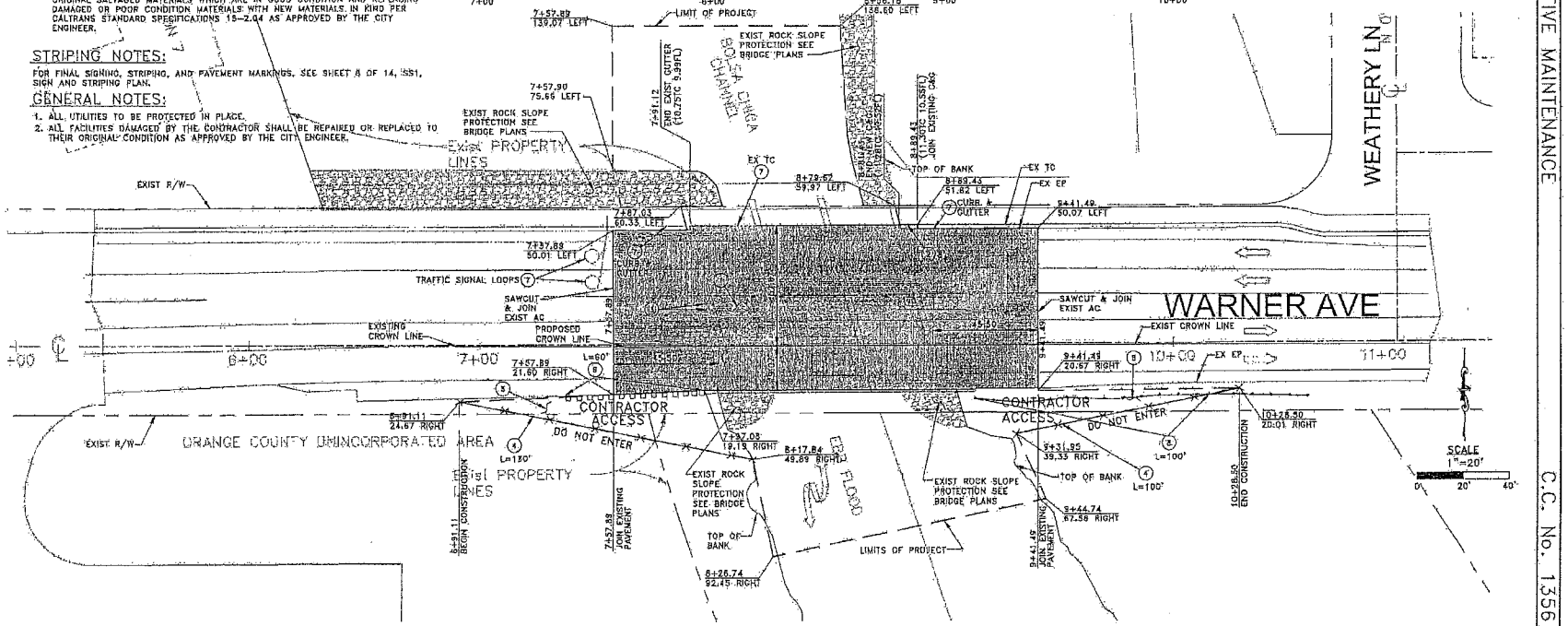
GENERAL NOTES:

1. ALL UTILITIES TO BE PROTECTED IN PLACE.
2. ALL FACILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THEIR ORIGINAL CONDITION AS APPROVED BY THE CITY ENGINEER.





TYPICAL SECTION
LOOKING EAST
NOT TO SCALE



Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				REFERENCES
REV.	DATE	BY	DESCRIPTION	APP'D

T.Y. ZIMMERMAN ENGINEERING, INC.
5772 BOLSA AVE SUITE 200
HUNTINGTON BEACH, CA 92649
TEL: (714) 799 1710
FAX: (714) 799 1701

DRAWN BY:	HE	11/18/2015
DESIGNED BY:	HE	11/18/2015
CHECKED BY:	WZ	11/18/2015

PREPARED UNDER THE SUPERVISION OF:
WILLIAM ZIMMERMAN, P.E. DATE
R.C.E. NO.: 28667 EXP. DATE: 3/31/2015
APPROVED BY:
ALYSSA BRANDOW PRINCIPAL C.E. DATE
M.C.E. NO.: 082144 EXP. DATE: 12/31/15

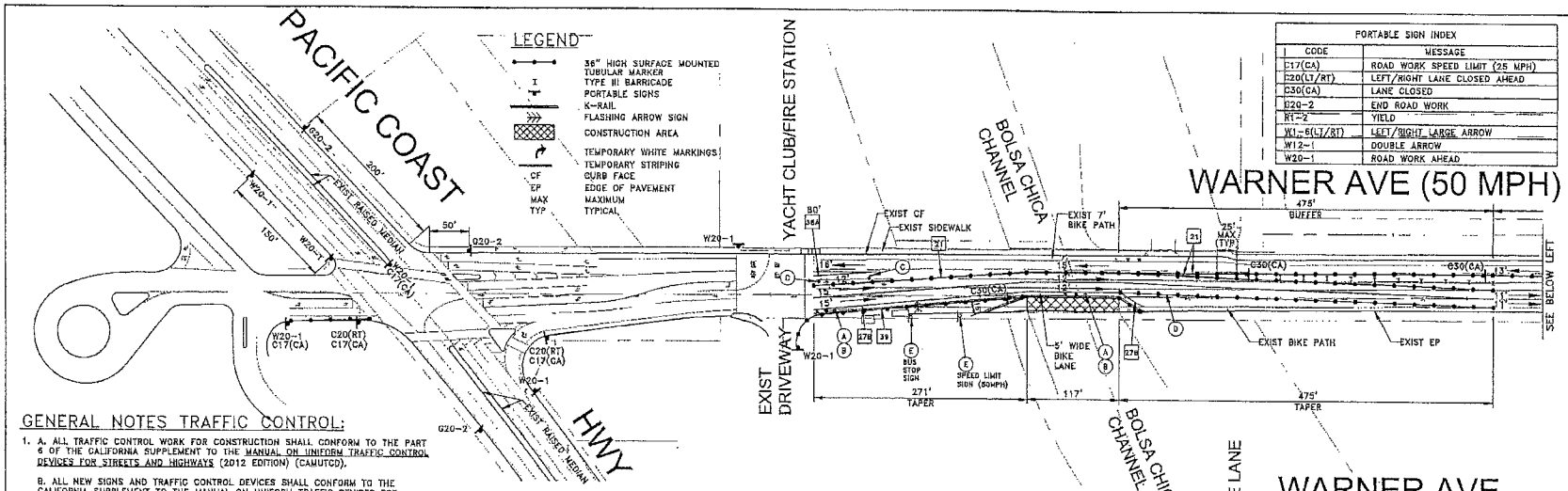
CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

CIVIL PLAN
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

SHEET NO. 3 OF 14
C1

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE C.C. No. 1356

ATTACHMENT NO. 1-3



PORTABLE SIGN INDEX	
CODE	MESSAGE
C17(CA)	ROAD WORK SPEED LIMIT (25 MPH)
C20(LT/RT)	LEFT/RIGHT LANE CLOSED AHEAD
C30(CA)	LANE CLOSED
G20-2	END ROAD WORK
R1-2	YIELD
W1-6(LT/RT)	LEFT/RIGHT LARGE ARROW
W12-1	DOUBLE ARROW
W20-1	ROAD WORK AHEAD

GENERAL NOTES TRAFFIC CONTROL:

1. A. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE PART 6 OF THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (2012 EDITION) (CAMUTCD).

   B. ALL NEW SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREETS AND HIGHWAYS (CAMUTCD), 2012 EDITION. ALL SIGN SIZES SHALL BE THE STANDARD SIZE SHOWN IN THEIR RESPECTIVE PUBLICATIONS UNLESS NOTED OTHERWISE ON THE PLAN. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE REFLECTORIZED. ALL TUBULAR PORTABLE DELINEATORS SHALL BE 36" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 6" HEIGHT. CONES SHALL BE 28" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 10" HEIGHT REFLECTIVE SURFACE.

   C. ALL NEW STRIPING, PAVEMENT MARKERS, PAVEMENT LEGENDS, ARROWS, MARKINGS AND CURB PAINTING SHALL CONFORM TO THE 2010 CALTRANS STANDARD SPECIFICATIONS SECTION 84, TRAFFIC STRIPES AND PAVEMENT MARKINGS, AND SECTION 85, PAVEMENT MARKERS, STANDARD PLANS A20A-D AND A24A-E. THE CURRENT CITY OF HUNTINGTON BEACH PUBLIC WORKS DEPARTMENT STANDARD PLANS, AND THESE PLANS. CONTRACTOR SHALL RESTORE ANY AND ALL STRIPING AND PAVEMENT MARKINGS DAMAGED OR REMOVED DURING CONSTRUCTION PER CITY OF HUNTINGTON BEACH REQUIREMENTS. CONTRACTOR MAY USE PREFABRICATED REMOVABLE DETOUR TAPE, PAVEMENT ARROWS, AND RAISED PAVEMENT MARKERS FOR SHORT-TERM USE AS DIRECTED BY THE ENGINEER.
2. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
3. THE ENGINEER SHALL BE DEFINED AS THE CITY OF HUNTINGTON BEACH TRAFFIC ENGINEER OR HIS REPRESENTATIVE OR THE STATE INSPECTOR WITHIN STATE R/W.
4. THE ENGINEER AND STATE INSPECTOR WILL HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS TO THESE PLANS AND NOTES, AS HE DEEMS NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC AND PEDESTRIANS THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE AT NO ADDITIONAL COST TO THE AGENCY.
5. CONSTRUCTION ACTIVITY IN THE ROADWAY WILL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 4:00 P.M.. ALL TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 4:00 P.M. TO 7:00 A.M., UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER (STATE INSPECTOR WITHIN STATE R/W).
6. FLASHING BEACONS AND WARNING LIGHTS SHALL BE USED AS DIRECTED BY THE ENGINEER; OR THE STATE INSPECTOR IN OR IN ADVANCE OF STATE R/W.
7. ALL EXISTING TRAFFIC CONTROL SIGNS AND STREET SIGNS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE ENGINEER) ANY STRIPING OR SIGNING DAMAGED DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS.
8. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED, SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC.
9. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES IF AT ALL POSSIBLE. ADDITIONAL CONES OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
10. 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE IMMEDIATE VICINITY OF A TRAFFIC SIGNAL CONTROLLED INTERSECTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (800-422-4133). THIS PRIOR NOTICE WILL ALLOW THE LOCATION AND MARKING OF UNDERGROUND TRAFFIC SIGNAL CONDUIT AND TRAFFIC SIGNAL LOOP DETECTORS PRIOR TO CONSTRUCTION DAMAGES TO TRAFFIC SIGNAL CONDUIT, CONDUCTORS, LOOP DETECTORS, OR OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BE REPAIRED WITHIN 24 HOURS AT THE CONTRACTOR'S EXPENSE, PER THE CITY OF HUNTINGTON BEACH STANDARD SPECIAL PROVISIONS FOR THE CONSTRUCTION OF TRAFFIC SIGNALS AND STREET LIGHTING, LATEST EDITION.
11. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE. STREETS ALONG THE HAUL ROUTE SHALL BE SWEPT OR WASHED DAILY, DURING EACH DAY OF HAULING OPERATIONS.
12. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SANDBLAST ALL TEMPORARY STRIPING AND PAVEMENT MARKINGS. CONTRACTOR SHALL RESTORE EXISTING STRIPING, REMOVED DURING CONSTRUCTION, BACK TO ITS ORIGINAL OR BETTER CONDITION AS DIRECTED BY THE ENGINEER IN THE FIELD.
13. ALL ADVANCE WARNING SIGNS INSTALLED SHALL REMAIN IN PLACE FOR THE DURATION OF THE CONSTRUCTION PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD TO BE REMOVED OR RELOCATED.
14. REMOVE ANY EXCESS AND/OR CONFLICTING EXISTING PAVEMENT MARKINGS AND STRIPING BY SANDBLASTING.
15. THE CONTRACTOR SHALL COORDINATE BUS STOP RELOCATIONS AND CLOSURES WITH OCTA TRANSIT.
16. THE CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS.

TEMPORARY STRIPING AND MARKINGS NOTES:

ALL TEMPORARY STRIPINGS AND PAVEMENT MARKINGS SHALL BE PER CALTRANS STANDARD PLANS (LATEST EDITION).

5XA INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.

(A) INSTALL BIKE LANE ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.

(B) INSTALL "BIKE LANE" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.

(C) INSTALL TYPE IV(L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.

(D) INSTALL 4" WIDE WHITE SOLID LINE.

(E) COVER EXISTING CONFLICTING SIGN.

(F) INSTALL TYPE I THROUGH ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.

ESTIMATED DURATION OF THIS STAGE: 85 WORKING DAYS

PHASE 1

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'D

REFERENCES

W.O. SHERMAN ENGINEERING, INC.
5772 BOLSA AVE SUITE 200
HUNTINGTON BEACH, CA 92649
TEL: (714) 799 1700
FAX: (714) 799 1701

DRAWN BY:	RO	11/18/2011
DESIGNED BY:	AB	11/18/2011
CHECKED BY:	WE	11/18/2011

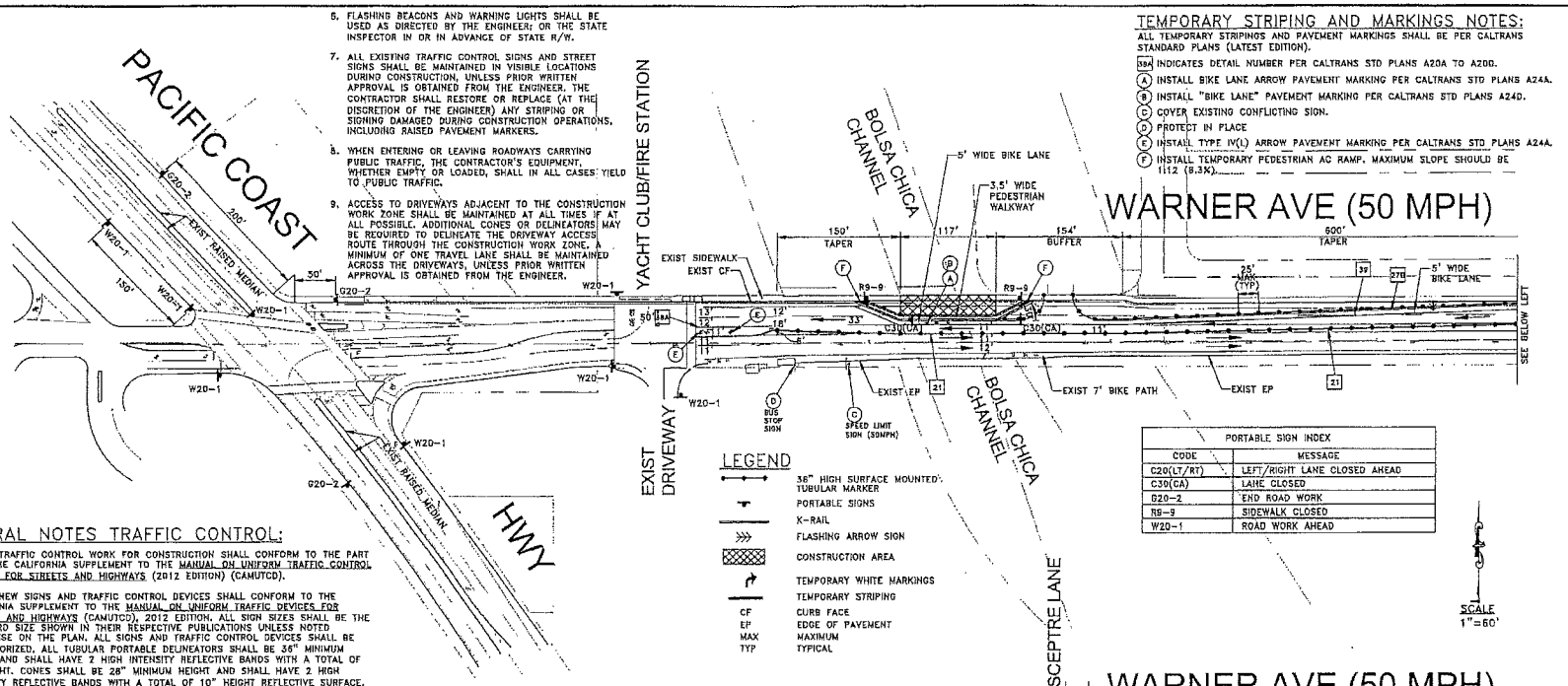
PREPARED UNDER THE SUPERVISION OF:
WILLIAM E. ENDERMAN, P.E. — 3/19/2012 DATE
R.C.E. NO. C46867 EXP. DATE: 6/30/2013
APPROVED BY:
TRANSPORTATION ENGINEERING — 5/09/12

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN 1
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+67.99 TO STA. 9+41.49

SHEET NO. 4 OF 14
TC1

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
C.C. No. 1356



TEMPORARY STRIPING AND MARKINGS NOTES:

ALL TEMPORARY STRIPINGS AND PAVEMENT MARKINGS SHALL BE PER CALTRANS STANDARD PLANS (LATEST EDITION).

39A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.

(A) INSTALL BIKE LANE ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.

(B) INSTALL "BIKE LANE" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.

(C) COVER EXISTING CONFLICTING SIGN.

(D) PROTECT IN PLACE

(E) INSTALL TYPE IV(L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.

(F) INSTALL TEMPORARY PEDESTRIAN AC RAMP. MAXIMUM SLOPE SHOULD BE 1:12 (8.3%).

PORTABLE SIGN INDEX	
CODE	MESSAGE
C20(LT/RT)	LEFT/RIGHT LANE CLOSED AHEAD
C30(CA)	LANE CLOSED
G20-2	END ROAD WORK
R9-9	SIDEWALK CLOSED
W20-1	ROAD WORK AHEAD

GENERAL NOTES TRAFFIC CONTROL:

1. A. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE PART 6 OF THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (2012 EDITION) (CAMUTCD).

   B. ALL NEW SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREETS AND HIGHWAYS (CAMUTCD), 2012 EDITION. ALL SIGN SIZES SHALL BE THE STANDARD SIZE SHOWN IN THEIR RESPECTIVE PUBLICATIONS UNLESS NOTED OTHERWISE ON THE PLAN. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE REFLECTORIZED. ALL TUBULAR PORTABLE DELINEATORS SHALL BE 36" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 6" HEIGHT. CONES SHALL BE 28" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 10" HEIGHT REFLECTIVE SURFACE.

   C. ALL NEW STRIPING, PAVEMENT MARKERS, PAVEMENT LEGENDS, ARROWS, MARKINGS AND CURB PAINTING SHALL CONFORM TO THE 2010 CALTRANS STANDARD SPECIFICATIONS SECTION 84, TRAFFIC STRIPES AND PAVEMENT MARKINGS, AND SECTION 85, PAVEMENT MARKERS, STANDARD PLANS A20A-D AND A24A-E, THE CURRENT CITY OF HUNTINGTON BEACH PUBLIC WORKS DEPARTMENT STANDARD PLANS, AND THESE PLANS. CONTRACTOR SHALL RESTORE ANY AND ALL STRIPING AND PAVEMENT MARKINGS DAMAGED OR REMOVED DURING CONSTRUCTION PER CITY OF HUNTINGTON BEACH REQUIREMENTS. CONTRACTOR MAY USE PREFABRICATED REMOVABLE DETOUR TAPE, PAVEMENT ARROWS, AND RAISED PAVEMENT MARKERS FOR SHORT-TERM USE AS DIRECTED BY THE ENGINEER.

2. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.

3. THE ENGINEER SHALL BE DEFINED AS THE CITY OF HUNTINGTON BEACH TRAFFIC ENGINEER OR HIS REPRESENTATIVE OR THE STATE INSPECTOR WITHIN STATE R/W.

4. THE ENGINEER AND STATE INSPECTOR WILL HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS TO THESE PLANS AND NOTES, AS HE DEEMS NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC AND PEDESTRIANS THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE AT NO ADDITIONAL COST TO THE AGENCY.

5. CONSTRUCTION ACTIVITY IN THE ROADWAY WILL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 4:00 P.M., ALL TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 4:00 P.M. TO 7:00 A.M., UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER (STATE INSPECTOR WITHIN STATE R/W).

6. FLASHING BEACONS AND WARNING LIGHTS SHALL BE USED AS DIRECTED BY THE ENGINEER; OR THE STATE INSPECTOR IN OR IN ADVANCE OF STATE R/W.

7. ALL EXISTING TRAFFIC CONTROL SIGNS AND STREET SIGNS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE ENGINEER) ANY STRIPING OR SIGNING DAMAGED DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS.

8. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED, SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC.

9. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES IF AT ALL POSSIBLE. ADDITIONAL CONES OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.

10. 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE IMMEDIATE VICINITY OF A TRAFFIC SIGNAL CONTROLLED INTERSECTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (800-422-4133). THIS PRIOR NOTICE WILL ALLOW THE LOCATION AND MARKING OF UNDERGROUND TRAFFIC SIGNAL CONDUIT AND TRAFFIC SIGNAL LOOP DETECTORS PRIOR TO CONSTRUCTION DAMAGES TO TRAFFIC SIGNAL CONDUIT, CONDUCTORS, LOOP DETECTORS, OR OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BE REPAIRED WITHIN 24 HOURS AT THE CONTRACTOR'S EXPENSE, PER THE CITY OF HUNTINGTON BEACH STANDARD SPECIAL PROVISIONS FOR THE CONSTRUCTION OF TRAFFIC SIGNALS AND STREET LIGHTING, LATEST EDITION.

11. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE. STREETS ALONG THE HAUL ROUTE SHALL BE SWEPT OR WASHED DAILY, DURING EACH DAY OF HAULING OPERATIONS.

12. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SANDBLAST ALL TEMPORARY STRIPING AND PAVEMENT MARKINGS. CONTRACTOR SHALL RESTORE EXISTING STRIPING, REMOVED DURING CONSTRUCTION, BACK TO ITS ORIGINAL OR BETTER CONDITION AS DIRECTED BY THE ENGINEER IN THE FIELD.

13. ALL ADVANCE WARNING SIGNS INSTALLED SHALL REMAIN IN PLACE FOR THE DURATION OF THE CONSTRUCTION PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD TO BE REMOVED OR RELOCATED.

14. REMOVE ANY EXCESS AND/OR CONFLICTING EXISTING PAVEMENT MARKINGS AND STRIPING BY SANDBLASTING.

15. THE CONTRACTOR SHALL COORDINATE BUS STOP RELOCATIONS AND CLOSURES WITH OCTA TRANSIT.

16. THE CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS.

ESTIMATED DURATION OF THIS STAGE: 45 WORKING DAYS

PHASE 2

Underground Service Alert — Call: 811 — TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES

W.O. ZIMMERMAN ENGINEERING, INC.
5772 BOLSA AVE SUITE 200
HUNTINGTON BEACH, CA 92649
TEL: (714) 799 1700
FAX: (714) 799 1701

DRAWN BY:	AC	11/18/2011
DESIGNED BY:	RB	11/18/2011
CHECKED BY:	RB	11/18/2011

PREPARED UNDER THE SUPERVISION OF:
WILLIAM R. ZIMMERMAN, P.E. — DATE: 3/18/2012
R.C.E. NO.: 08697 — EXP. DATE: 6/30/2012
APPROVED BY: TRANSPORTATION ENGINEER — DATE: 5/09/12

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

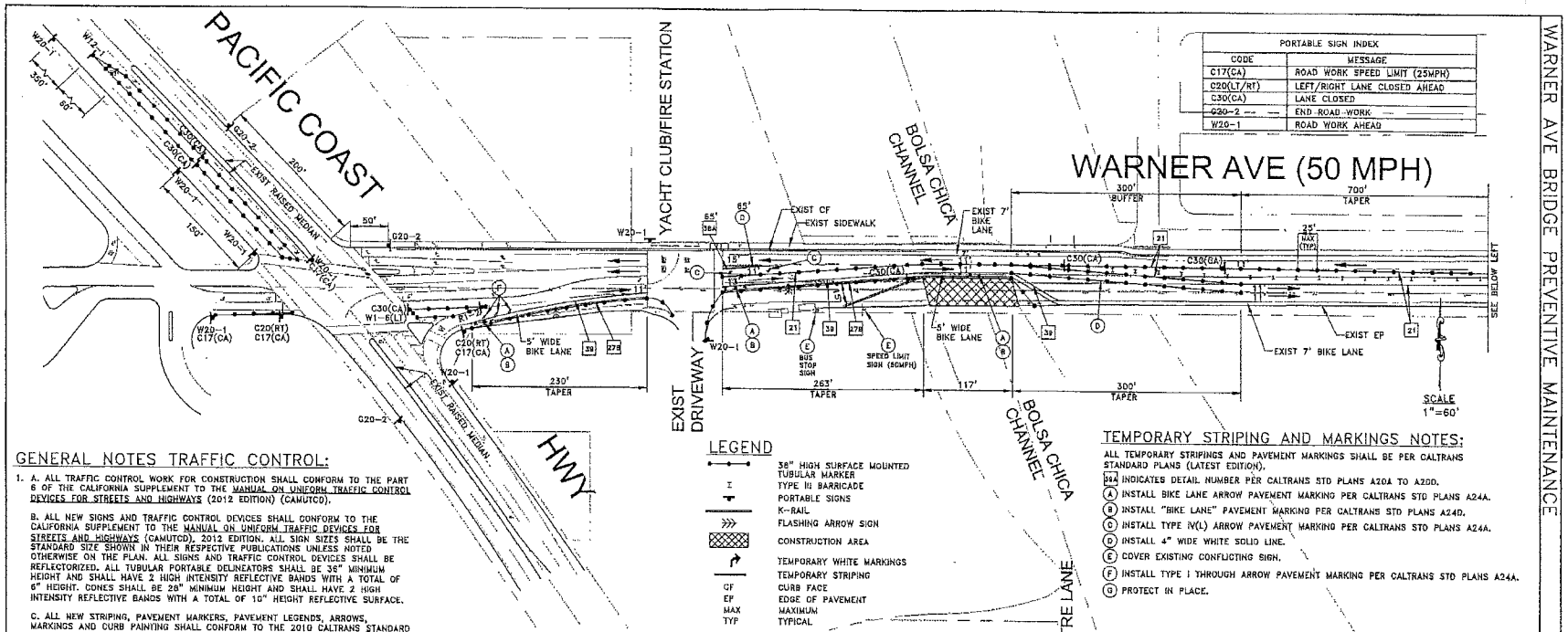
TRAFFIC CONTROL PLAN 2
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+67.89 TO STA. 9+41.49

SHEET NO. 5 OF 14
TC2

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
C.C. No. 1356

ATTACHMENT NO. 1-5

ATTACHMENT NO. 2.1



PORTABLE SIGN INDEX	
CODE	MESSAGE
C17(CA)	ROAD WORK SPEED LIMIT (25MPH)
C20(LT/RT)	LEFT/RIGHT LANE CLOSED AHEAD
C30(CA)	LANE CLOSED
G20-2	END ROAD WORK
W20-1	ROAD WORK AHEAD

GENERAL NOTES TRAFFIC CONTROL:

1. A. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE PART 6 OF THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (2012 EDITION) (CAMUTCD).

   B. ALL NEW SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREETS AND HIGHWAYS (CAMUTCD), 2012 EDITION. ALL SIGN SIZES SHALL BE THE STANDARD SIZE SHOWN IN THEIR RESPECTIVE PUBLICATIONS UNLESS NOTED OTHERWISE ON THE PLAN. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE REFLECTORIZED. ALL TUBULAR PORTABLE DELINEATORS SHALL BE 36" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 6" HEIGHT. CONES SHALL BE 28" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 10" HEIGHT REFLECTIVE SURFACE.

   C. ALL NEW STRIPING, PAVEMENT MARKERS, PAVEMENT LEGENDS, ARROWS, MARKINGS AND CURB PAINTING SHALL CONFORM TO THE 2010 CALTRANS STANDARD SPECIFICATIONS SECTION 84, TRAFFIC STRIPES AND PAVEMENT MARKINGS, AND SECTION 85, PAVEMENT MARKERS, STANDARD PLANS A20A-D AND A24A-E, THE CURRENT CITY OF HUNTINGTON BEACH PUBLIC WORKS DEPARTMENT STANDARD PLANS, AND THESE PLANS. CONTRACTOR SHALL RESTORE ANY AND ALL STRIPING AND PAVEMENT MARKINGS DAMAGED OR REMOVED DURING CONSTRUCTION PER CITY OF HUNTINGTON BEACH REQUIREMENTS. CONTRACTOR MAY USE PREFABRICATED REMOVABLE DETOUR TAPE, PAVEMENT ARROWS, AND RAISED PAVEMENT MARKERS FOR SHORT-TERM USE AS DIRECTED BY THE ENGINEER.
2. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
3. THE ENGINEER SHALL BE DEFINED AS THE CITY OF HUNTINGTON BEACH TRAFFIC ENGINEER OR HIS REPRESENTATIVE OR THE STATE INSPECTOR WITHIN STATE R/W.
4. THE ENGINEER AND STATE INSPECTOR WILL HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS TO THESE PLANS AND NOTES, AS HE DEEMS NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC AND PEDESTRIANS THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE AT NO ADDITIONAL COST TO THE AGENCY.
5. CONSTRUCTION ACTIVITY IN THE ROADWAY WILL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 4:00 P.M.. ALL TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 4:00 P.M. TO 7:00 A.M., UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER (STATE INSPECTOR WITHIN STATE R/W).
6. FLASHING BEACONS AND WARNING LIGHTS SHALL BE USED AS DIRECTED BY THE ENGINEER; OR THE STATE INSPECTOR IN OR IN ADVANCE OF STATE R/W.

LEGEND

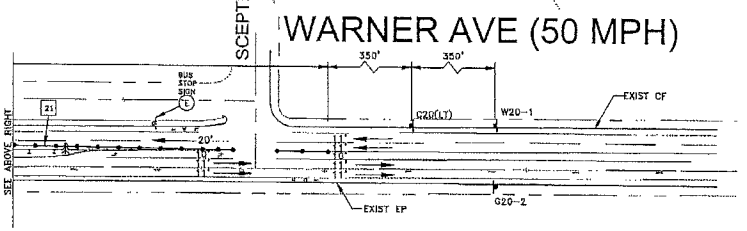
- 36" HIGH SURFACE MOUNTED TUBULAR MARKER
- TYPE III BARRICADE
- PORTABLE SIGNS
- K-RAIL
- FLASHING ARROW SIGN
- CONSTRUCTION AREA
- TEMPORARY WHITE MARKINGS
- TEMPORARY STRIPING
- CF CURB FACE
- EP EDGE OF PAVEMENT
- MAX MAXIMUM
- TYP TYPICAL

7. ALL EXISTING TRAFFIC CONTROL SIGNS AND STREET SIGNS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE ENGINEER) ANY STRIPING OR SIGNING DAMAGED DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS.
8. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED, SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC.
9. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES IF AT ALL POSSIBLE. ADDITIONAL CONES OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
10. 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE IMMEDIATE VICINITY OF A TRAFFIC SIGNAL CONTROLLED INTERSECTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (800-422-4133). THIS PRIOR NOTICE WILL ALLOW THE LOCATION AND MARKING OF UNDERGROUND TRAFFIC SIGNAL CONDUIT AND TRAFFIC SIGNAL LOOP DETECTORS PRIOR TO CONSTRUCTION DAMAGES TO TRAFFIC SIGNAL CONDUIT, CONDUCTORS, LOOP DETECTORS, OR OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BE REPAIRED WITHIN 24 HOURS AT THE CONTRACTOR'S EXPENSE, PER THE CITY OF HUNTINGTON BEACH STANDARD SPECIAL PROVISIONS FOR THE CONSTRUCTION OF TRAFFIC SIGNALS AND STREET LIGHTING, LATEST EDITION.
11. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE. STREETS ALONG THE HAUL ROUTE SHALL BE SWEPT OR WASHED DAILY, DURING EACH DAY OF HAULING OPERATIONS.

TEMPORARY STRIPING AND MARKINGS NOTES:

ALL TEMPORARY STRIPINGS AND PAVEMENT MARKINGS SHALL BE PER CALTRANS STANDARD PLANS (LATEST EDITION).

- 24A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.
- (A) INSTALL BIKE LANE ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- (B) INSTALL "BIKE LANE" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.
- (C) INSTALL TYPE IV(L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- (D) INSTALL 4" WIDE WHITE SOLID LINE.
- (E) COVER EXISTING CONFLICTING SIGN.
- (F) INSTALL TYPE I THROUGH ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- (G) PROTECT IN PLACE.



12. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SANDBLAST ALL TEMPORARY STRIPING AND PAVEMENT MARKINGS. CONTRACTOR SHALL RESTORE EXISTING STRIPING, REMOVED DURING CONSTRUCTION, BACK TO ITS ORIGINAL OR BETTER CONDITION AS DIRECTED BY THE ENGINEER IN THE FIELD.
13. ALL ADVANCE WARNING SIGNS INSTALLED SHALL REMAIN IN PLACE FOR THE DURATION OF THE CONSTRUCTION PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD TO BE REMOVED OR RELOCATED.
14. REMOVE ANY EXCESS AND/OR CONFLICTING EXISTING PAVEMENT MARKINGS AND STRIPING BY SANDBLASTING.
15. THE CONTRACTOR SHALL COORDINATE BUS STOP RELOCATIONS AND CLOSURES WITH OCTA TRANSIT.
16. THE CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS.

ESTIMATED DURATION OF THIS STAGE: 10 WORKING DAYS

PHASE 3

Underground Service Alert — Call: 811 — TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'D

REFERENCES

W.O.2 ZIMMERMAN ENGINEERING, INC.
8772 BOLSA AVE SUITE 200
HUNTINGTON BEACH, CA 92648
TEL: (714) 799 1700
FAX: (714) 799 1701

DRAWN BY	WO	11/18/2011
DESIGNED BY	RR	11/18/2011
CHECKED BY	WZ	11/18/2011

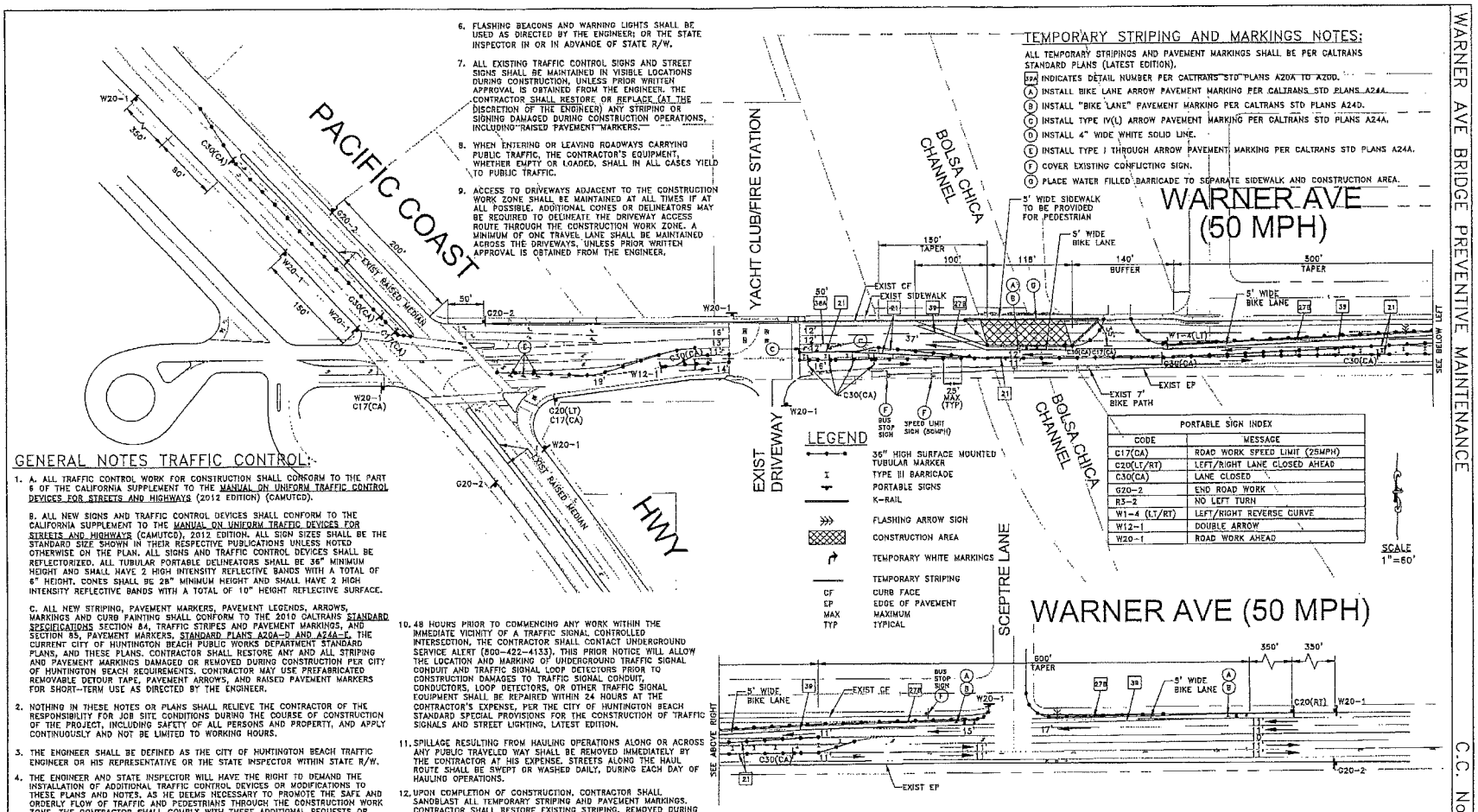
PREPARED UNDER THE SUPERVISION OF: WILLIAM G. ZIMMERMAN, P.E. — DATE: 3/19/2012 — R.C.E. NO.: 46987 — EXP. DATE: 6/30/2013
APPROVED BY: TRANSPORTATION ENGINEER — DATE: 3/28/12
REGISTERED PROFESSIONAL ENGINEER — WILLIAM G. ZIMMERMAN — No. RCE 46987 — CIVIL — STATE OF CALIFORNIA

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN 3
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

SHEET NO. 6 OF 14
TC3

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
C.C. No. 1356



TEMPORARY STRIPING AND MARKINGS NOTES:

ALL TEMPORARY STRIPINGS AND PAVEMENT MARKINGS SHALL BE PER CALTRANS STANDARD PLANS (LATEST EDITION).

- 39A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.
- (A) INSTALL BIKE LANE ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- (B) INSTALL "BIKE LANE" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.
- (C) INSTALL TYPE IV(L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- (D) INSTALL 4" WIDE WHITE SOLID LINE.
- (E) INSTALL TYPE I THROUGH ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- (F) COVER EXISTING CONFLICTING SIGN.
- (G) PLACE WATER FILLED BARRICADE TO SEPARATE SIDEWALK AND CONSTRUCTION AREA.

GENERAL NOTES TRAFFIC CONTROL:

1. A. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE PART 6 OF THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (2012 EDITION) (CAMUTCD).

   B. ALL NEW SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREETS AND HIGHWAYS (CAMUTCD), 2012 EDITION. ALL SIGN SIZES SHALL BE THE STANDARD SIZE SHOWN IN THEIR RESPECTIVE PUBLICATIONS UNLESS NOTED OTHERWISE ON THE PLAN. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE REFLECTORIZED. ALL TUBULAR PORTABLE DELINEATORS SHALL BE 36" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 6" HEIGHT. CONES SHALL BE 28" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 10" HEIGHT REFLECTIVE SURFACE.

   C. ALL NEW STRIPING, PAVEMENT MARKERS, PAVEMENT LEGENDS, ARROWS, MARKINGS AND CURB PAINTING SHALL CONFORM TO THE 2010 CALTRANS STANDARD SPECIFICATIONS SECTION 84, TRAFFIC STRIPES AND PAVEMENT MARKINGS, AND SECTION 85, PAVEMENT MARKERS, STANDARD PLANS A20A-D AND A24A-E. THE CURRENT CITY OF HUNTINGTON BEACH PUBLIC WORKS DEPARTMENT STANDARD PLANS, AND THESE PLANS. CONTRACTOR SHALL RESTORE ANY AND ALL STRIPING AND PAVEMENT MARKINGS DAMAGED OR REMOVED DURING CONSTRUCTION PER CITY OF HUNTINGTON BEACH REQUIREMENTS. CONTRACTOR MAY USE PREFABRICATED REMOVABLE DETOUR TAPE, PAVEMENT ARROWS, AND RAISED PAVEMENT MARKERS FOR SHORT-TERM USE AS DIRECTED BY THE ENGINEER.

2. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.

3. THE ENGINEER SHALL BE DEFINED AS THE CITY OF HUNTINGTON BEACH TRAFFIC ENGINEER OR HIS REPRESENTATIVE OR THE STATE INSPECTOR WITHIN STATE R/W.

4. THE ENGINEER AND STATE INSPECTOR WILL HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS TO THESE PLANS AND NOTES, AS HE DEEMS NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC AND PEDESTRIANS THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE AT NO ADDITIONAL COST TO THE AGENCY.

5. CONSTRUCTION ACTIVITY IN THE ROADWAY WILL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 4:00 P.M., ALL TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 4:00 P.M. TO 7:00 A.M., UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER (STATE INSPECTOR WITHIN STATE R/W).

6. FLASHING BEACONS AND WARNING LIGHTS SHALL BE USED AS DIRECTED BY THE ENGINEER; OR THE STATE INSPECTOR IN OR IN ADVANCE OF STATE R/W.

7. ALL EXISTING TRAFFIC CONTROL SIGNS AND STREET SIGNS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE ENGINEER) ANY STRIPING OR SIGNING DAMAGED DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS.

8. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED, SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC.

9. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES IF AT ALL POSSIBLE. ADDITIONAL CONES OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.

10. 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE IMMEDIATE VICINITY OF A TRAFFIC SIGNAL CONTROLLED INTERSECTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (800-422-4133). THIS PRIOR NOTICE WILL ALLOW THE LOCATION AND MARKING OF UNDERGROUND TRAFFIC SIGNAL CONDUIT AND TRAFFIC SIGNAL LOOP DETECTORS PRIOR TO CONSTRUCTION DAMAGES TO TRAFFIC SIGNAL CONDUIT, CONDUCTORS, LOOP DETECTORS, OR OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BE REPAIRED WITHIN 24 HOURS AT THE CONTRACTOR'S EXPENSE, PER THE CITY OF HUNTINGTON BEACH STANDARD SPECIAL PROVISIONS FOR THE CONSTRUCTION OF TRAFFIC SIGNALS AND STREET LIGHTING, LATEST EDITION.

11. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE. STREETS ALONG THE HAUL ROUTE SHALL BE SWEPT OR WASHED DAILY, DURING EACH DAY OF HAULING OPERATIONS.

12. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SANDBLAST ALL TEMPORARY STRIPING AND PAVEMENT MARKINGS. CONTRACTOR SHALL RESTORE EXISTING STRIPING, REMOVED DURING CONSTRUCTION, BACK TO ITS ORIGINAL OR BETTER CONDITION AS DIRECTED BY THE ENGINEER IN THE FIELD.

13. ALL ADVANCE WARNING SIGNS INSTALLED SHALL REMAIN IN PLACE FOR THE DURATION OF THE CONSTRUCTION PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD TO BE REMOVED OR RELOCATED.

14. REMOVE ANY EXCESS AND/OR CONFLICTING EXISTING PAVEMENT MARKINGS AND STRIPING BY SANDBLASTING.

15. THE CONTRACTOR SHALL COORDINATE BUS STOP RELOCATIONS AND CLOSURES WITH OCTA TRANSIT.

16. THE CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS.

LEGEND

- 36" HIGH SURFACE MOUNTED TUBULAR MARKER
- TYPE III BARRICADE
- PORTABLE SIGNS
- K-RAIL
- FLASHING ARROW SIGN
- CONSTRUCTION AREA
- TEMPORARY WHITE MARKINGS
- TEMPORARY STRIPING
- CF CURB FACE
- EP EDGE OF PAVEMENT
- MAX MAXIMUM
- TYP TYPICAL

PORTABLE SIGN INDEX	
CODE	MESSAGE
C17(CA)	ROAD WORK SPEED LIMIT (25MPH)
C20(LT/RT)	LEFT/RIGHT LANE CLOSED AHEAD
C30(CA)	LANE CLOSED
G20-2	END ROAD WORK
R3-2	NO LEFT TURN
W1-4 (LT/RT)	LEFT/RIGHT REVERSE CURVE
W12-1	DOUBLE ARROW
W20-1	ROAD WORK AHEAD

SCALE 1"=60'

ESTIMATED DURATION OF THIS STAGE: 10 WORKING DAYS

PHASE 4

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE C.C. No. 1356

Underground Service Alert — Call: 811 — TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	BY	DESCRIPTION	APP'D

REFERENCES

W.O. ZIMMERMAN ENGINEERING, INC.
5772 BOLSA AVE SUITE 200
HUNTINGTON BEACH, CA 92649
TEL: (714) 799 1700
FAX: (714) 799 1701

DRAWN BY	YC	11/18/2013
DESIGNED BY	RR	11/18/2013
CHECKED BY	RZ	11/18/2013

PREPARED UNDER THE SUPERVISION OF: WILLIAM G. ZIMMERMAN P.E. — DATE: 5/18/2013
R.C.E. NO. 28681 — EXP. DATE: 6/30/2013
APPROVED BY: TRANSPORTATION DIFFERENTIAL — DATE: 5/20/12

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN 4
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

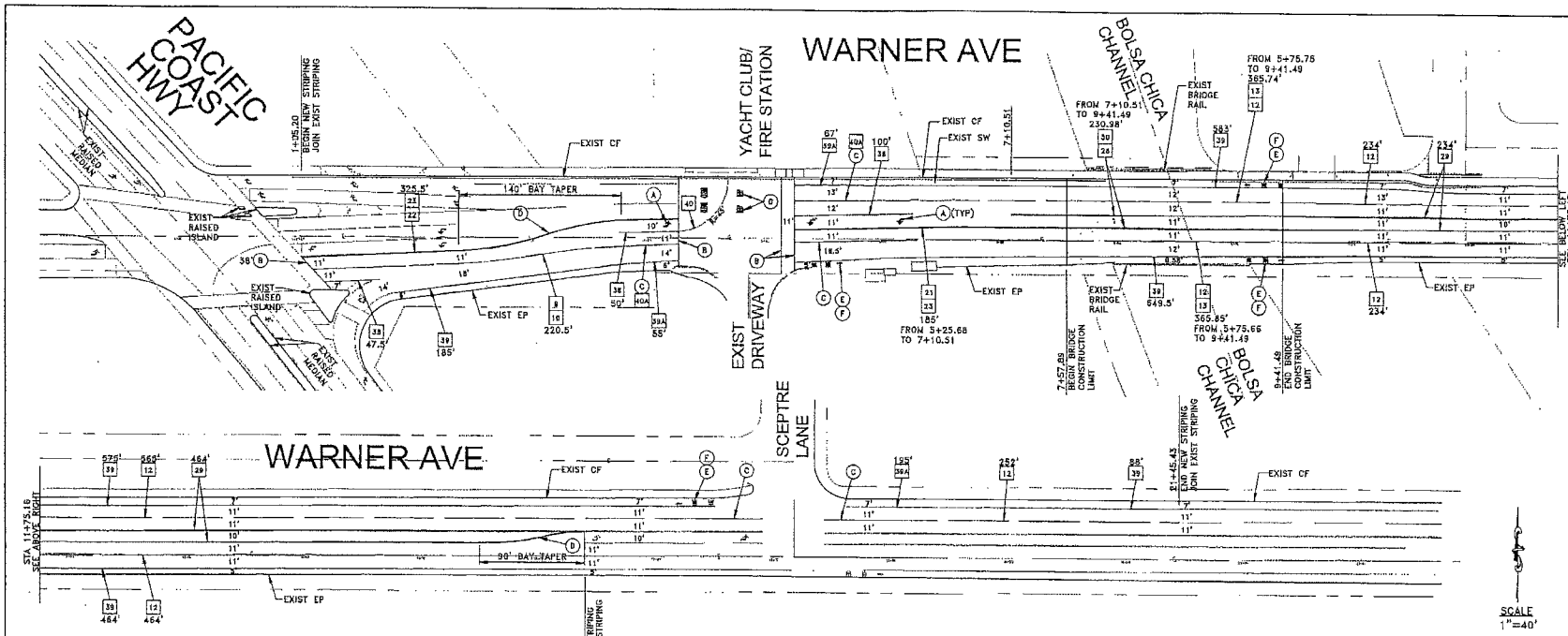
SHEET NO. 7 OF 14

TC4

1-7

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE

C.C. No. 1356



STRIPING NOTES:

ALL STRIPINGS AND PAVEMENT MARKINGS SHALL BE TWO COATS AND PER CALTRANS STANDARD PLANS (LATEST EDITION).

39A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.

(A) INSTALL TYPE IV (L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.

(B) INSTALL 12" WIDE CROSSWALK AND LIMIT LINE PER CALTRANS STD PLANS A24E.

(C) INSTALL 4" WIDE 50' LONG WHITE SOLID LINE WITH TYPE G REFLECTIVE MARKERS AT BOTH ENDS PER CALTRANS STD PLAN A20A.

(D) INSTALL BAY TAPER PER CALTRANS HIGHWAY DESIGN MANUAL.

(E) INSTALL BIKE LANE ARROW PAVEMENT MARKING PER CALTRANS STD PLAN A24A.

(F) INSTALL "BIKE LANE" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.

(G) INSTALL "KEEP CLEAR" PAVEMENT MARKING PER CALTRANS STD PLANS A24E.

(H) INSTALL 4" WIDE WHITE SOLID LINE WITH TYPE G REFLECTIVE MARKERS AT BOTH ENDS PER CALTRANS STD PLAN A20A.

LEGEND

	RIGHT OF WAY
	CENTERLINE
CF	CURB FACE
EP	EDGE OF PAVEMENT
EXIST	EXISTING
R/W	RIGHT OF WAY
SW	SIDEWALK
TYP	TYPICAL

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES

W.G.ZIMMERMAN ENGINEERING, INC.
5772 BOLSA AVE SUITE 200
HUNTINGTON BEACH, CA 92649
TEL: (714) 799 1700
FAX: (714) 799 1701

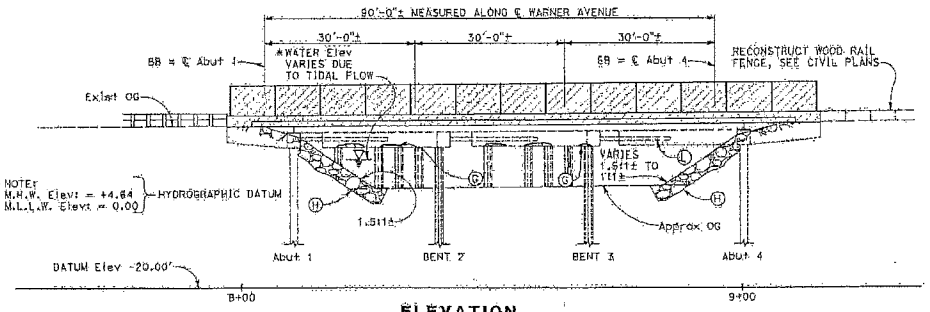
DRAWN BY:	RC	11/18/2011
DESIGNED BY:	RB	11/18/2011
CHECKED BY:	BZ	11/18/2011

PREPARED UNDER THE SUPERVISION OF:
WILLIAM G. ZIMMERMAN, P.E. DATE 3/19/2012
R.C.E. NO. C48667 EXP. DATE 6/30/2012
APPROVED BY:
TRANSPORTATION ENGINEERING 3/05/12

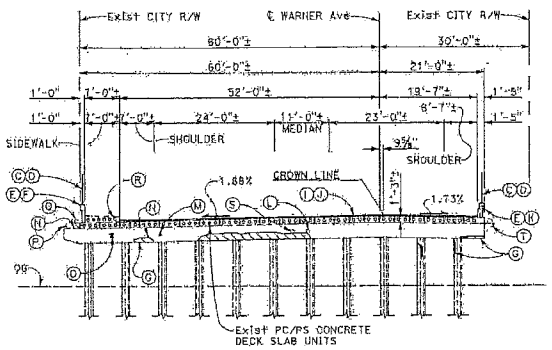
CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

SIGN AND STRIPING PLAN
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

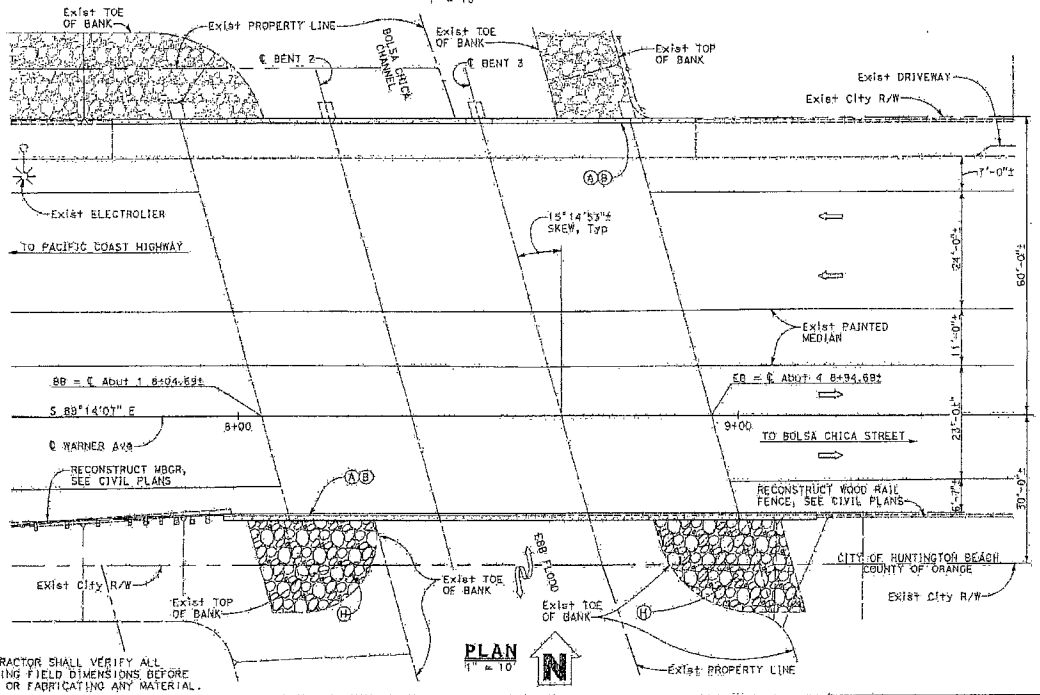
SHEET NO. 8 OF 14
SS1



ELEVATION
1" = 10'



TYPICAL SECTION
1" = 10'



PLAN
1" = 10'

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

NOTES:
- (A) Paint 'BRIDGE No. 56C-0417'
- (B) Paint 'BOLSA CHICA CHANNEL BRIDGE'
- (C) Remove Chain Link Railing
- (D) Chain Link Railing Type 7
- (E) Remove Concrete Barrier
- (F) Concrete Barrier Type 26 (Mod)
- (G) Remove and patch unsound concrete
- (H) Rock Slope Protection
- (I) Remove AC Pavement, see Civil Plans
- (J) ARHM Pavement, see Civil Plans
- (K) Concrete Barrier Type 732 (Mod)
- (L) Existing 8" dia oil pipe line
- (M) Existing 3-4" dia telephone conduit
- (N) Existing 4" dia electric conduit
- (O) Existing 5-4" dia telephone conduit
- (P) Existing 14" dia water line
- (Q) Existing 8" dia force main line
- (R) Existing 7" dia Southern Cal Edison conduit
- (S) Existing 6" dia flare gas line
- (T) Existing 12" dia force main line

LEGEND:
- Indicates portion of existing bridge to be removed
- Indicates existing structure
- Indicates new construction
- Indicates direction of travel
- Indicates existing Rock Slope Protection
- Indicates new Rock Slope Protection
- Indicates unsound concrete to be removed and patched

WARNER AVE. BRIDGE PREVENTIVE MAINTENANCE C.C. No. 1356

Underground Service Alert Call 811 TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				
NO.	DATE	BY	DESCRIPTION	APP'D

REFERENCES

BRIDGE CARDOBA ASSOCIATES INC STRUCTURAL DIVISION BCR

DRAWN BY	DN	8/07/11
DESIGNED BY	RBS	8/07/11
CHECKED BY		

PREPARED UNDER THE SUPERVISION OF: Kishor A. Desai, PRINCIPAL S.E. DATE R.C.E. NO. 52148 EXP. DATE 12/31/12

APPROVED BY: C. Todd Brummell PRINCIPAL S.E. DATE R.C.E. NO. 52148 EXP. DATE 12/31/12

REGISTERED PROFESSIONAL ENGINEER C. TODD BRUMMELL No. 54676 Exp. 9/30/12 STATE OF CALIFORNIA

CITY OF HUNTINGTON BEACH DEPARTMENT OF PUBLIC WORKS

GENERAL PLAN
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

SHEET NO. 9 OF 14
S1

[20102114151] 20102114151

AS-CONSTRUCTION

6.1

ATTACHMENT NO. 1-10

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE

C.C. No. 1356

GENERAL NOTES
LOAD & RESISTANCE FACTOR DESIGN

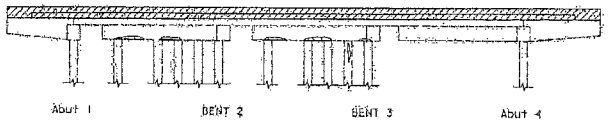
DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition and Caltrans Amendments, preface dated Dec. 2008; except that geotechnical design of deep foundations is designed using Bridge Design Specifications ('96 AASHTO with Revisions by Caltrans)

CONCRETE: f'_c = 60 ksi
f'_c = see "CONCRETE STRENGTH AND TYPE LIMITS"

CALTRANS 2010 STANDARD PLANS

A10A	ABBREVIATIONS (SHEET 1 OF 2)
A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A62A	EXCAVATION AND BACKFILL MISCELLANEOUS DETAILS
B11-52	CHAIN LINK RAILING TYPE 7
B11-54	CONCRETE BARRIER TYPE 26
B11-55	CONCRETE BARRIER TYPE 732

B7-11 / D42 — Indicates Standard Plan sheet No.
— Indicates Detail No.
A / 56 — Indicates Section No.
— Indicates sheet No. shown on
1 / 56 — Indicates Detail No.
— Indicates sheet No. shown on



Concrete Barrier, Type 26 (Mod) or Type 732 (Mod) (f'_c = 3600 psi at 28 days)
Portland Cement Concrete Patch (f'_c = 3600 psi at 28 days)
Existing Concrete

CONCRETE STRENGTH AND TYPE LIMITS
1" = 10'

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

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
DCR

DRAWN BY:	DM	3/07/11
DESIGNED BY:	RBT	9/07/11
CHECKED BY:		

PREPARED UNDER THE SUPERVISION OF:
Nicholas A. Thomas PRINCIPAL S.E. DATE
N.S.E. NO. 54678 EXP. DATE: 9/30/12
APPROVED BY:
S. Todd Sprecher PRINCIPAL S.E. DATE
R.C.E. NO. 52164 EXP. DATE: 12/31/13

REGISTERED PROFESSIONAL ENGINEER
NICHOLAS A. THOMAS
NO. 54678
Exp. 9/30/12
STRUCTURAL
STATE OF CALIFORNIA

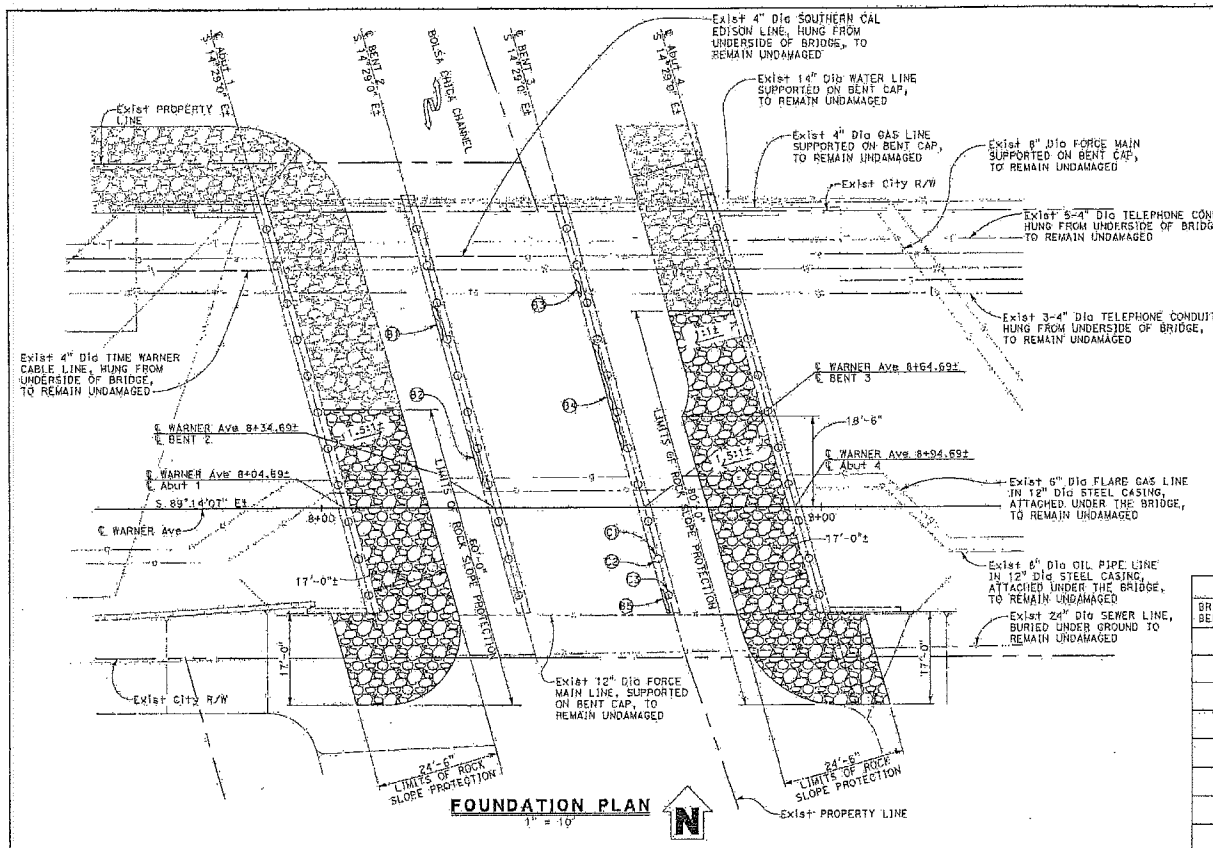
CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

GENERAL NOTES
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.69 TO STA. 9+41.48

SHEET NO. 10 OF 14
S2

(201021)(A132) 201021

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
C.C. No. 1356



FOUNDATION PLAN
1" = 10'

NOTES:
1. (B1) Indicates unsound concrete, see "REPAIR SCHEDULE"
2. —— Indicates existing structure
3. —— Indicates new structure
4. Indicates existing Rock Slope Protection
5. Indicates new Rock Slope Protection
6. Indicates unsound concrete to be removed and patched

REPAIR SCHEDULE

BRIDGE BENT NO.	BENT REPAIR	
2	B1	8'-0" X 1'-6" X 0'-5½" DEEP UNSOUND CONCRETE
2	B2	12'-0" X 2'-0" X 0'-5½" DEEP UNSOUND CONCRETE
3	B3	4'-0" X 1'-0" X 0'-5½" DEEP UNSOUND CONCRETE
3	B4	23'-0" X 1'-0" X 0'-5½" DEEP UNSOUND CONCRETE
3	B5	5'-0" X 1'-0" X 0'-5½" DEEP UNSOUND CONCRETE
	COLUMN REPAIR	
3	C1	1'-0" X 1'-0" X 0'-4" DEEP UNSOUND CONCRETE
3	C2	3'-0" X 0'-4" X 2" DEEP UNSOUND CONCRETE
3	C3	3'-0" X 0'-4" X 2" DEEP UNSOUND CONCRETE

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

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REFERENCES

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

PREPARED UNDER THE SUPERVISION OF:
Michael A. Stevens, PRINCIPAL S.E. DATE
R.C.E. NO.: 54878 EXP. DATE: 9/30/12
APPROVED BY:
R. Todd Brousseau PRINCIPAL S.E. DATE
R.C.E. NO.: C37144 EXP. DATE: 12/31/13

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

FOUNDATION PLAN
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

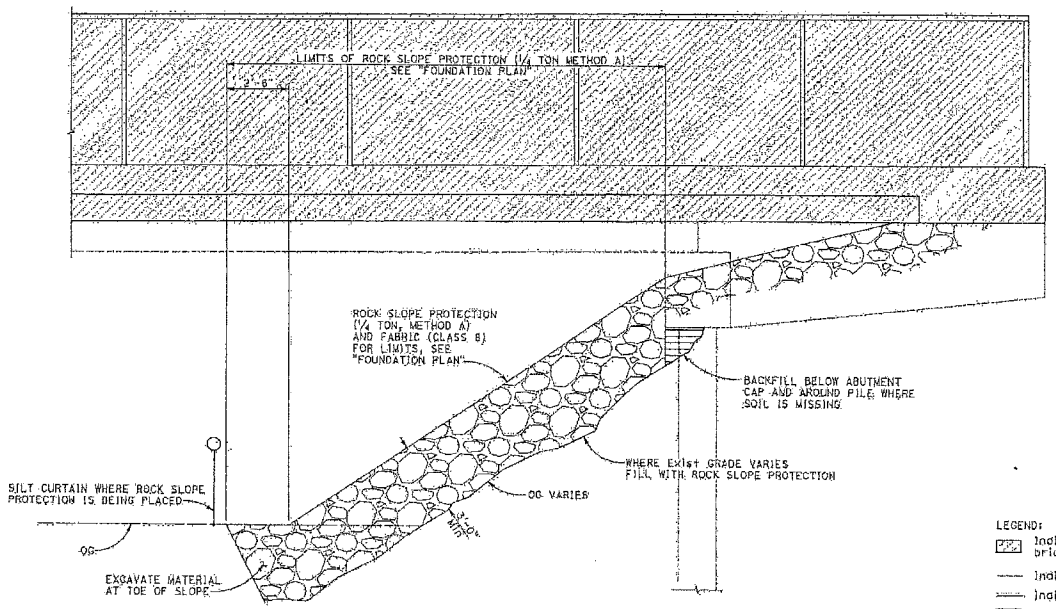
SHEET NO. 11 OF 14
S3

(2010211A1_S3) 2010211

ATTACHMENT NO. 1-11

ROCK SLOPE PROTECTION NOTE:
The work for replacing rock slope protection shall include, but not be limited to, the following:

- Contractor shall submit a work plan for replacing the rock slope protection.
- Install silt curtains.
- Remove existing debris and rock in the rock slope protection limits, see "FOUNDATION PLAN".
- Excavate material at toe of the slope.
- Place backfill below abutment cap and around piles where soil is missing.
- Place rock slope protection fabric in the rock slope protection limits.
- Place rock slope protection.



WINGWALL ELEVATION

1/2" = 1'-0"

LEGEND:
- Indicates portion of existing bridge to be removed
- Indicates existing structure
- Indicates new construction
- Indicates soil backfill

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE C.C. No. 1356

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'D

REFERENCES

BRIDGE CARDOBA ASSOCIATES INC
STRUCTURAL ENGINEERS

DRAWN BY	GH	6/7/11
DESIGNED BY	MBE	6/7/11
CHECKED BY		

PREPARED UNDER THE SUPERVISION OF:
BRIAN A. BRIDGE PRINCIPAL S.E. DATE
R.C.E. NO.: 54678 EXP. DATE: 9/30/13
ORIGINAL SIGNED BY
M. TAN SOLMAZ PRINCIPAL S.E. DATE
R.C.E. NO.: 537166 EXP. DATE: 12/31/13

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

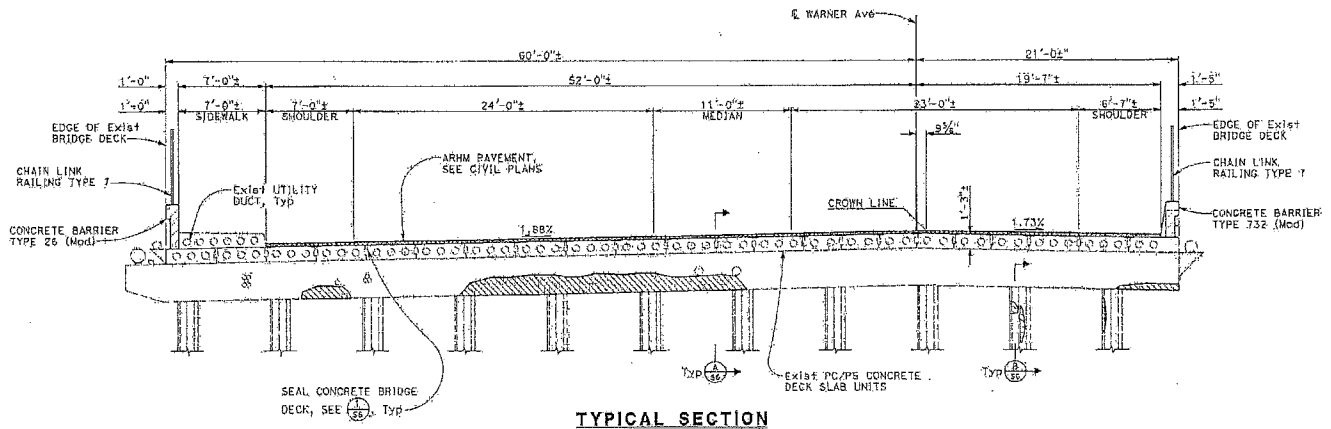
ABUTMENT DETAILS
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

SHEET NO. 12 OF 14
S4

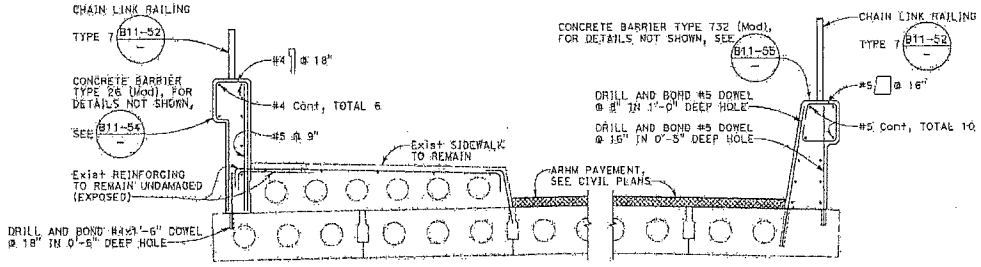
[2010211A1S4] 2010211

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE

C.C. No. 1356



TYPICAL SECTION
1/4" = 1'-0"



NOTE: ALL NEW AND EXPOSED REINFORCING BARS SHALL BE EPOXY COATED

PARTIAL TYPICAL SECTION
3/4" = 1'-0"

LEGEND:
- Indicates portion of existing bridge to be removed
- Indicates existing structure
- Indicates new construction
- Indicates unsound concrete to be removed and patched
- Indicates ARHM Pavement, see Civil Plans

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

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
BCA

DRAWN BY: AK 2/27/12
DESIGNED BY: RKS 9/07/11
CHECKED BY:

PREPARED UNDER THE SUPERVISION OF:
Michael A. Thomas PRINCIPAL C.E. DATE
R.C.E. NO. 54876 EXP. DATE 8/30/12
APPROVED BY:
R. Todd Brosseard PRINCIPAL C.E. DATE
R.C.E. NO. C37144 EXP. DATE 12/31/12

REGISTERED PROFESSIONAL ENGINEER
No. 54876
Exp. 8/30/12
STRUCTURAL
STATE OF CALIFORNIA

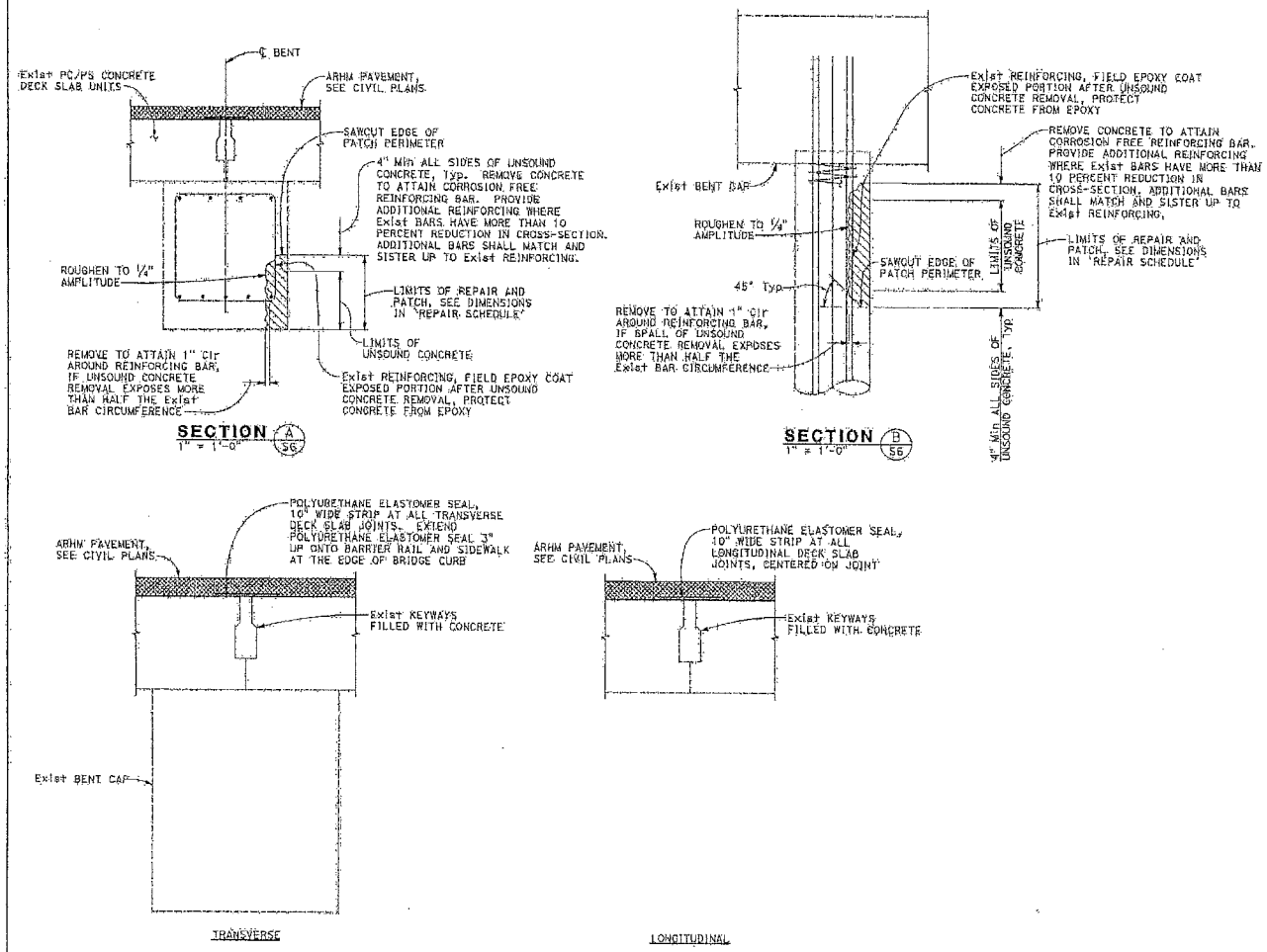
CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTION
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.48

SHEET NO. 13 OF 14
S5

(2010211(A1_S3) 2010211

ATTACHMENT NO. 1-13



SEAL CONCRETE BRIDGE DECK 1/S6
1 1/2" = 1'-0"

UNSOUND CONCRETE NOTES:
The work for remove and patch unsound concrete shall include, but not be limited to, the following:

- Contractor shall submit a work plan for remove and patch unsound concrete.
- Construct working platform with removable protective cover.
- Remove unsound concrete to the limits given in the project documents and to the engineers satisfaction.
- Blast clean reinforcing.
- Apply bonding agent to the patch area.
- Apply Portland Cement Concrete Patch.

LEGEND:

- Indicates ARHM Pavement, see Civil Plans
- Indicates unsound concrete to be removed and patched
- Indicates existing structure
- Indicates new construction

WARNER AVE BRIDGE PREVENTIVE MAINTENANCE

C.C. No. 1356

Underground Service Alert
Call: 811
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

DRAWN BY: DM 9/7/11
DESIGNED BY: RBS 9/7/11
CHECKED BY:

PREPARED UNDER THE SUPERVISION OF:
MICHAEL A. JOHNSON PRINCIPAL S.E. DATE
R.S.C. NO. 54878 EXP. DATE: 8/30/12
APPROVED BY:
A. Todd Brockwood PRINCIPAL C.E. DATE
R.C.E. NO. C67144 EXP. DATE: 12/31/12

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. JOHNSON
No. 54878
Exp. 8/30/12
STATE OF CALIFORNIA

CITY OF HUNTINGTON BEACH
DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTION DETAILS
WARNER AVE BRIDGE PREVENTIVE MAINTENANCE
(OVER BOLSA CHICA CHANNEL)
STA. 7+57.89 TO STA. 9+41.49

SHEET NO. 14 OF 14
S6

(20102114156) 201021P

ATTACHMENT NO. 1.14

Attachment No. 2
Summary of Mitigation Measures

Description of Impact	Mitigation Measure
Impacts related to special status species.	**BR-1** Implement Workers' Environmental Awareness Program. The presentation of a Workers' Environmental Awareness Program (WEAP) will decrease the likelihood of incidental impacts to special-status species on the project site. Prior to construction activities, a qualified biological monitor will present a WEAP to all construction personnel. The WEAP will also be given to any new personnel who work onsite during the duration of the project. The purpose of the WEAP is to inform the construction personnel of the special-status species that will likely occur in the project area, species identification, and the conservation measures implemented to protect the biological resources onsite. The WEAP will incorporate any special-status species that are discovered during project activities.

ATTACHMENT NO. 2.1

ATTACHMENT NO. 2-2

Impacts related to special-status wildlife and nesting birds subject to the Migratory Bird Treaty Act (MBTA).	**BR-2** Conduct Biological Monitoring. Since this project is occurring adjacent to and within the Reserve, it is necessary for the biological resources of this project to be monitored during construction for the duration of project. A qualified and/or permitted biologist will be essential for conducting this monitoring. A qualified biological monitor (qualified biologist) will be present during all vegetation clearing activities to monitor habitat conditions and construction impacts at the project site in order to ensure that impacts remain less than significant. Following the initial vegetation clearing and grading activities, the biological monitor will be present *every two weeks*, *outside of nesting season*, to ensure that project-related activities do not incur impacts greater than anticipated. *During nesting season*, the biological monitor should be present *weekly* to survey for nesting birds, with focus on special-status and MBTA-protected species. The monitor will establish a buffer area around any occupied special-status and MBTA-protected species nests that are discovered, as described in **PDF-4**. A permitted biologist will be used if required by the resource agencies; otherwise an experienced, qualified biologist will conduct the surveys. A qualified biological monitor is an individual who has professional experience working with the dominant flora and fauna of southern California present in the project area. He or she is knowledgeable of the life history and survey techniques/protocols of salt marsh and coastal sage scrub species, specifically California least tern, western snowy plover, light-footed clapper rail, and coastal California gnatcatcher. He or she has professional experience in construction monitoring, finding and monitoring bird nests and is familiar with biological regulations, particularly those pertaining to migratory birds and their nests. In addition, a qualified biologist may have the added benefit of observing ESA-protected species with a permitted biologist. A permitted biologist is an individual who can serve as a qualified biologist and also holds a scientific permit, issued by the United States Fish and Wildlife Service under Section 10(a)(1)(A) of the federal Endangered Species Act. He or she has professional knowledge and experience with special-status species, specifically California least tern, western snowy plover, light-footed clapper rail, and coastal California gnatcatcher. Such a biologist has several years of experience in field surveys and species monitoring. A permitted biologist also possesses all of the qualifications of a qualified biologist described above. For the purposes of this project, a qualified biologist would have the qualifications, prerequisites, experience, and knowledge to conduct

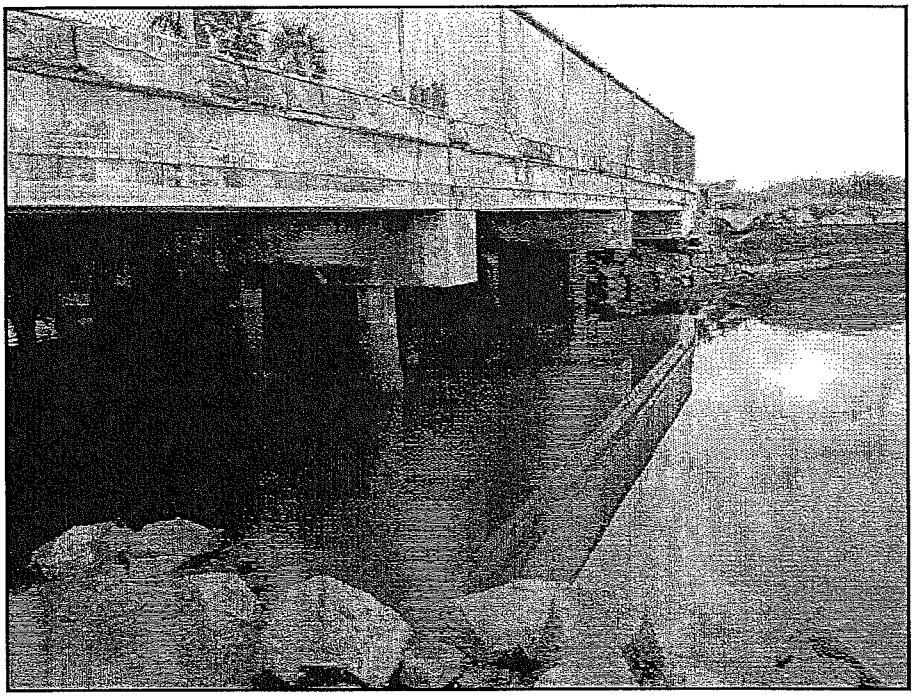
ATTACHMENT NO. 2-3

	biological monitoring at the project site. While there is potential for special-status species to forage in and temporarily occupy the project site, it is unlikely that any listed species would nest within the project buffer. *Breeding* of avian or mammalian species has not been documented within the project footprint area. This area has high disturbance generated by pedestrian and vehicular traffic on the roadway proximate to the project site. Furthermore, the project site is relatively limited in geographic extent, thus special-status species have a lower likelihood of occurring within the project footprint, despite its location at the border of the Reserve. For these reasons, a qualified biologist would satisfy the requirements for biological monitor for this project. If listed species are observed breeding within the project footprint or nesting bird buffer (250 feet for passerine species, 500 feet for raptors), a permitted biologist will be used to fulfill the *weekly* monitoring requirement *during nesting season.*
Impacts related to existing special-status plants within construction impact areas and permanent loss of tidal mudflat.	**BR-3** Conduct Enhancement and Restoration in the Project Area through preparation and implementation of a Habitat Mitigation and Monitoring Plan (HMMP). The City will return the temporary construction impact areas to pre-project contours and will revegetate in accordance with a Habitat Mitigation and Monitoring Plan (HMMP), which is being prepared concurrently with this document, under separate cover. The HMMP will be finalized through agency approvals (USACE, CDFG, RWQCB, and CCC) prior to project commencement. Revegetation efforts will focus on creating, enhancing or maintaining areas of pickleweed, CSS with southern tarplant located immediately south of Warner Avenue through the design and implementation of a HMMP. The city will also mitigate for the permanent loss of tidal mudflat in the areas where new rock slope protection must be installed. The HMMP will discuss planting designs and descriptions of the plant species that will be used to revegetate the site. In addition, the HMMP will contain an appropriate seed mix and native plant list, methodology for planting plan, watering schedule, quarterly qualitative and annual quantitative monitoring, photo documentation locations, success criteria, contingency measures and invasive species control. Plant species will be taken from locally grown stock or from other sources per the direction of the Bolsa Chica Conservancy or CDFG. Monitoring for at least *three years* following planting will occur. If special-status species other than those presently known at the site are found during construction activities, then these species will be included in the restoration plan. The HMMP will recommend that temporary and permanent impacts to the pickleweed and CSS (with southern tarplant stand) habitat to be restored at an agreed upon ratio between the City and the resource agencies. Suggested Mitigation Ratios are provided in **Table VII-2** (Habitat Impacts and Mitigation Ratios). Areas at the project site currently classified as non-native grassland have

	been proposed to be revegetated with the CSS vegetation, which provides an overall *net gain* of approximately 0.02 acre of native communities. Therefore that restoration would be considered an *enhancement*. A 1:1 ratio is typically suggested for enhancement restoration of non-sensitive communities; however, the resource agencies will have final comment on this approach. The HMMP will also compensate for the impacts incurred upon the Waters of the United States (WOUS) and jurisdictional wetlands as described in section **VII (c)**. Mitigation for permanent impacts to WOUS and jurisdictional wetlands will be determined by the resource agencies, with a standard mitigation of 3:1 to 10:1 restoration to impacts ratio. The mitigation ratio will be determined based on factors of the mitigation site such as proximity to the disturbance/project impact area and other factors. The HMMP may be implemented by the Bolsa Chica Conservancy or another organization contracted by the City that is qualified to implement restoration projects for coastal sage scrub and salt marsh habitats. If an in-lieu fee program can be established, this may be an alternative way to satisfactorily meet this mitigation measure. Payment into an in-lieu fee program would provide funds for a non-profit or other professional organization to fulfill the obligations of the HMMP. Other measures will be contained within the anticipated USACE 404 permit, RWQCB Section 401 Water Quality Certification and California Coastal Commission Coastal Development Permit.
Impacts related to archaeological resources.	**CU-1** Archaeological Monitoring If unexpected archaeological features are discovered during ground-disturbing construction work, a qualified archaeologist will be retained to investigate and report such findings to the City if deemed necessary. If the archaeological resources are found to be significant, the archaeological observer will determine appropriate actions, in cooperation with the City, for exploration and/or salvage. These actions, as well as final disposition of the resources, will be subject to the approval of the City.
Impacts related to discovery of human remains.	**CU-2** Notify County Coroner of Human Remains In accordance with the Public Resources Code §5097.94, if human remains are found, the Orange County Coroner must be notified within 24 hours of the discovery. If the Coroner determines that the remains are not recent, the Coroner will notify the Native American Heritage Commission in Sacramento to determine the most likely descendent for the area. The designated Native American representative then determines in consultation with the City of Huntington Beach the disposition of the human remains.
Impacts related to construction noise.	**N-1** Equipment Tuning and Use of Mufflers The construction contractor shall ensure that all construction equipment, fixed or mobile, is properly operating (tuned-up) and that mufflers are working adequately.

Impacts related to construction noise.	**N-2** Direct Noise Away From Sensitive Receivers The construction contractor shall ensure that all construction equipment is located so that emitted noise is directed away from sensitive noise receivers.
Impacts related to construction noise.	**N-3** Stockpiling and Vehicle Staging Distant Sensitive Receivers The construction contractor shall ensure that stockpiling and vehicle-staging areas are located as far as practical from noise-sensitive receivers during construction activities.
Impacts related to construction noise.	**N-4** Notify Residences Within 150 Feet of Construction Two weeks prior to the construction, the construction contractor shall provide notification in writing to adjacent residences if they would be located within 150 feet of the active construction activity.
Impacts related to construction noise.	**N-5** Use Temporary Noise Barriers if Necessary The construction contractor shall, as necessary, provide temporary noise barriers, including sound blankets, between the areas of active construction and sensitive receivers.

ATTACHMENT NO. 2-6



Natural Environment Study

Warner Avenue Bridge Maintenance Project

Orange County, City of Huntington Beach

Warner Avenue Bridge over Bolsa Chica Channel

Bridge No. 55C0417

12-ORA-1-Warner Avenue

BPMPL-5181 (169)

March 2012

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

ATTACHMENT NO. 3-1

Natural Environment Study

Bridge Maintenance Program (BPMP)

Orange County, City of Huntington Beach

Warner Avenue Bridge over Bolsa Chica Channel

Bridge No. 55C0417

12-ORA-1-Warner Avenue

BPMPL-5181 (169)

March 2012

STATE OF CALIFORNIA
Department of Transportation

Prepared By: _____ and _____ 3/14/2012
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Summary

The City of Huntington Beach plans to perform maintenance activities on the Warner Avenue Bridge, located in northwestern Huntington Beach, spanning the mouth of Bolsa Chica Channel. The proposed maintenance activities would make repairs to the bridge deck, repair unsound concrete and replace rock slope protection to the original design specifications. The proposed Project is located adjacent to the Bolsa Chica ecological reserve. This reserve features salt marsh habitats that are essential for a number of special status species. In addition, the Bolsa Bay and Huntington Harbor waterways are classified as Essential Fish Habitat by the National Oceanic and Atmospheric Administration (NOAA). Direct impacts to habitats are expected to be extremely minimal and the Project aims to avoid impacts where possible.

A small area (0.001 acre) of south coast salt marsh and/or degraded coastal sage scrub habitat immediately adjacent to the roadside and Warner Avenue Bridge may receive direct temporary impacts in order to allow construction access. Likewise, the installation of rock slope protection may impact essential fish habitat through siltation and resulting turbidity and through loss of soft bottom habitat. However the Project would implement Project design features (PDFs), best management practices (BMPs) and other conservation measures to attenuate impacts to plants, wildlife, and essential fish habitat and fishery species.

The Project has the potential to impact five special-status plant species:

- Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissumus)*
- Southern tarplant (*Centromadia parryi ssp. australis*)
- Salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*)
- Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*)
- Estuary seablite (*Suaeda esteroa*)

One of these species, southern tarplant, is located approximately 40 feet southeast of Project impact area and a few individuals may be temporarily directly impacted in order to allow construction access. This minor impact can be mitigated through collecting seeds from the plants prior to construction activities and then seeding post-construction.

Nine special-status wildlife species may be impacted by the Project activity:

- Western snowy plover (*Charadrius alexandrinus nivosus*)
- Northern harrier (*Circus cyaneus*)
- South coast marsh vole (*Microtus californicus stephensi*)
- Belding's savannah sparrow (*Passerculus sandwichensis beldingi)*
- Coastal California gnatcatcher (*Polioptila californica californica*)
- Light-footed clapper rail (*Rallus longirostris levipes*)
- Black skimmer (*Rhynchops niger*)
- Southern California saltmarsh shrew (*Sorex ornatus salicornicus*)
- California least tern (*Sternula antillarum browni)*

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These species may be indirectly impacted by construction noise if construction activities occur during nesting season. Pre-construction surveys for each species would be necessary in order to avoid and minimize impacts if and when Project activities occur during the birds' nesting season.

Invasive species are present in the biological study area (BSA); however they are not likely to cause an infestation, assuming that revegetation with native plants occurs following Project activities. Revegetation of the construction access area and the banks of the channel would enhance a degraded area near the restoration sites within the reserve. This would incidentally aid in the ongoing habitat restoration efforts in the Bolsa Chica ecological reserve and would strengthen the stability of the banks, preventing further erosion.

The proposed Project would require a number of permits in order to proceed. Please see Section 2.1 for a list of permits and agencies requiring agreements and/or consultation. No agreements have been formalized at this time.

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List of Abbreviated Terms

AC	Asphalt-concrete
BSA	Biological Study Area
Caltrans	California Department of Transportation
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
EFH	Essential Fish Habitat
ESHA	Environmentally Sensitive Habitat Area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
JD	Jurisdictional Delineation
km	kilometer(s)
m	meter(s)
mi	mile(s)
MBTA	Migratory Bird Treaty Act
NES	Natural Environment Study
NEPA	National Environmental Protection Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
PCH	Pacific Coast Highway
RWQCB	Regional Water Quality Control Board
USACE / ACOE	U. S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

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Chapter 1. Introduction

The City of Huntington Beach (City), in conjunction with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA), is proposing to perform maintenance activities on the Warner Avenue Bridge in order to return the bridge to its original design state. This report represents the results of the Natural Environment Study (NES) prepared for the Bridge Preventive Maintenance Program (BPMP), Warner Avenue Bridge over Bolsa Chica Channel (Project), located in the City of Huntington Beach, Orange County. The Project is surrounded by the Bolsa Chica Ecological Reserve immediately to the south, by Huntington Harbor to the north, by the Pacific ocean across the Pacific Coast Highway (PCH) to the west, and the City of Huntington Beach to the east.

This report addresses potential impacts to natural resources that may result from the Project activities. The findings of this study will be incorporated into other necessary environmental compliance documents such as NEPA/CEQA environmental documents, regulatory permits, a jurisdictional delineation study, a fisheries study, and a USFWS Biological Assessment (if necessary). This study provides analyses and recommendations to fulfill compliance with local, state and federal natural resource laws relevant to the Project.

1.1. Project History

The City applied for Federal Bridge Preventive Maintenance Program (BPMP) grant funding in December 2007 for this Project. Warner Avenue Bridge over Bolsa Chica Channel was accepted into the Federal Highway Bridge Program (HBP) in December 2009.

The Warner Avenue Bridge was built in 1981. It is a three-span pre-stressed voided slab bridge with four traffic lanes. In the three decades following its construction, parts of the bridge have deteriorated, due to normal wear from vehicle traffic and due to wear caused by the estuarine setting of the bridge.

Specifically, the bridge concrete barriers are cracked and spalled; this has exposed internal reinforcing, which has noticeably corroded. The bridge columns and bent caps have unsound concrete. The asphalt-concrete (AC) overlay on the bridge deck is cracked, resulting in water leaking through the deck. Rock slope protection (RSP) is missing from the embankments at and near the bridge abutments as well. The current state of the bridge poses a danger to the public. If these issues are not remedied, the bridge would continue to deteriorate and lead to an eventual emergency repair action. Furthermore, portions of concrete and riprap have broken off or rusted. This will also continue to pose a threat to the safety of the resident wildlife. Therefore there is a necessity to maintain this bridge in order to protect the safety of the public and wildlife.

1.2. Project Description

The Warner Avenue Bridge is located in the City of Huntington Beach, Orange County, California (Figure 1). It is immediately adjacent to Bolsa Chica Ecological Reserve to the south and to Huntington Harbor (33.711660 N. Latitude -118.060296 W. Longitude) to the north. The four-lane bridge runs east-west, crossing over the mouth of Bolsa Chica Channel. The first street

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that meets Warner Avenue to the east of the bridge is Sceptre Lane and to the west the first road is the Pacific Coast Highway (CA-Highway 1).

The components of the bridge that require repair include bent caps, rock slope protection (RSP), fencing, and the bridge deck (see Appendix A for project drawings). Specifically, the proposed Project would involve the following maintenance measures:

1. Removal and replacement of the concrete barrier and chain link railing with corrosion resistant materials such as stainless steel fence posts and epoxy-coated reinforced steel.
2. Removal of the AC overlay and replacement with a polyester concrete overlay to protect the bridge from water leaks and to provide a durable driving surface.
3. Provide new joint seals in the polyester concrete as required for stability.
4. Remove unsound concrete and patch concrete at the bridge bents and columns.
5. Replacement of RSP on both banks where it is missing in order to restore the revetment to its original design specifications.

Construction will likely be staged from a vacant parking lot northeast of the Project or from the dirt pullout on the south side of Warner Avenue. All work on Warner Avenue bridge will require temporary lane closures for both sides of the bridge and work underneath the bridge will require the temporary disturbance of the bank slopes under the south side of the bridge extending out onto the barren mudflat of the tidal channel (to original specifications).

Items 1, 2, and 3 above will all be carried out from the top of the bridge deck. Concrete jackhammers will be used to remove the concrete barrier and asphalt grinders to remove the AC overlay. The replacement concrete barrier and polyester concrete overlay will be installed using concrete boom pumps and concrete trucks. The barrier and railing will require timber forms for their installation.

Unsound concrete on the bent caps will be removed from the underside of the bridge. This procedure will require the temporary construction of working platforms that will be supported by the bridge bents. These platforms would be installed during low tide and would remain suspended on the underside of the bridge throughout the Project. The components of the work platforms would be prefabricated and would be floated to the underside of the bridge by small watercraft. All work performed below the bridge deck's surface would occur during low tide. The working platforms would be enshrouded by protective covers that would prevent building materials and equipment and any construction debris from falling into the water. The protective covers would be placed prior to work for each shift and removed at the conclusion of each shift before high tide. Concrete jackhammers and sand blasting would be used to remove unsound concrete. Following the removal of the unsound concrete, the bridge would be patched with hand-mixed concrete applied with trowels.

Missing RSP would be replaced by two methods, used singly or together. The RSP may be installed by using small equipment on the banks of Bolsa Chica Channel and/or by conveying boulders across the channel between two barges. The first method would require the use of small tractors or excavators in order to excavate, place fill, and then place boulders under the bridge.

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The second method would require excavation of the channel using hand-dredging equipment. Fill would also have to be placed with hand equipment. Then boulders would be carted across a rail suspended between two barges and then hoisted into place in the channel. The barges would be anchored in place in order to prevent them from colliding with the banks that are located at the north and south side of the bridge, the temporary impact areas within the BSA (Figure 2). The barges will be prevented from making contact with the channel bottom to the maximum extent feasible in order to maintain the stability of the boulder conveyance system. Both methods of installing the RSP will require backfill with certified-weed free engineered soil and the placement of rock slope filter fabric underneath the RSP. In order to protect the channel from sustaining significant turbidity plumes, silt curtains would be installed during low tide for either method of RSP placement. Please see the Impacts Section (Chapter 4: Results: Biological Resources, Discussion of Impacts and Mitigation) for detailed descriptions of Project Design Features (PDF) and Conditions of Approval (COA) to review Project effects.

1.3. Alternatives

The No Action alternative to performing repair and maintenance activities would leave the bridge as is and not return the bridge to original design-build state. No temporary or permanent impacts would result from construction activities, however, it is likely that the banks of Bolsa Chica Channel will continue to erode at the bridge abutments and that the bridge will continue degrading and slowly falling into the water.. These possible outcomes will lead to further debris entering the channel, fouling water quality, and posing a danger to wildlife.

The No Action alternative would choose to retain the exposed oxidized rebar, cracked and spalled concrete, leaking of pollutants through the bridge deck and unsafe support of several utility lines spanning the bridge (e.g. SDG&E high pressure gas line on north side of bridge). If repair and maintenance is not performed, it is likely an emergency repair would occur within the foreseeable future.

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Figure 1. Project Location

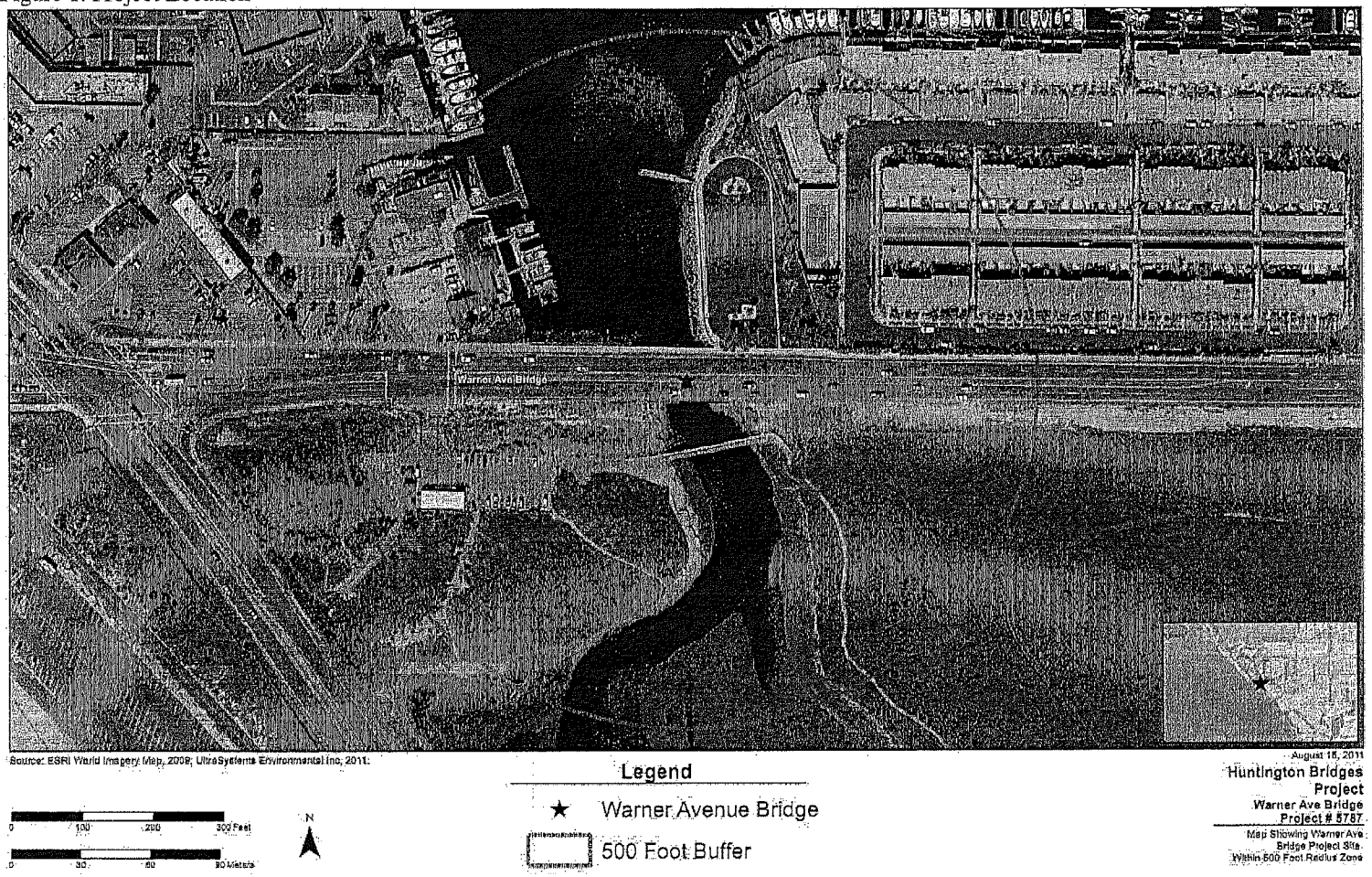

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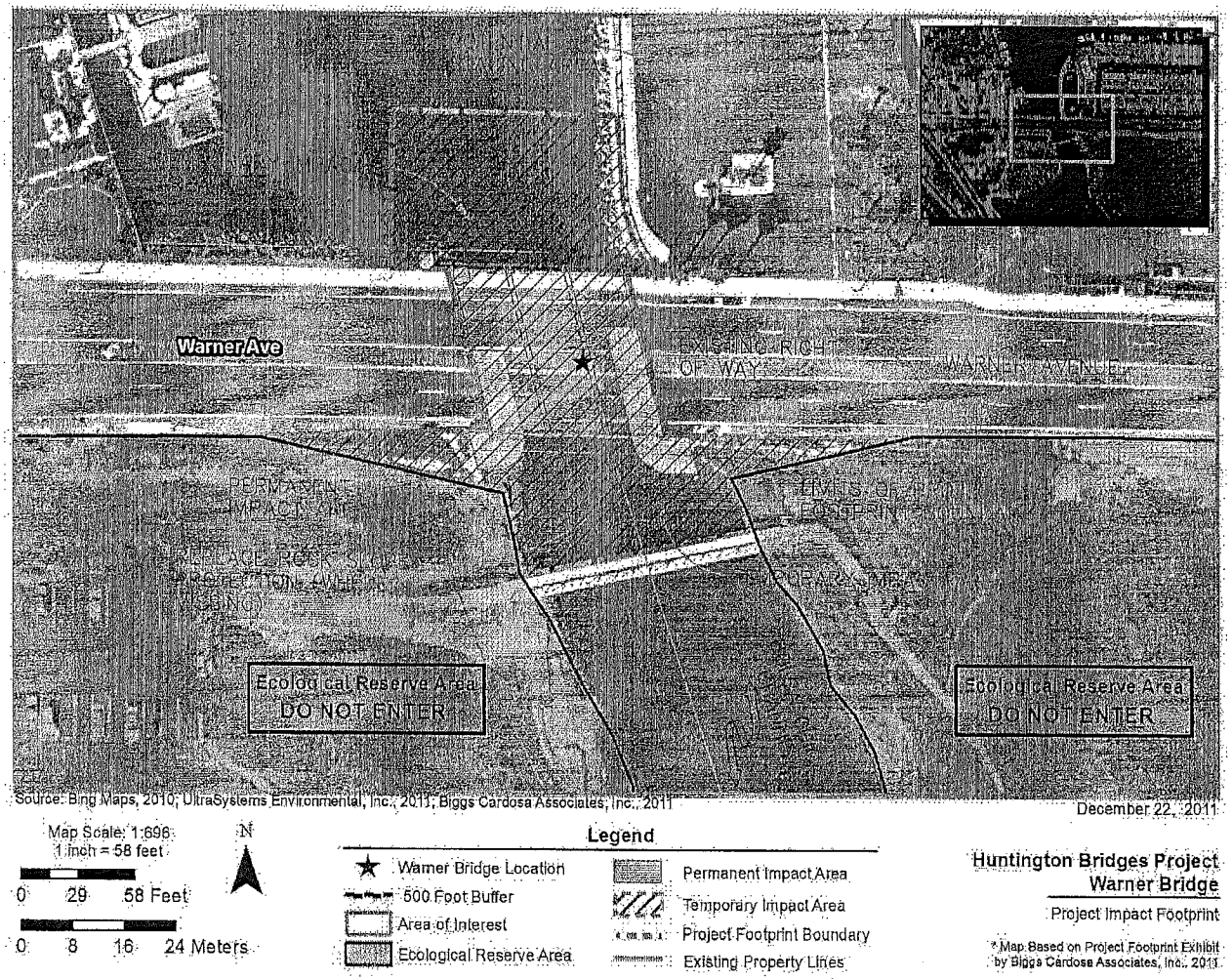
Figure 2. Project Footprint and Impact Map



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Chapter 2. Study Methods

2.1. Regulatory Requirements

The proposed Project is subject to several local, state and federal regulations designed to protect and promote environmental quality. No Project-related construction activity may be conducted until the following permits have been issued by the appropriate agencies:

- U.S. Army Corps of Engineers: Section 404 Nationwide Permit, Rivers and Harbors Acts Section 10 Permit (USACE 404 Permit)
- Santa Ana Regional Water Quality Control Board: Section 401 Water Quality Certification, National Pollutant Discharge Elimination System (NPDES) Permit (RWQCB 401 Certification)
- California Department of Fish and Game (CDFG) Consultation and Agreement, for work occurring on lands managed by CDFG and owned by the State Lands Commission (the City and CDFG will finalized the Agreement to Terms and copies will be provided to the State Lands Commission and Caltrans.
- California Coastal Commission: Coastal Development Permit (CDP) under Section 30600 California Public Resources Code
- NOAA National Marine Fisheries Service Essential Fish Habitat consultation under Sustainable Fisheries Act of 1996 (Public Law 104-267): Consultation
- U.S. Fish and Wildlife Service: Federal Endangered Species Act Section 7 Informal Consultation (If a formal consultation is necessary, Caltrans, the lead federal agency will notify the City.)
- U.S. Coast Guard (USCG) Project Start "notification letter" to Cmdr. Sulouff for work occurring on the bridge within navigable waters. (notification letter to include Project description, dates of Project initiation and conclusion, finalized Project permits and approvals will likely be needed at time of signature)

Considered but determined unnecessary for this Project:

- U.S. Coast Guard: U.S. Coast Guard (USCG) Bridge Permit under Section 9 of the Rivers and Harbors Act (discussions with Cmdr. Sulouff, as stated above, determined that this Project is exempt from the lengthy USCG permit process.)
- CDFG Section 1602 Permit (Lake and Streambed Alteration Agreement: Consultation with Marilyn Fluharty of CDFG determined this Project is exempt from this permit)

In addition, the Project will require compliance with the provisions of the California Environmental Quality Act (CEQA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), Federal Endangered Species Act (FESA), and Migratory

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Bird Treaty Act (MBTA). This Project would comply with Local City and County Ordinances, as applicable.

2.2. Studies Required

Prior to field surveys, a literature review was conducted by biologists Mario Mariotta, Michelle Tollett and Stephen Blackwell and generally included a search of the California Natural Diversity Data Base (CNDDB; CDFG, 2011) and USFWS Critical Habitat Layers, was conducted along with other Project-related literature and descriptions. The query considered state and federally threatened (ST/FT); endangered (SE/FE); and candidate (SC/FC) species; CDFG Species of Special Concern (CDFG-SSC); CDFG Fully Protected Species (CDFG-FP) species; and California Native Plant Society (CNPS) rare, threatened, or endangered plant species in California (1A or 1B rankings). This list of special-status species is presented in Table 1 of Chapter 3.

Reconnaissance-level field surveys included the Project footprint and 500 foot buffer, referred to as the biological study area (BSA). Surveys in the BSA were conducted to document the presence of biological resources, particularly suitable habitat for special status species. Site photographs taken during the survey are presented in Appendix B. All plant and animal species, as well as classified vegetation types observed during the survey were recorded and are presented in Appendices C and D.

In anticipation of compliance with Sections 401 and 404 of the Clean Water Act (CWA) the BSA was reviewed to determine the presence of jurisdictional Waters of the United States (U.S.) including wetlands, as recognized by USACE. An USACE wetland delineation was conducted simultaneously with this NES. A standard Jurisdictional Delineation Form (JD Form) is presented in Appendix F.

2.3. Personnel and Survey Dates

2.3.1. Brief Evaluation of the Biological Study Area (BSA)

The BSA was evaluated initially on May 27, 2011 by biologist Michelle Tollett. Weather conditions were fair with clear skies. The temperature ranged from 14.4 to 19.4 degrees Celsius (58 to 67 degrees Fahrenheit). Wind speeds ranged from zero to eight kilometers per hour (zero to five miles per hour). A subsequent and more detailed evaluation of the BSA occurred on July 13, 2011 by biologists Michelle Tollett and Hugo Flores and jurisdictional delineation specialist Stephen Blackwell to assess the existing conditions, the potential for sensitive resources to be present, and the limits of USACE and CDFG jurisdiction, CCC-defined wetlands and environmental sensitive areas (ESHA). Weather conditions were fair with solid stratus clouds overhead. Wind speeds ranged from three to five miles per hour. The temperature ranged from 18.3°C to 21.6°C (65°F to 71°F). A brief walk-through of the site was conducted with a 100% pedestrian survey.

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2.3.2. Detailed Biological Assessment and Jurisdictional Delineation

A detailed biological survey including measurement of the water depth, distance from the construction limits to the sensitive area, detailed plant and bird surveys, and jurisdictional delineation were conducted by biologists Michelle Tollett, Mario Mariotta, and Joyce Mak, and jurisdictional delineation specialist Debbie Kinsinger throughout the BSA on November 25 and November 28, 2011. Weather conditions were fair with partial clouds overhead. Wind speeds ranged from zero to eight kilometers per hour (zero to 5 miles per hour). The temperature ranged from 16.0°C to 24.4°C (61°F to 76°F).

The framework of the biological assessment included a 100% pedestrian survey of the BSA, plus a 200-foot buffer zone, where possible, with a meandering search pattern within linear transects to obtain maximum coverage. Binoculars were used to view plants, bird species, and other wildlife where the pedestrian survey was not sufficient to identify biological resources using the unaided eye. A Trimble GTX sub-meter GPS unit was used and confirmed by 50-meter measure tape to define the distance from the construction limits to the onsite sensitive areas. Field notes were recorded on the general biological conditions of the site, with particular focus on sensitive biological resources and habitats that could support special-status plant and wildlife species including related issues of connectivity, native and non-native vegetation, patch size, and possible habitat fragmentation.

The Trimble GPS system was used to define the jurisdictional areas within and adjacent to the BSA. For the JD assessment, soil pits were dug and soil chroma was evaluated by use of a Munsell Color Book to evaluate hydric soils. The limits of riparian vegetation and hydrophytic vegetation were identified and recorded onto color aerial and topographic maps. Notes and jurisdictional findings conducted in the field were recorded and depicted on a 200 foot to the inch scaled color aerial photograph. Photographs were taken of the limits of USACE and CDFG jurisdictions, CCC-defined wetlands, and the ESHA.

2.4. Agency Coordination and Professional Contacts

During this phase of the Project, formal agency coordination was not conducted with USACE, the RWQCB, CDFG or USFWS. However, during the field survey a number of issues were identified that will eventually require formal coordination with the agencies. As Project impacts to Waters of the U.S. were clearly identified, agency coordination will be required to submit a permit application under Section 404 and 401 of the CWA to USACE and the RWQCB, respectively. Informal consultation with California Department of Fish and Game (CDFG) under the State Fish and Game Code/California Endangered Species Act (CESA) and/or the U.S. Fish and Wildlife Service (USFWS) under section 7 of the Federal Endangered Species Act (FESA) is warranted if listed species are determined to be indirectly impacted by the Project.

The California Coastal Commission was contacted in November 2011 and it was determined that the Project would fall under the state coastal commission's jurisdiction, rather than the City of Huntington Beach's local coastal program's jurisdiction.

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Any agency coordination to date conducted on an informational basis only for requirements on survey level of effort and report preparation. No formal agreements have been made at this time.

2.5. Limitations That May Influence Results

There were no significant barriers to the evaluation of the terrestrial portion of the BSA during the field survey. The majority of the BSA was accessible by foot and those areas which were inaccessible were within visible range due to the limited extent of the Project. However, due to the presence of ongoing habitat restoration in some portions of the BSA, some terrestrial areas within the BSA were not as thoroughly surveyed as others and it is possible that some plant or animal species were not observed as a result. However, these areas are well away from the area necessary for construction and are will not be impacted by the Project. Aquatic portions of the BSA, which included the wetted/submerged portions of the Bolsa Chica Channel, were visually surveyed from the land surrounding the channel during low tide, where only one to two feet of water remained in the channel. In any event, aquatic communities and conditions inside the channel were not exhaustively surveyed, as it appears unnecessary to do so at this time. Bridge structures were surveyed for potential bird nests and only a rock pigeon roost was located. It was determined that high tide waters would make nesting under the bridge highly unlikely and it does not appear to be an issue for this Project. Field surveys were also conducted during daylight hours and it is possible that nocturnal mammalian species were present but not observed. However, Bolsa Chica Conservancy staff indicated that the salt marsh vole and south coast shrew inhabit the southern areas of the salt marsh, which is outside of the BSA.

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Chapter 3. Results: Environmental Setting

This environmental setting section describes the region in which the Project will occur. The Project is located on and adjacent to Warner Avenue Bridge and above the open water of Bolsa Chica Channel, in the northwestern portion of Orange County, California. It is bounded by Pacific Coast Highway, Huntington Harbor, Bolsa Chica Ecological Reserve and commercial areas.

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Biological Study Area (BSA)

The BSA encompasses the approximately 37 meters (120 feet) long Warner Avenue Bridge structure, both above and below deck, and a 152-meter (500-foot) buffer extending from the bridge outward (See Figure 1). The Warner Avenue Bridge is four lanes wide and it traverses Bolsa Chica Channel in a west-east direction. A municipal fire station and a nautical center, which has a boat launch that enters Huntington Harbor, are located to the northwest of the bridge. A currently unused parking lot and a housing community lie to the northeast of the bridge. The Bolsa Chica Ecological Reserve abuts the bridge to the south on both banks of Bolsa Chica Channel. On the western bank of the channel, within the ecological reserve, is the Bolsa Chica Wetlands Conservancy interpretive center with a small parking lot. There is a dirt path leading south through the reserve and another leading east to a pedestrian bridge. The pedestrian bridge crosses Bolsa Chica Channel parallel to and approximately 10 feet south of the Warner Avenue Bridge. Spreading in a southeastern direction from the bridge is the ecological reserve which features stands of native vegetation and cleared areas with foot paths.

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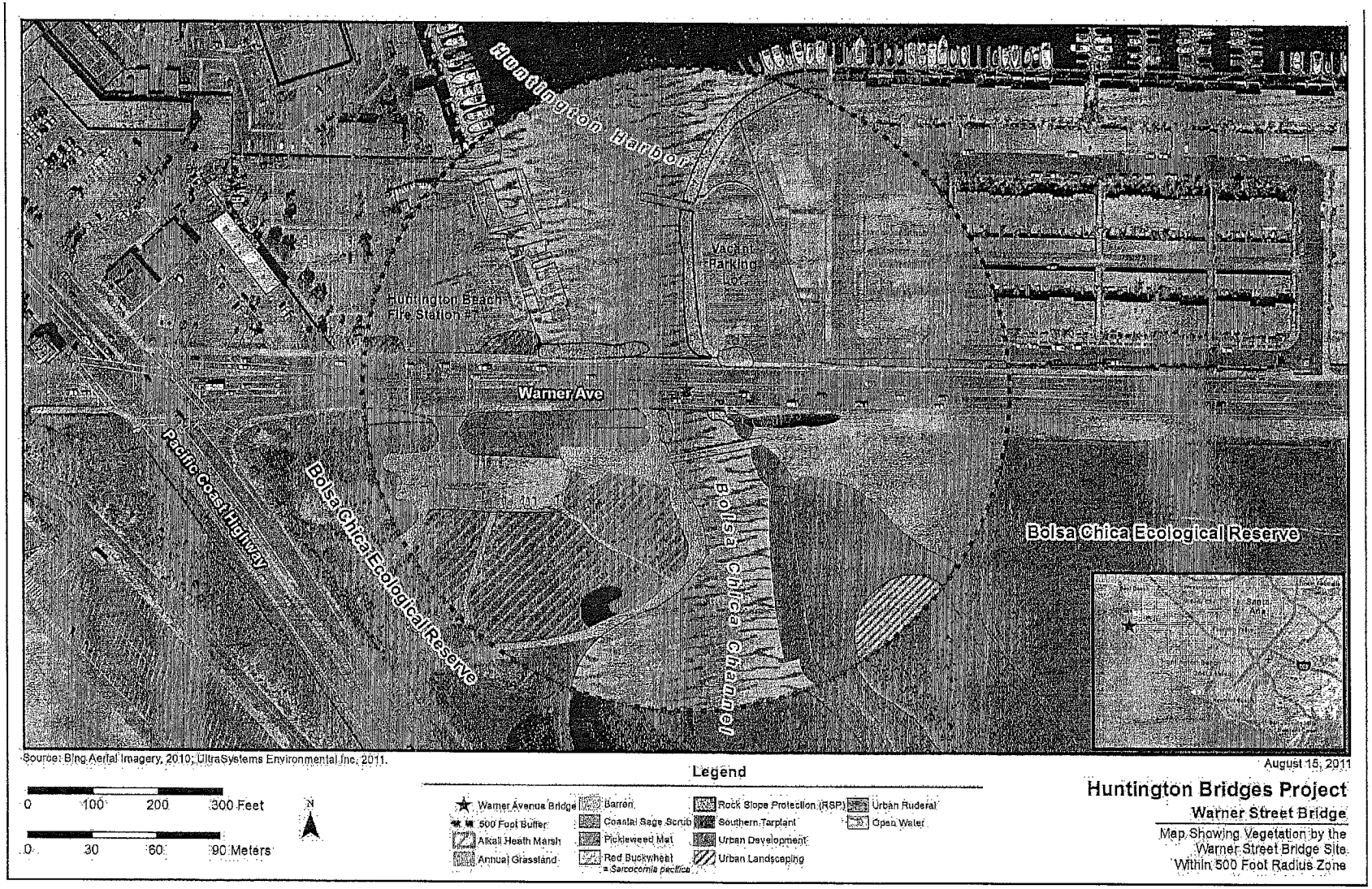
Figure 3. Vegetation Map



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3.1.2. Physical Conditions

Warner Avenue Bridge spans Bolsa Chica Channel, a tidally influenced channel bordered by Bolsa Bay to the south and Huntington Harbor to the north. Bolsa Bay is a brackish bay formed by marine tidal waters through Huntington Harbor and by freshwater from the concrete lined municipal storm drains that are upstream of Bolsa Chica Channel originating at East-Garden Grove-Wintersburg Channel. The elevation ranges from sea level to three meters (nine feet) above mean sea level. The Project is located in an area with the potential to undergo liquefaction, according to the City of Huntington Beach (City of Huntington Beach, 2008). The National Resources Conservation Service reports that the soil type in the BSA primarily consist of marine loamy sand.

3.1.3. Biological Conditions in the Biological Study Area

3.1.3.1 VEGETATION COMMUNITIES

Vegetation communities on the side of the BSA north of Warner Avenue can be described as mostly non-native ornamental whereas on the side of the BSA south of Warner Avenue there were native plant communities. A list of the native species that were observed populating these communities can be found in Appendix C. Native plant types include wetland and bluff scrub plant communities, which were represented by alkali heath marsh, pickleweed mat, and California buckwheat scrub communities. There is also a distinct monotypic stand of southern tarplant southeast of the bridge. The vegetation communities in the BSA have been classified according the Manual of California Vegetation, 2nd Edition, (Sawyer, Keeler-Wolf, and Evens, 2009) with the exception of the southern tarplant monotypic stand. General descriptions of the plant communities present within the BSA are provided below.

Wetland and Bluff Scrub Plant Communities

The natural vegetation communities found in the BSA are primarily categorized as saltwater marsh communities and upland plant communities. Coastal saltwater marsh communities are characterized by the presence of low growing salt tolerant perennial herbaceous and shrubby plants that withstand tidal inundation by sea water. The salt content of the water is a result of the presence of sea water, rather than the accumulation of salts from evaporated water, as in the case of inland alkali sink marshes. Coastal salt marsh typically has only two canopy levels at most, with the majority of plants growing as herbaceous perennials. The bluff scrub community in the BSA is characterized by the presence of both herbaceous and shrubby plants, with more plants growing to a woody shrub stage, rather than herbaceous stage, as in the wetland communities. This community does not receive tidal inundation by sea water. In addition to these plant communities, which are assemblages of multiple plant species, monotypic stands of certain species are present in the BSA.

Alkali Heath Marsh Communities

The BSA contains patches of this community to the southwest of the bridge and south of the interpretive center. These patches are interrupted by cleared dirt foot paths that run south east

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from the interpretive center into the ecological reserve. Alkali heath (*Frankenia salina*) is dominant or co-dominant with saltwort (*Batis maritimum*), saltbush species (*Atriplex spp.*), salt grass (*Distichlis spicata*), pickleweed (*Sarcocornia pacifica*), and seablite (*Suaeda taxifolia*). These plants grow only to herbaceous or subshrub stage and they either have openings between plants or form continuous, spreading mats.

Pickleweed Mat Communities

This community occurs west and south of the bridge, on the northern side of the interpretive center and it also occurs at lower elevations where there is more tidal inundation of sea water and in the area which is undergoing habitat restoration. Pickleweed (*Sarcocornia pacifica*) is dominant or co-dominant with saltwort (*Batis maritima*), salt grass (*Distichlis spicata*), spiny rush (*Juncus acutus*), and sea lavender (*Limonium californicum*). These plants also grow only as herbs or subshrubs, as in the case of alkali heath marsh and likewise have the potential to form a continuous canopy or have openings between plants.

California Buckwheat Scrub Communities

California Buckwheat Scrub is a type of Coastal Sage Scrub community found southwest of the bridge as a narrow strip between the pickleweed mats and Warner Avenue. It also occurs southeast of the bridge in two major patches; one abuts Warner Avenue bridge and is interrupted by the pedestrian bridge, the other is just south of that patch and spreads southeastward along the elevated portion of the channel and out to the limits of the BSA. California buckwheat (*Eriogonum fasciculatum*) is dominant or co-dominant with California sagebrush (*Artemisia californica*), coast sunflower (*Encelia californica*), coast goldenbush (*Isocoma menziesii*), coyote brush (*Baccharis pilularis*) and black sage (*Salvia mellifera*). These shrubs form canopies that are either continuous or intermittent. Herbaceous species may be represented by native species, or in cases where disturbance has occurred such as in the Project vicinity, herbs are primarily represented by non-native annual species such as white sweet clover (*Melilotus albus*), Mediterranean rabbitsfoot grass (*Polypogon monspeliensis*), wild radish (*Raphanus sativus*), curly dock (*Rumex crispus*), and London rocket (*Sisymbrium irio*).

Southern Tarplant Monotypic Stand

This community is found southeast from the bridge in an area 5 square meters (54 square feet) in extent. It is found several feet from Warner and it abuts the trail. This stand is dominated by southern tarplant (*Centromadia parryi ssp. australis*). Included in this stand are individuals of knotweed (*Polygonum aviculare*), and perennial rye grass (*Lolium perenne*). These plants form an intermittent canopy in this instance. According to Kelly O'Reilly (CDFG), this stand grew in its current location following the construction of the pedestrian bridge in 2010. The construction of the bridge created conditions that enabled the soil to become inundated during the rainy season, where it had not become inundated previously. Therefore, this new population of southern tarplant was received as an "accidental welcome surprise", in addition to the other populations of southern tarplant within the reserve. The other populations of this species stocked the seed bank for this stand through wind and animal vector dispersal which led to the population explosion observed following the 2011 rainy season.

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Non-Native Plant Communities

The land areas to the north of the bridge consist of developed land. These developed areas have landscaping that consists of non-native ornamental species such as lawn grass and ornamental flowering plants such as freeway iceplant (*Carpobrotus edulis*), bird of paradise (*Strelitzia reginae*) and Mexican fan palm (*Washingtonia robusta*). To the southeast of the bridge and north of the buckwheat scrub there is a vegetation stand which is a non-native annual grassland, dominated by various annual grasses such as wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), perennial rye grass (*Lolium perenne*), and curly dock (*Rumex crispus*). There are also a few instances of native plants, such as bladder pod (*Isomeris arborea*) and California buckwheat (*Eriogonum fasciculatum*), but they have low coverage values in this community. This area has likely resulted from past uses of the land such as grazing or agriculture.

3.1.3.2 WILDLIFE

The Bolsa Chica Ecological Reserve receives visitation from many migratory avian species due to its position in the Pacific flyway and the highly productive marsh habitat it features. A list of observed wildlife species can be found in Appendix D. Records indicate that a variety of wetland birds and shorebirds as well as some upland species typically nest within the boundaries of the reserve. Common species of birds observed at Bolsa Chica Ecological Reserve include Brown pelican (*Pelecanus occidentalis*), sandpipers (Family *Scolopacidae*), plovers (Family *Charadriidae*), terns (*Sterna* spp.), terns (Family *Podicipedidae*), gulls (*Larus* spp.) and great blue herons (*Ardea herodias*). Special-status species are also known to nest at Bolsa Chica, including Western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), and Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) which will be discussed in greater detail later in this report. Other wildlife species known to inhabit the area include coyote (*Canis latrans*), Audubon's cottontail (*Sylvilagus audubonii*), Pacific gopher snake (*Pituophis catenifer catenifer*), California ground squirrel (*Spermophilus beecheyi*), and western fence lizard (*Sceloporus occidentalis longipes*).

3.1.3.3 AQUATIC RESOURCES

Bolsa Chica Channel and Huntington Harbor are tidally influenced, with a soft-bottomed silty clay substrate. Within the BSA, the banks range from vertical to sloping and are primarily barren, with scattered of pickleweed mats. The bottom surface of the channel likely consists of mud/silt that shifts perennially due to tidal influences. There is likely silt deposition from upstream because the tributaries to Bolsa Chica Channel are fed by urban runoff and are channelized or concrete lined prior to their entrance into the bay. The portion of the channel underneath the bridge has some remnant rock-slope protection; however the majority of it has washed away, leaving only barren soil. There is little to no wetland vegetation on the channel bottom within the BSA. However, in those areas adjacent to the banks that are tidally flooded, there are the aforementioned pickleweed mats. During their visit to the Warner Avenue bridge, the biologists did notice some juvenile fish swimming in the water a meter north of the bridge; this species could not be identified.

Bolsa Chica Channel is considered Waters of the U.S. as defined by USACE because of its connection to a navigable waterway; a USACE Section 404 Nationwide Permit Notification will

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be prepared with the associated RWQCB Section 401 Water Quality Certification. Pursuant to the Coastal Zone Management Act, all areas subject to tidal influence are considered "wetlands" and lie within the coastal zone; a Coastal Development Permit Application will be submitted to the California Coastal Commission. Bolsa Chica Channel is also considered Waters of the State by CDFG; however, a 1602 permit will not be required for this Project due to the proximity to Huntington Harbor and lack of true streambed functions at this location (Fluharty 2011). There is a CDFG white sea bass rookery to the north of the bridge. When the Project places silt curtains in the channel, they will be placed in such a way to take the rookery into account and minimize impacts to it. Finally, Bolsa Chica Channel is considered Essential Fish Habitat by the National Oceanographic and Atmospheric Administration National Marine Fisheries Service and in particular is designated as an estuarine Habitat Area of Particular Concern; an Essential Fish Habitat Assessment can be found in Appendix E and contains more information on the aquatic resources surrounding this Project.

3.2. Regional Species and Habitats of Concern

The CNDDB was reviewed to provide a list of potential special-status biological resources in the greater Project vicinity, which included a search area within a 2-mile radius of the Proposed Project Area. Bolsa Chica Conservancy, which has continually updated records of bird species observed at the ecological reserve, was consulted for occurrence of birds at the reserve. These data indicated that 17 special-status plants and animal species have occurrence potential in the general Project vicinity. The occurrence potential determinations are recorded in Table 1. Figure 4 illustrates the detection locations of special-status species within 2 miles of the BSA, per the CNDDB. Of the 17 total special status species reported, including plants and wildlife, 13 have moderate to high potential to occur in the BSA; of these 13, four were either observed on site during the field surveys or continually have updated records of occurrences. The species with moderate to high potential to occur include two mammals, six birds and five plants. The BSA does not overlap with any USFWS critical habitat for any species; however there is critical habitat for the western snowy plover (*Charadrius alexandrinus nivosus*) within 2 miles of the Project site. Three sensitive vegetation communities recognized by CNPS were identified in the general Project vicinity, one within the BSA, southern coastal salt marsh, which is represented by both pickleweed mats and alkali heath marsh.

ATTACHMENT NO. 3.24

Table 1. Special Status Species with the Potential to Occur in the Biological Study Area

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
Mammal	*Microtus californicus stephensi*	south coast marsh vole	DFG-SSC	Lives in coastal marshes and associated grassland areas.	HP	Moderate	Site is disturbed and close to a high traffic area, nevertheless suitable habitat is present in BSA.
Mammal	*Perognathus longimembris pacificus*	pacific pocket mouse	FE, DFG-SSC	Species lives on fine-grained substrates in coastal sage scrub, coastal strand and coastal dunes.	HP	Low	Species' range has been significantly reduced; species is not known to occur within 5 miles of BSA.
Mammal	*Sorex ornatus salicornicus*	southern California saltmarsh shrew	DFG-SSC	Most often found in saltmarshes with pickleweed (*Salicornia virginica*). Can also be found in dense bulrush (*Scirpus* sp.) and willow (*Salix* spp.) stands.	HP	Moderate	Site is disturbed and close to a high traffic area, nevertheless suitable habitat is present in BSA.
Reptile [+]	*Anniella pulchra pulchra*	California legless lizard	DFG-SSC	This species forms burrows in loose, sandy soils amongst coastal dunes. This species may also be found in loose soil and leaf litter underneath trees and shrubs in chaparral.	A	Not Expected	Suitable dune habitat is not present in BSA. Most soil in BSA is hard packed.
Reptile [+]	*Thamnophis hammondii*	Two-striped garter snake	DFG-SSC	An aquatic snake found in and near freshwater streams	A	Not expected	No suitable freshwater habitat is present in the BSA.

ATTACHMENT NO. 9.15

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
Bird	*Athene cunicularia*	burrowing owl	DFG-SSC	This bird inhabits open grasslands and other open areas but can be found nesting in slopes along road cuts and canals. Nests in burrows made by ground squirrels and coyotes.	HP	Low	Habitat suitability is low within the BSA.
Bird	*Charadrius alexandrinus nivosus*	western snowy plover	FT, DFG-SSC	This bird inhabits a variety of coastal habitats with high saline conditions such as salt ponds and alkali lakes and is also found on sandy and rocky substrates in coastal strands and coastal dunes.	HP	High	Suitable foraging habitat is present in BSA, but species is known to nest outside of BSA.
Bird +	*Circus cyaneus*	northern harrier	DFG-SSC (nesting)	This bird is a year-round resident of open marshes and grasslands throughout North America.	HP	High	Suitable foraging and nesting habitat are present in the BSA.
Bird *	*Dendroica petechia brewsteri*	yellow warbler	DFG-SSC	This species prefers riparian woodlands vegetated by willows (*Salix sp.*) and cottonwood (*Populus sp.*).	Absent	Not Expected	No suitable riparian habitat is present in the BSA.
Bird +	*Elanus leucurus*	White-tailed kite	DFG-FP (nesting)	This species forages over open grasslands, wetlands, and sparsely populated wooded areas. This species nests in densely wooded areas and rarely nests in isolated trees.	A	Not Expected	Suitable nesting habitat is not present within BSA.

ATTACHMENT NO. 3.26

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
Bird +	*Falco peregrinus anatum*	Peregrine falcon	DFG-FP (nesting)	This species inhabits open wetlands and grasslands near cliffs.	HP	Low	Suitable foraging habitat is present within BSA, however suitable nesting habitat is not.
Bird +	*Lanius ludovicianus*	loggerhead shrike	DFG-SSC (nesting)	The loggerhead shrike inhabits open grasslands and low brush year-round. Species typically prefers open areas with isolated trees or shrubs to perch on and hunt from.	HP	Low	Suitable foraging habitat is poor within BSA and nesting habitat is absent.
Bird	*Passerculus sandwichensis beldingi*	Belding's savannah sparrow	SE	This bird is a year round resident in coastal salt marshes only. This bird's nests are found amongst dense pickleweed (*Salicornia virginica*) stands or on natural depressions or bare scrapes in the ground.	HP	Observed	Species was observed during field survey and suitable habitat is present in BSA
Bird *	*Passerculus sandwichensis rostratus*	large-billed savannah sparrow	DFG-SSC	This bird inhabits both coastal and inland salt marshes. It is highly associated with marsh grass (*Spartina* and *Distichlis*) species.	HP	Moderate	Suitable habitat is present in the BSA and species is known from the area.
Bird +	*Pelecanus erythrorhynchos*	American white pelican	DFG-SSC (nesting colony)	The American white pelican is a winter migrant in wetlands and estuaries.	HP	Low	Suitable habitat is low within the BSA.

ATTACHMENT NO. 3.27

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
Bird [+]	*Pelecanus occidentalis californicus*	brown pelican	DFG-FP (nesting colony and communal roosts)	The brown pelican is a winter migrant that nests in colonies found on islands but migrates and forages along the coast of the mainland.	A	Observed	Suitable foraging habitat is present in BSA, however nesting habitat is absent in BSA.
Bird	*Polioptila californica californica*	coastal California gnatcatcher	FT, DFG-SSC	A permanent resident of open scrub habitats, particularly Coastal Sage Scrub, below 2,500 feet in Southern California. More abundant in areas where Coastal Sage Scrub interfaces with Chaparral.	HP	High	Species is known to occur in Project vicinity but was not observed within BSA during field survey.
Bird	*Rallus longirostris levipes*	light-footed clapper rail	FE, SE, DFG-FP	This bird is almost exclusive to saltmarsh. It primarily nests in cordgrass (*Spartina* sp.). Can also be found rarely in freshwater marsh where it nests mainly in bulrushes or cat tails.	HP	Moderate	Marsh habitat is present and this species is known to nest outside of cord grass habitat.
Bird	*Rynchops niger*	black skimmer	DFG-SSC	Mostly found in sandy or gravelly bars and beaches. Also found within shallow bays, estuaries and saltmarsh areas.	P	Observed	Species was observed during field survey.
Bird	*Sternula antillarum browni*	California least tern	FE, SE, DFG-FP	This bird nests in colonies formed on open beaches that are free of vegetation due to tidal scouring; nests consist only open scrapes on ground. It prefers sites in the proximity of estuaries. Forages over open water.	P	Observed	Species was observed during field survey.

ATTACHMENT NO. 2, 28

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
Fish *	*Catostomus santaanae*	Santa Ana Sucker	FT, DFG-SSC	Freshwater streams in the Santa Ana, San Bernardino and Los Angeles river watersheds. Also known from Big Tujunga Creek.	Absent	Not Expected	Suitable habitat is not present in BSA and BSA is not within species' known range.
Fish	*Eucyclogobius newberryi*	tidewater goby	FE, DFG-SSC	This species has been found in estuaries that are typically impounded by a sandbar part of the year throughout the coast of California.	HP	Low	Species has not been recorded to occur in BSA. The nearest record of this species is more than 5 miles away.
Fish *	*Gila orcutti*	Arroyo chub	DFG-SSC	Freshwater streams with muddy or sandy substrates. Known from the Santa Ana watershed primarily in the middle reaches.	HP	Low	Species has not been recorded to occur in BSA and its range has been significantly reduced.
Fish *	*Rhinichthys osculus ssp. 3*	Santa Ana speckled dace	DFG-SSC	Freshwater streams with cobble or gravel riffles with abundant cover from streamside vegetation and rocks.	Absent	Not Expected	Suitable habitat is not present in the BSA.
Plant	*Astragalus pycnostachyus var. lanosissimus*	Ventura Marsh milk-vetch	FE, SE, 1B.1	A perennial herb that grows on coastal dunes and in coastal scrub, also found in some coastal, brackish marshes. This herb blooms from June to October. It is found at elevations ranging from 3	HP	Moderate	Suitable habitat is present in BSA but species was not observed during field surveys.

ATTACHMENT NO. 9.2a

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
				to 115 feet. It is presumed to be extirpated from Los Angeles County, the last recorded occurrence is in Oxnard, CA.			
Plant	*Calystegia sepium ssp. Binghamiae*	Santa Barbara morning-glory	1A	A perennial rhizomatous herb that is presumed to be extinct throughout most of California except possibly in Seal Beach. It has been found in coastal salt marshes. It blooms from April to May and was found at elevations ranging from 0 to 65 feet.	HP	Not expected	Suitable habitat is present in BSA but site is outside of species known range.
Plant	*Centromadia parryi ssp. australis*	southern tarplant	1B.1	This species is an annual herb that occurs in the margins of marshes, in valley and foothill grasslands. It also occurs in alkaline soils, sometimes with saltgrass and sometimes occurs on vernal pool margins. This species can be found at elevations of 0 to 1394 feet. It blooms from May to November.	P	Observed	Species was observed within BSA during field survey.
Plant	*Chloropyron maritimum ssp. maritimum*	salt marsh bird's-beak	FE, SE, 1B.2	This species is an annual hemiparasitic herb that grows in coastal dunes and coastal salt marshes. It blooms from May to October. It is found at elevations between 0 and 100 feet.	HP	High	Species is known to occur in Project vicinity but was not observed during field survey.

ATTACHMENT NO. 2.36

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
Plant	*Nemacaulis denudata var. denudata*	coast woolly-heads	1B.2	This species is an annual herb that occurs on coastal dunes. This herb blooms from April to September. This species is known to occur at elevations from 0 to 328 feet.	A	Not Expected	No suitable dune habitat is present in the BSA
Plant	*Lasthenia glabrata ssp. coulteri*	Coulter's goldfields	1B.1	An annual herb found in coastal salt marshes, freshwater wetlands, playas, valley and foothill grassland and vernal pools, usually in alkaline soils. Blooms from February to June. Occurs in elevations from 3 to 4000 feet.	HP	High	Suitable habitat is present in BSA, but species was not observed during field survey.
Plant	*Sagittaria sanfordii*	Sanford's arrowhead	1B.2	A perennial rhizomatous herb that occurs in the shallow parts of freshwater marshes and swamps. Flowers from May to October. Occurs at elevations from 0 to 2,132 feet.	A	Not Expected	No suitable freshwater marsh habitat is present in the BSA.
Plant	*Suaeda esteroa*	estuary seablite	1B.2	A perennial herb that occurs in coastal salt marshes with clay, silt, and sand substrates. Found at elevations from 0 to 15 feet. Blooms from May to October.	HP	High	Suitable habitat is present in BSA but species was not observed during field survey
Plant	*Symphyotrichum defoliatum*	San Bernardino aster	1B.2	Cismontane Woodland, Coastal Scrub, Lower Montane Coniferous Forest, Meadows and seeps, marshes and swamps, Valley and Foothill Grassland. Ditches, streams, and springs. Flowers July to November. From 6 to 6,692 feet in elevation.	HP	Not Expected	No suitable freshwater marsh is present in BSA.

ATTACHMENT NO. 3.21

Taxonomic Grouping	Scientific Name	Common Name	Status	General Habitat Description	Habitat in BSA Present/Absent	Occurrence Potential in BSA	Rationale
Habitat	Southern foredunes	Southern foredunes	-/-		A	Not expected	No dunes present in BSA.
Habitat	Southern dune scrub	Southern dune scrub	-/-		A	Not expected	No dunes present in BSA.
Habitat	Southern coastal salt marsh	Southern coastal salt marsh	-/-		P	Observed	Salt marsh indicator plants present in BSA.

[+] indicates species that were not reported in the Project vicinity by the CNDDB but which the Bolsa Chica Conservancy regards as present.
* indicates species that were reported in the CNDDB's unprocessed data for the Seal Beach USGS 7.5 minute quadrangle.

Key

Status

Federal
FE: USFWS Endangered
FT: USFWS Threatened

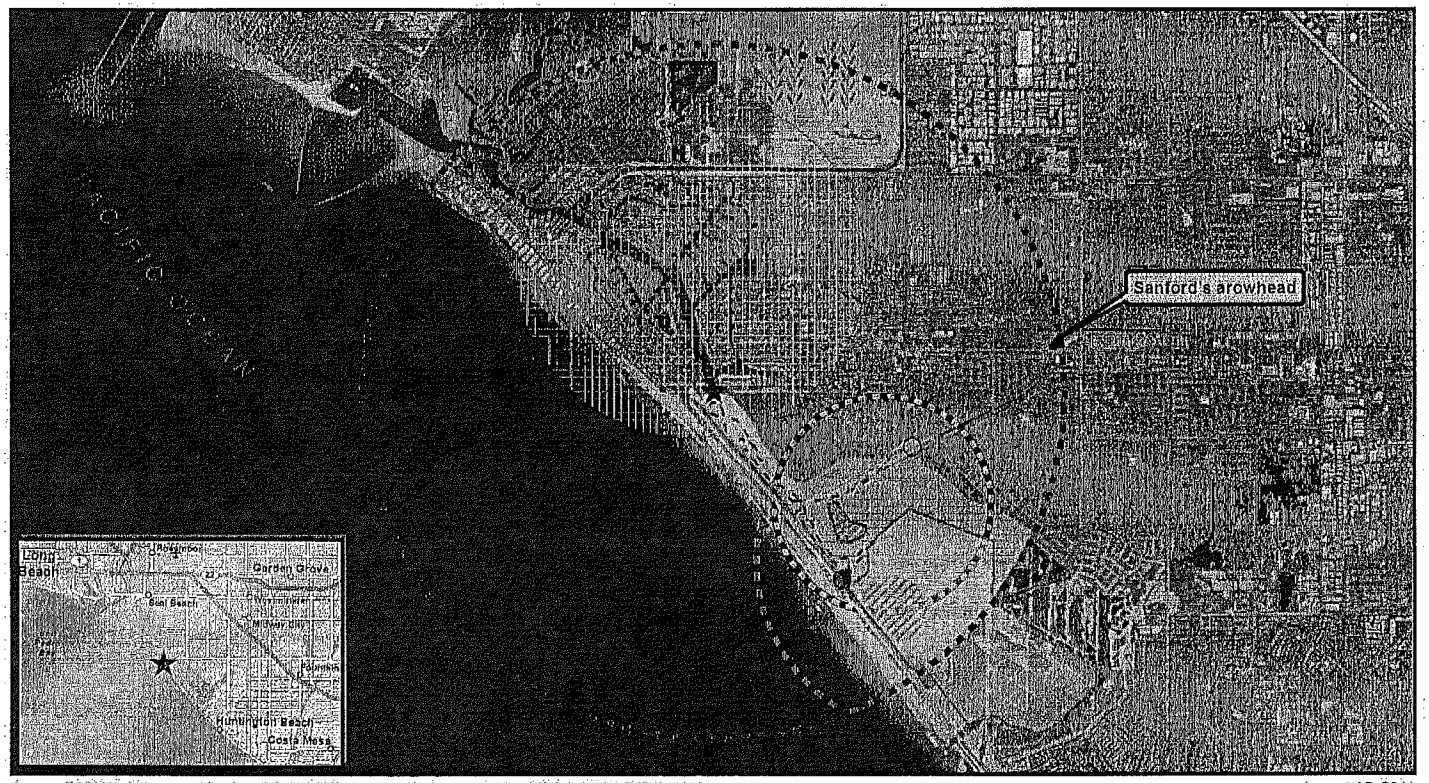
State
SE :CDFG Endangered
ST: CDFG Endangered
DFG-SSC: CDFG Species of Special Concern
DFG-FP: CDFG Fully Protected Species

CNPS
1A: Plants presumed extinct in California
1B: Plants rare, threatened, or endangered in California and elsewhere
1: Seriously threatened in California
2: Fairly threatened in California

Habitat in BSA Present/Absent
HP: Habitat Present
A: Absent
P: Species or habitat was observed in BSA

ATTACHMENT NO. 2-22

Figure 4. CNDDB Report Map



ATTACHMENT NO. 3.33

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

Avoidance and minimization of impacts to all special-status communities and species found in the BSA would be accomplished through Project Design Features. Specific Project design features that address potential impacts to biological resources will be discussed in the following sections. To prevent impacts to listed species and special-status vegetation communities, the Project impact areas were limited to previously disturbed areas minimizing threat to sensitive areas within the reserve, when possible. The Project would set construction boundaries to avoid environmentally sensitive habitat areas. Such areas include the stand of southern tarplant and the wetlands found within the BSA. Construction impacts would be limited to disturbed areas only when possible and all personnel, equipment, and vehicles would remain on construction access roads and paths at all times. Following work each day, trash would be cleaned up and equipment would be checked to ensure that it is not leaking contaminants. The Project area can be enhanced by construction activities through the control and removal of invasive species to the maximum extent feasible in areas that receive temporary disturbance. At the conclusion of Project activities, those areas that have been temporarily impacted will be returned to original or better contouring and compaction and can be enhanced through revegetation with native species.

Activities in wetted areas should only occur during low tide to limit introduction of pollutants into the water and to minimize impacts to aquatic life. Construction activities within the water would be preceded by the installation of turbidity control measures such as silt curtains. Seine nets would be used to clear the work area of aquatic life prior to construction activities each day, for work within wetted areas.

4.1. Natural Communities of Special Concern

The natural plant communities of special concern for this Project include all areas of coastal salt marsh vegetation on either side of Bolsa Chica Channel south of Warner Avenue Bridge. Coastal salt marsh includes alkali heath marsh and pickleweed mats, mid-to-low elevation marsh species, respectively. For the purposes of this study and the following discussion, these areas will be referred to as "salt marsh."

4.1.1. Salt Marsh

Salt marshes are coastal wetlands that are sometimes called tidal marshes since they occur in the zone between low and high tides. Salt marsh plants cannot grow where waves are strong, but they can survive along low-energy coasts. They can also be seen in areas called estuaries, where land freshwater meets sea water. A distinctive feature of salt marshes is the color of the plants that grows there, which varies from shades of gray, brown, and green.

ATTACHMENT NO. 3-34

4.1.1.1. SURVEY RESULTS

The survey and preliminary research revealed that the majority of the undeveloped areas within the BSA consist of salt marsh and disturbed coastal scrub communities. These vegetation types are adjacent to the Project site on the western side of the bridge and have the potential to be impacted by Project activities. Special care should be taken when performing construction activities in proximity to wetlands portions southwest of the Project site, particularly in this area where it is undergoing habitat restoration and is especially vulnerable to disturbance and invasion by exotic species. The location of salt marsh vegetation types within the BSA is identified in Figure 3.

4.1.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

In order to avoid impacts to the salt marsh during Project construction, construction access to under the bridge will need to be strictly limited. Every effort should be made to avoid encroaching upon the vegetated areas and vegetation clearing should be kept to the absolute minimum. Revegetation of the disturbed areas planned for temporary impacts would enhance the habitat during post-construction phases and is planned as a Project design feature / avoidance and minimization measure. The spread of invasive weeds would be prevented to ensure the site integrity of the salt marsh habitat. Weed spread would be controlled by hand pulling or by seed head whipping (weed whack) within the project area. No herbicides will be used on site due to the site's proximity to Bolsa Chica Channel.

4.1.1.3. PROJECT IMPACTS

There is the potential to incur temporary impacts to the salt marsh community while establishing access areas. Avoidance and minimization measures would likely reduce the amount of temporary impacts. However impacts to this community to some extent appear unavoidable in order to allow construction access under the bridge. Since the Project aims only to restore the bridge to its original design specifications, impacts to this community would be minimal (potential of a few square feet). Since pickleweed mat has the potential to support nesting for special status birds during breeding season, in particular Belding's savannah sparrow, vegetation removal should only occur after pre-construction bird surveys performed or outside of birding season (generally from late September to early February). See Section 4.3.2.1 on the Belding's savannah sparrow.

4.1.1.4. COMPENSATORY MITIGATION

Given the small amount of wetland vegetation anticipated to be impacted and the temporary nature of the impact by the Project activities, the above mentioned Project design features may be appropriate for minor loss of native vegetation.

4.1.1.5. CUMULATIVE IMPACTS

Since the impact area needed to allow construction access is expected to be small, there should be little impact to native wildlife species that rely on this community for habitat. However, the disturbance incurred by construction laydown may hamper the habitat

ATTACHMENT NO. 3.35

restoration already being conducted in the BSA.

4.2. Special Status Plant Species

Five special-status plant species have moderate or greater potential to occur within the salt marsh communities in the BSA. Our survey revealed the presence of southern tarplant (*Centromadia parryi* ssp. *australis)* within the BSA. Avoidance and minimization measures should be implemented to ensure that the Project does not negatively impact this species. The remaining species have moderate to high potential to occur in the BSA and will require pre-construction surveys prior to vegetation removal to ensure that they incur no impacts.

4.2.1. Southern Tarplant

Southern tarplant (*Centromadia parryi* ssp. *australis)* is an annual herb that occurs on the margins of marshes in valley and foothill grasslands. Soils that typically support this species are alkaline; therefore, southern tarplant can be found growing in proximity to salt grass (*Distichlis spicata*) and it is often found in such soil conditions growing on vernal pool margins. This species is listed by CNPS as a 1B rare plant. It can be found at elevations from 0 to 1,394 feet above mean sea level. The species blooms from May to November.

4.2.1.1. Survey Results

Southern tarplant was observed during the field survey in two locations within the BSA (Figure 3 Vegetation Map). The stand of southern tarplant to the east of Warner Bridge is partially located within the Project impact area. It will be necessary to remove some southern tarplant individuals (fewer than 30 of more than 400 plants) to provide access underneath the bridge.

4.2.1.2. Avoidance and Minimization Efforts

To minimize impacts to southern tarplant during its growing and flowering periods, pre-construction surveys should be conducted to delineate the vegetation stand in which this species occurs. Although this stand of southern tarplant was delineated during the 2011 surveys for this annual species, slight changes to the population limits are expected due to seasonal variability associated with rainfall and herbivory. Once the full extent of the vegetation stand has been determined, it should be flagged off and included in an Environmentally Sensitive Habitat Area (ESHA) so that Project activities will avoid impacting it. During the time that construction activities occur and southern tarplant is active, a qualified biologist should be present weekly to monitor and ensure that the ESHA remains intact.

Following the completion of the Project, the Project impact area would be returned to natural contours and revegetated. Seed from the individual plants with potential to be impacted may be harvested and stored in a paper bag in a dry, cool location to be hand broadcasted by a qualified biologist, in the same location post-construction.

ATTACHMENT NO. 3-36

4.2.1.3. PROJECT IMPACTS

Implementation of the described avoidance and minimization efforts should prevent significant direct impacts to southern tarplant. However, it will be necessary to remove some members of this stand. This impact will not adversely affect the total population of southern tarplant in the vicinity of the BSA. The Project has the potential to incur a greater impact indirectly by disturbing the surrounding habitat within which the stand occurs. The disturbance area will be vulnerable to introduction by nearby invasive exotic species if post-construction areas are left barren. Therefore, native plants mimicking the existing environment will be seeded/planted post-construction to avoid displacement of southern tarplant from the BSA. No permanent impacts to southern tarplant are anticipated if all avoidance and minimization measures are implemented.

4.2.1.4. COMPENSATORY MITIGATION

Implementing the above avoidance and minimization measures mitigation is not necessary for this less than significant impact.

4.2.1.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.2.2. Ventura Marsh Milk-vetch

Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissumus*) is a perennial herb that grows on coastal dunes and in coastal scrub. This species is also found in brackish marshes near the coast. This species is listed by CDFG and USFWS as endangered. It is also listed by CNPS as a List 1B.1 species. Ventura marsh milk-vetch blooms from June to October. It is found at elevations from 3 to 115 feet above mean sea level.

4.2.2.1. SURVEY RESULTS

Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissumus*) was not observed during the field surveys conducted in May, July and November, 2011. Absence is determined at this time. CNDDB record occurrence states that this species is potentially extirpated from its observation location since it was reported to the CNDDB, ¼ mile away from the Project site. Therefore, this species is not expected within the BSA.

4.2.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

A construction clearance survey should be conducted during the appropriate time of year for detection of this species (June - October) by a qualified botanist in accordance with the USFWS- and CDFG-approved survey guidelines (as applicable). Following the survey, a Rare Plant Survey Letter Report shall be prepared detailing the results of the field surveys, including potential avoidance and minimization measures, if necessary. Further consultation with resource agencies would be necessary if Ventura marsh milk-vetch is observed during

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surveys.

Ventura marsh milk-vetch is considered absent from the BSA at this time. However, further consultation with resource agencies would be necessary if Ventura marsh milk-vetch is observed during future pre-construction clearance surveys. USFWS-approved survey guidelines are available at:
www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/botanicalinventories.pdf

4.2.2.3. PROJECT IMPACTS

Implementation of the described avoidance and minimization efforts should prevent impacts to Ventura marsh milk-vetch.

4.2.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.2.2.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.2.3. Salt Marsh Bird's-beak

Salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) is an annual herb that can be found along the coastal salt marshes and dunes of central and southern California. This species is listed as endangered by CDFG and USFWS. CNPS has included this species on the 1B rare plant list. The blooming period for this species occurs between May and October and it is found at elevations from zero to 100 feet above mean sea level.

4.2.3.1. SURVEY RESULTS

Salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) was not observed during the field surveys of May, July and November, 2011. However, given the presence of wetland habitat in the BSA and efforts to reintroduce this species into the Bolsa Chica ecological reserve, its absence cannot be certain yearly, as it is an annual herb. It has been determined to have a high potential to occur in the BSA; however it is not expected to occur within the Project impact area. The most recent CNDDB record of the species was in 1983, approximately 0.3 mile from the BSA.

4.2.3.2 AVOIDANCE AND MINIMIZATION EFFORTS

A construction clearance survey should be conducted during the appropriate time of year for detection of this species (May - October) by a qualified botanist in accordance with the USFWS- and CDFG-approved survey guidelines (as applicable). Following the survey, a Rare Plant Survey Letter Report shall be prepared detailing the results of the field surveys, including potential avoidance and minimization measures, if necessary. Further consultation

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with resource agencies would be necessary if salt marsh bird's-beak is observed during surveys.

USFWS approved survey guidelines are available at:
www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/botanicalinventories.pdf

4.2.3.2. PROJECT IMPACTS

Implementation of the described avoidance and minimization efforts should prevent impacts to salt marsh bird's-beak.

4.2.3.3. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.2.3.4. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.2.4. Coulter's Goldfields

Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*) is an annual herb found in coastal salt marshes, freshwater wetlands, playas, valley and foothill grassland and vernal pools, usually in alkaline soils. Coulter's goldfield is designated by the CNPS as a list 1B rare plant. This species blooms from February to June. Coulter's goldfields can be found growing at elevations from three to 4000 feet.

4.2.4.1. SURVEY RESULTS

Coulter's goldfield (*Lasthenia glabrata ssp. coulteri*) was not observed during the field survey. However, given the presence of wetland habitat in the BSA, its absence cannot be certain for this annual species and it has been determined to have a high potential to occur in the BSA. The most recent CNDDB record of the species was in 1949, approximately 0.2 mile from the BSA.

4.2.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

A pre-construction clearance survey should be conducted during the appropriate time of year for detection of this species (February-June) by a qualified botanist in accordance with the CDFG-approved survey guidelines (as applicable). Following the survey, a Rare Plant Survey Letter Report shall be prepared detailing the results of the field surveys, including potential P measures, if necessary. Further consultation with resource agencies would be necessary if Coulter's goldfield is observed during pre-construction clearance surveys.

4.2.4.3. PROJECT IMPACTS

Implementation of the described avoidance and minimization efforts should prevent impacts

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to Coulter's goldfields.

4.2.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.2.4.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.2.5. Estuary Seablite

Estuary seablite (*Suaeda esteroa*) is a perennial herb that occurs in coastal salt marshes with clay, silt, and sand substrates. This species is recognized as a rare plant by CNPS on the 1B rare plant list. This species grows at elevations from zero to 15 feet, and blooms from May to October.

4.2.5.1. SURVEY RESULTS

Estuary seablite (*Suaeda esteroa*) was not observed during the field surveys of May, July and November 2011. As this is a perennial herb, it would likely be observed during the surveys if within the BSA. However, given the presence of wetland habitat in the BSA, its absence cannot be certain, if areas of the wetland were inundated at the time of the survey. It has been determined to have a high potential to occur in the BSA but it is not expected to occur within the Project impact area. The most recent CNDDB record of the species was in 1973, approximately seven feet from the BSA.

4.2.5.2. AVOIDANCE AND MINIMIZATION EFFORTS

A pre-construction clearance survey should be conducted during the appropriate time of year for detection of this species (May-October) by a qualified botanist in accordance with the USFWS- and CDFG-approved survey guidelines (as applicable). Following the survey, a Rare Plant Survey Letter Report shall be prepared detailing the results of the field surveys, including potential avoidance and minimization measures, if necessary. Further consultation with resource agencies would be necessary if estuary seablite is observed during pre-construction clearance surveys.

4.2.5.3. PROJECT IMPACTS

Implementation of the described avoidance and minimization efforts should prevent impact to estuary seablite.

4.2.5.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

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4.2.5.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.3. Special Status Animal Species

Nine special status animal species have potential to occur within the BSA. Seven of these species are birds and two are mammals. In addition, migratory birds that are protected by the MBTA and California Fish and Game Code were present in the BSA. The special-status bird species with potential to occur all have moderate to high potential or have been observed during field surveys. Those species that were not observed during the survey have been recorded to occur in the Bolsa Chica Ecological Reserve recently and thus have at least a moderate potential to occur. The bird species discussed below are Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), western snowy plover (*Charadrius alexandrinus nivosus*), black skimmer (*Rhynchops niger*), California least tern (*Sternula antillarum browni*), northern harrier (*Circus cyaneus*), coastal California gnatcatcher (*Polioptila californica californica*), and light-footed clapper rail (*Rallus longirostris levipes*). Western snowy plover, black skimmer, and California least tern will be discussed together due to the similarity of their breeding habitat requirements. The two mammal species are south coast marsh vole (*Microtus californicus stephensi*) and southern California saltmarsh shrew (*Sorex ornatus salicornicus*); they have moderate potential to occur in the BSA and shall be discussed in a single section. Bolsa Chica may be selected as a site for the reintroduction of tidewater goby (*Eucyclogobius newberryi*) by USFWS, if so, then that species would have a high potential for occurrence in the BSA. However, this reintroduction has not taken place yet, so it will not be discussed further.

4.3.1. Nesting Birds

4.3.1.1. SURVEY RESULTS

Birds whose nests are protected by the MBTA, such as white-crowned sparrow (*Zonotrichia leucophyrs*) and mourning dove (*Zenaida macroura*), have been observed during field surveys. These birds may use the wetland vegetation or the ornamental trees within the BSA in order to build nests during nesting season. In addition, Bolsa Chica is known to be part of the Pacific Flyway, which indicates that various other migratory bird species will be present during nesting season in the BSA.

4.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Construction activities should be scheduled outside of the nesting bird season (February 15th to September 1st) to the greatest extent feasible. Prior to the implementation of construction activities, a qualified biological monitor should conduct pre-construction clearance surveys in order to determine the presence or absence of nesting birds in the BSA. Detailed attention should be paid to any trees and mature shrubs in the BSA when looking for nests. If no active nests are found within 100 feet of the BSA during these surveys, then construction activities may proceed. However, if active nests are found or breeding activity is observed, then it

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would be necessary to establish a work buffer zone around the nest. Construction activities may resume once the nest is determined to no longer be active.

4.3.1.3. PROJECT IMPACTS

With avoidance and minimization efforts, impacts are expected to be less than significant.

4.3.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.3.1.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.3.2. Belding's Savannah Sparrow

Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) is a yearlong resident of coastal salt marshes dominated by pickleweed. This species is listed by CDFG as endangered. This species nests in bare scrapes or in natural depressions that are amongst pickleweed marshes.

4.3.2.1. SURVEY RESULTS

Belding's savannah sparrow was observed during the field survey. The presence of pickleweed and other salt marsh vegetation indicate that suitable habitat is present for this species within the BSA. In conversation with Christine Whitcraft, it was discovered that this species was present during the creation of the Brookhurst, Magnolia and Talbert marshes. Furthermore, individuals of this species were observed perching on construction equipment; this occurrence reflects the species' strong site fidelity (Whitcraft, 2011). A survey conducted in 2010 described the distribution and status for Belding's savannah sparrow and found that there was a significant population present in the Bolsa Chica wetlands (Zembal and Hoffman, 2010). Richard Zembal was contacted in regards to the population at the marsh and he indicated that there is not suitable breeding habitat present inside the Project buffer; however the species is known to forage up to the road edge (Zembal, 2011).

4.3.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

Some noise may occur during construction that could potentially disrupt breeding activities for these species. To avoid this effect, surveys for nest sites for these birds will be conducted within 152 m (500 feet) of proposed construction activities. According to Richard Zembal, this species would not likely nest within the Project buffer. Nonetheless, it is advised to schedule construction activities outside of nesting season. The nesting season for Belding's savannah sparrow is from April to September. Prior to construction activities that will occur during the nesting season, it will be necessary to conduct surveys for nesting sites within 152

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m (500 feet) of proposed construction activities. If nest structures or sites are identified, they should be excluded to ensure that no nesting of these species occurs within 152 m (300 feet) of construction activities. The avoidance and minimization measures for salt marsh vegetation should also be followed in order to minimize and avoid impacts to this species' foraging habitat as well.

4.3.2.3. PROJECT IMPACTS

With avoidance and minimization efforts, impacts are expected to be less than significant.

4.3.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.3.2.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.3.3. Western Snowy Plover, Black Skimmer and California Least Tern

The western snowy plover (*Charadrius alexandrinus nivosus*), black skimmer (*Rhynchops niger*), and California least tern (*Sternula antillarum browni*) are migratory shore birds that inhabit coastal salt marshes. Western snowy plover is listed by the USFWS as a threatened species and CDFG has designated this species as a species of special concern. Black skimmer is designated as a species of special concern by CDFG. California least tern is listed by USFWS and CDFG as endangered. These species rely on coastal strands and dunes for establishing nests, which are typically scrapes in the bare ground. The birds forage amongst salt marshes.

4.3.3.1. SURVEY RESULTS

The western snowy plover was not observed during the field survey; however, the presence of USFWS-designated critical habitat within 2 miles of the BSA and the presence of suitable habitat within the BSA indicate that there is a high potential for this species to occur. This species is not likely to nest within the BSA since it prefers to nest in bare scrapes made in open sand, however, it may be found foraging in the BSA. Black skimmer and California least tern were both observed during the field survey and thus are known to occur within the Project area. However, they have breeding habitat requirements similar to that of the western snowy plover and are not expected to nest within the BSA. Both of these species forage over open water and can be expected to forage in the BSA.

4.3.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

Some noise may occur during construction that could potentially disrupt breeding activities for these species. To avoid this effect, surveys for nest sites for these birds will be conducted

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within 152 m (500 feet) of proposed construction activities. These surveys will be conducted before construction is scheduled to begin, and prior to the onset of the breeding season, which occurs from March to September for Western snowy plover, April to September for California least tern, and from May to August for black skimmer of each year. If nest structures or sites are identified, appropriate buffer zones will be created to avoid and minimize impacts to these nest sites, within 152 m (500 feet) of construction activities.

Silt curtains will be erected to prevent siltation and turbidity of the waters to avoid impacts to foraging habitat within the tidal areas.

4.3.3.3. PROJECT IMPACTS

With avoidance and minimization efforts, impacts are expected to be less than significant.

4.3.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.3.3.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.3.4. Northern Harrier

The Northern Harrier (*Circus cyaneus*) is a raptor that prefers to inhabit open grasslands and wetlands. The northern harrier is protected as a CDFG species of special concern when nesting.

4.3.4.1. SURVEY RESULTS

The northern harrier was not observed within the BSA during the field survey. However, the Bolsa Chica Conservancy has records that indicate this species occurs in the Bolsa Chica ecological reserve year-round. The northern harrier was likely not observed during the field survey because the annual grassland present in the BSA is low quality and may not support this species' prey.

4.3.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

Some noise may occur during construction that could potentially disrupt breeding activities for this species. To avoid this effect, surveys for nest sites for these birds will be conducted within 152 m (500 feet) of proposed construction activities. These surveys will be conducted prior to the onset of the breeding season from early April to late October before construction is scheduled to begin. If nest structures or sites are identified, appropriate buffer zones will be created to avoid and minimize impacts to these nest sites, within 152 m (500 feet) of construction activities.

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4.3.4.3. PROJECT IMPACTS

With avoidance and minimization efforts, impacts are expected to be less than significant.

4.3.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.3.4.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.3.5. Coastal California Gnatcatcher

Coastal California gnatcatcher (*Polioptila californica californica*) is a yearlong resident of coastal sage scrub. It is listed by the USFWS as threatened and CDFG has designated the coastal California gnatcatcher as a species of special concern. This species prefers stands of coastal sage scrub dominated by California sagebrush (*Artemisia californica*).

4.3.5.1. SURVEY RESULTS

Coastal California gnatcatcher (CAGN) (*Polioptila californica californica*) was not observed during the field survey. However, given the presence of suitable habitat in the buckwheat scrub vegetation stands, this species' perennial absence is not certain and it has a high potential to occur in the BSA. The most recent CNDDB record for this species was in 2004 and it is located approximately 0.3 miles away from the BSA. Surveys by a permitted CAGN biologist would occur prior to construction, according to USFWS protocol.

4.3.5.2. AVOIDANCE AND MINIMIZATION EFFORTS

Some noise may occur during construction that could potentially disrupt breeding activities for California gnatcatcher. To avoid this effect, surveys for nest sites for these birds will be conducted within 152 m (500 feet) of proposed construction activities. These surveys will be conducted before construction is scheduled to begin, and prior to the onset of the breeding season from mid-February to August. If nest structures or sites are identified, a no work or minimal work buffer zone will be created to ensure that protection of this species during nesting within 152 m (300 feet) of construction activities.

4.3.5.3. PROJECT IMPACTS

With avoidance and minimization efforts, impacts are expected to be less than significant.

4.3.5.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

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4.3.5.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

4.3.6. Light-footed Clapper Rail

The light-footed clapper rail (*Rallus longirostris levipes*) is a strict year-round inhabitant of coastal marshes vegetated with cordgrass (*Spartina spp.*) and pickleweed (*Salicornia spp.*). This species is also known to nest less frequently in freshwater marshes than saltwater marshes. Light-footed clapper rail nests are typically made out of cord grass although these birds may nest in tumbleweeds and other substrates when cordgrass is not available. This species is listed as an endangered species by USFWS and CDFG and is a CDFG fully protected species.

4.3.6.1. SURVEY RESULTS

The light-footed clapper rail was not observed during the field survey. Although there is pickleweed present in the BSA, there is not any cord grass, which lowers the nesting habitat quality for this species. However, this species is known to inhabit the Anaheim Bay and therefore it may cross over to the BSA in order to forage.

4.3.6.2. AVOIDANCE AND MINIMIZATION EFFORTS

Some noise may occur during construction that could potentially disrupt breeding activities for this species. To avoid this effect, surveys for nest sites for these birds will be conducted within 152 m (500 feet) of proposed construction activities. These surveys will be conducted prior to the onset of the breeding season from March to August before construction is scheduled to begin. If nest structures or sites are identified, appropriate buffer zones will be created to avoid and minimize impacts to these nest sites, within 152 m (300 feet) of construction activities.

4.3.6.3. PROJECT IMPACTS

With avoidance and minimization efforts, no impacts are anticipated.

4.3.6.4. COMPENSATORY MITIGATION

No compensatory mitigation is anticipated at this time.

4.3.6.5. CUMULATIVE EFFECTS

No cumulative effects are anticipated at this time.

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4.3.7. South Coast Marsh Vole and Southern California Saltmarsh Shrew

The south coast marsh vole (*Microtus californicus stephensi*) and southern California salt marsh shrew (*Sorex ornatus salicornicus*) are both CDFG species of special concern. These species both occur in coastal salt marshes. The south coast marsh vole itself relies on pickleweed and salt grass for habitat. The southern California salt marsh shrew prefers to inhabit grass hillsides and excavates burrows in these grasslands.

4.3.7.1. Survey Results

The south coast marsh vole and southern California saltmarsh shrew were not observed during the field survey. However, given the presence of salt marsh vegetation, and pickleweed in particular, in the vicinity of the Project area, their absence cannot be certain. The most recent CNDDB record for the former species was 1988, approximately 0.3 mile from the BSA. The most recent CNDDB record for the latter species was 1968, approximately 0.3 mile from the BSA. Considering the site's proximity to a frequently trafficked road and degraded habitat, south coast marsh vole is not likely to be present in the Project impact area.

4.3.7.2. Avoidance and Minimization Efforts

Preconstruction surveys should be conducted within three days prior to construction in order to determine the presence or absence of these species. If these species are determined to be in the Project impact area, then the work area will be modified to avoid these species. If avoidance is not feasible then additional consultation with resource agencies will be necessary in order to determine further avoidance and minimization measures such as avoiding breeding season.

4.3.7.3. Project Impacts

Construction noise and ground vibration may have some effect on these mammals. However, substantial background noise is already present on the site from the adjacent roads, so mammals using the sites are expected to be acclimated to noise disturbance. Therefore, this impact is expected to be minimal. No permanent impacts to the species would therefore be anticipated.

4.3.7.4. Compensatory Mitigation

No compensatory mitigation is anticipated at this time.

4.3.7.5. Cumulative Effects

No cumulative effects are anticipated at this time.

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Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions

5.1. Federal Endangered Species Act Consultation Summary

The Federal Endangered Species Act (FESA) of 1973 (16 United States Code [U.S.C.] 1531-1543) provides for the conservation of endangered and threatened species and the ecosystems they inhabit. Section 9 of FESA prohibits the "take" of species federally listed as threatened or endangered. "Take" is further defined to include any harm or harassment, including significant habitat modification or degradation that could potentially kill or injure wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Take incidental to otherwise lawful activities can be authorized under Section 7 of FESA. Section 7 of the Act requires federal agencies to consult with and seek the assistance of the Secretary of the Interior to ensure that actions authorized, funded, or carried out do not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species.

A Section 7 Biological Assessment was not conducted for this phase of the Project. Impacts to species listed as federally threatened or endangered, resulting in "take" as defined by the FESA, are not anticipated. Some temporary, minor impacts may occur from construction noise to migratory/ transient habitat for federally listed bird species. However, there are alternative habitats available; and no impacts to individuals of the species are anticipated.

5.2. Federal Fisheries and Essential Fish Habitat Consultation Summary

Preliminary research did not indicate the potential presence of any marine federal endangered species; therefore consultation was not initiated with NOAA in regards to special status marine species. NOAA works with federal agencies to conserve and enhance essential fish habitat (EFH). Consultation is required when a federal agency authorizes, funds, or undertakes an action that may adversely affect EFH. In 2004, the FHWA authorized Caltrans as its acting representative to consult with NOAA regarding the management and protection of EFH (50 CFR 600.920(c)). The proposed Project is located within two classes of Habitat Areas of Particular Concern (HAPCs). The proposed Project has the potential to adversely affect these essential fish habitats through alterations of the physical and biological characteristics of the water and substrate. Therefore consultation with National Marine Fisheries Service will be initiated. Please refer to Appendix E to read the essential fish habitat assessment in its entirety.

5.3. California Endangered Species Act Consultation Summary

Section 2050 of the California Fish and Game Code authorizes the CESA, and prohibits any activities that would jeopardize or take a species listed as threatened or endangered within the

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state. Projects that have the potential to impact species listed as threatened or endangered by the state might require an Incidental Take Permit from the CDFG under Section 2081 of the Fish and Game Code. The CESA requires state lead agencies to consult with CDFG during the CEQA process if state-listed threatened or endangered species are present, to avoid jeopardy to these species.

5.4. Wetlands and Other Waters Coordination Summary

Bolsa Chica Channel is considered jurisdictional Waters of the U.S., as defined by USACE, because of its connection to a navigable waterway, and because all or most of the channel is within the Ordinary High Water Mark. In addition, the banks on both sides of the Bolsa Chica Channel are vegetated with wetland indicator plants that legally characterize those stands as special aquatic sites classified as "wetlands" according to USACE. The Bolsa Chica Channel is considered jurisdictional by CDFG under Marine Jurisdiction because it is characterized by a tidally influenced, marine estuarine wetland Waters of the State.

USACE defines Waters of the U.S. to include the following:

a. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
b. All interstate waters including interstate wetlands.
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
    1) that are or could be used by interstate or foreign travelers for recreational or other purposes; or
    2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3) that are used or could be used for industrial purposes by industries in interstate commerce.
d. All impoundments of waters otherwise defined as Waters of the U.S. under the definition.
e. Tributaries of waters identified above.
f. The territorial seas.
g. Wetlands adjacent to waters (other than wetlands) above.

5.5. Invasive Species

Executive Order 13112 in 1999 tasked federal agencies to (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive

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species; and (vi) promote public education on invasive species and the means to address them; and not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions. The Executive Order also established a National Invasive Species Council to oversee the implementation of these task orders.

Other applicable Federal legislation aimed at controlling exotic species include the Noxious Weed Control Act of 2004, which creates a national funding program for weed management entities and the National Aquatic Invasive Species Act of 2005 (HR 1591) that updated national policy on ballast water and other aquatic invasive species.

In an effort to comply with Executive Order 13112, the Proposed Project should consult the California Invasive Plant Council's (Cal-IPC) weed management guidelines. While weed management strategies are often species specific, hand weeding and mowing is appropriate for relatively small areas.

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Chapter 6. References

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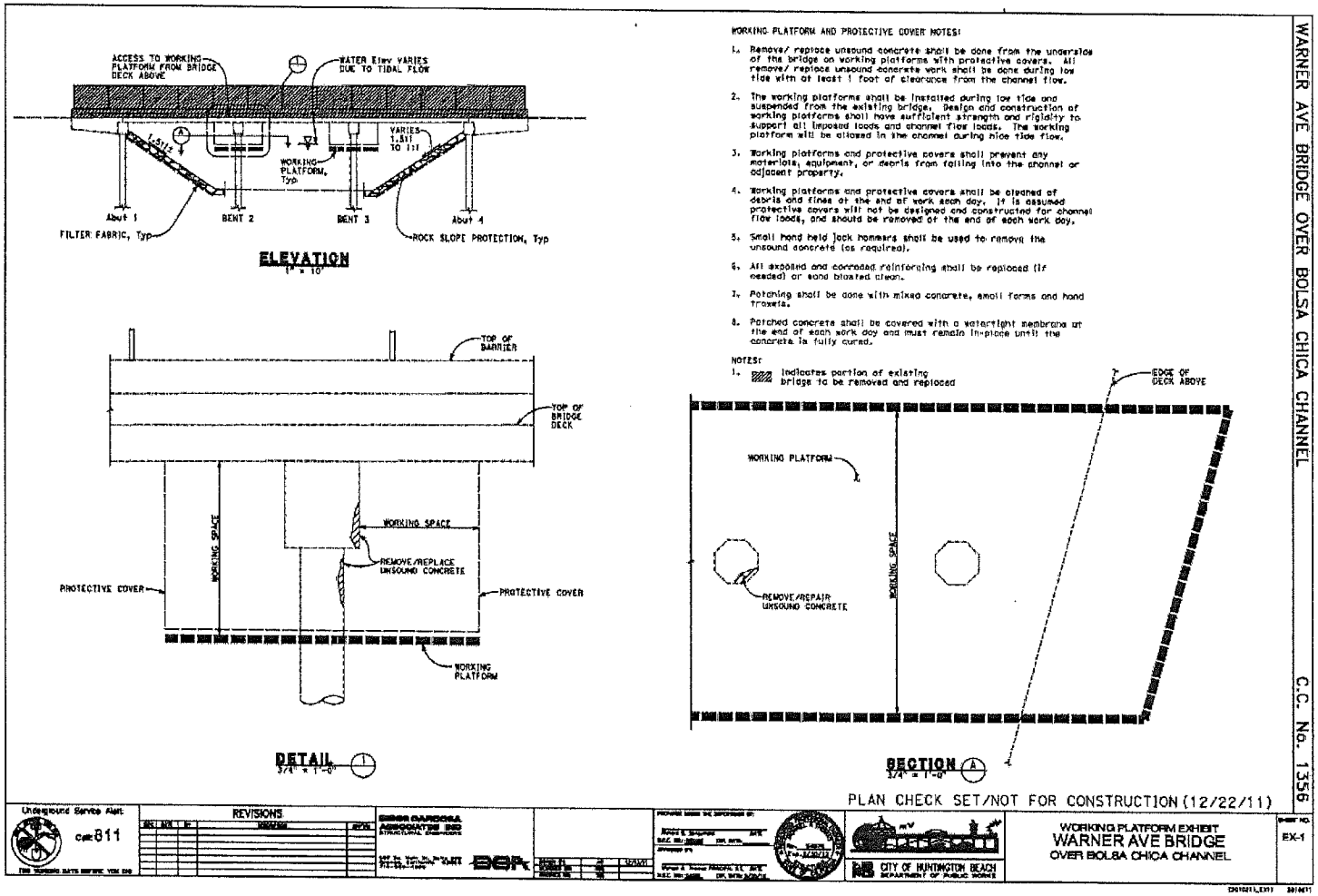
Appendix A Project Engineering Drawings



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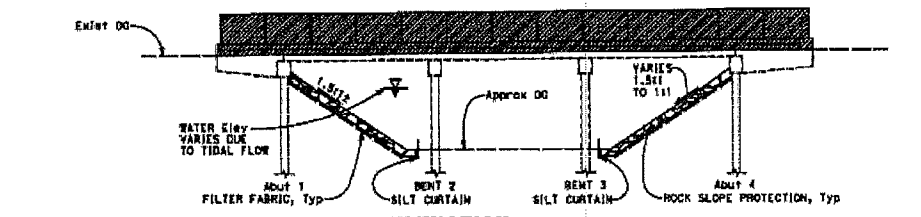
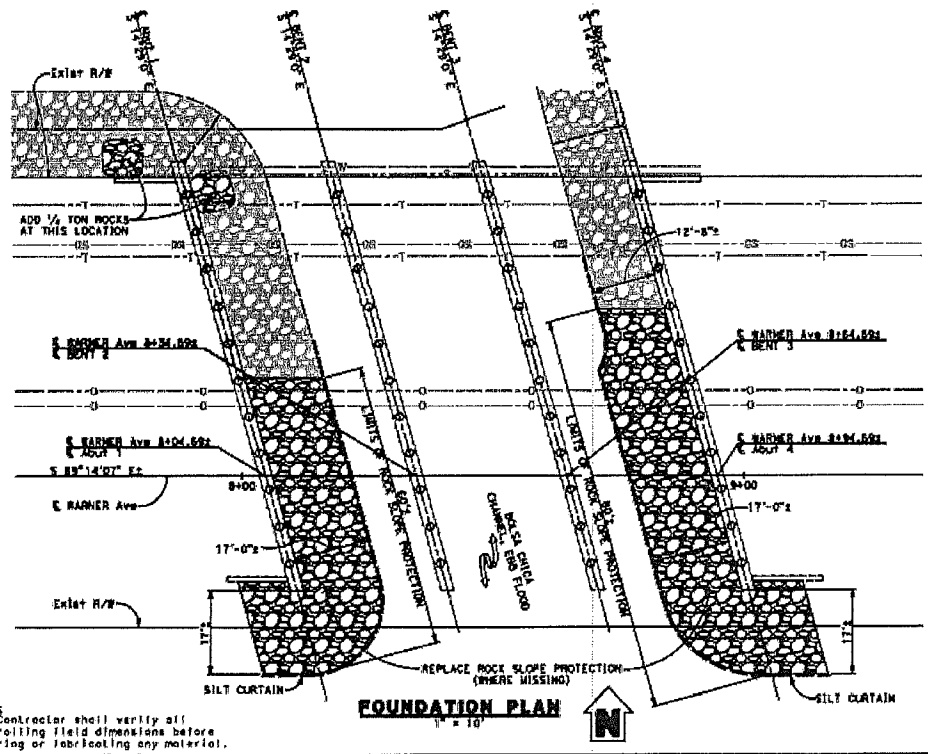


ELEVATION
1" = 10'



FOUNDATION PLAN
1" = 10'

NOTE:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ROCK SLOPE PROTECTION NOTES:

1. Replace rock slope protection shall be done by either small construction equipment or small barges in the channel. Replace rock slope protection work shall be done during low tide with the least amount of disruption to channel.
2. Silt curtains shall be installed during low tide around the work area. Design and construction of silt curtains shall have sufficient strength to support channel flow loads.
3. Silt curtains shall be used to stabilize soil excavation work and keep sediment from entering the channel or adjacent property.
4. Small excavators/ tractors or dredging equipment shall be used to excavate excess silt, rocks and marine material (as required).
5. Engineered soil shall be used to fill eroded areas and backfill the existing piles.
6. Filter fabric shall be placed against the engineered soil.
7. All areas shall be clean and compacted at the end of each work day.

Notes:

1. —— Indicates Exist structure
2. —— Indicates new structure
3. Utilities shown are for illustrative purposes only, verify with Road Plans
4. Indicates existing Rock Slope Protection
5. Indicates new Rock Slope Protection

PLAN CHECK SET/NOT FOR CONSTRUCTION (12/22/11)

WARNER AVE BRIDGE OVER BOLSA CHICA CHANNEL C.C. No. 1356

Underground Service Alert Call: 811

REVISIONS

BERGE DARDOSA ASSOCIATES INC

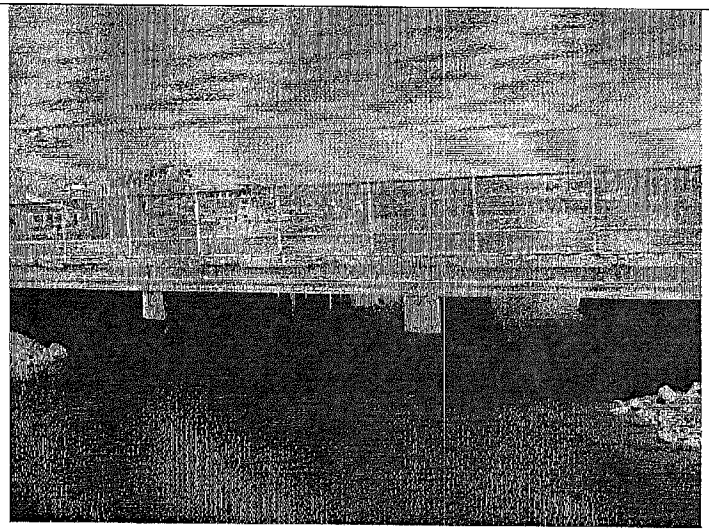
CITY OF HUNTINGTON BEACH DEPARTMENT OF PUBLIC WORKS

ROCK SLOPE PROTECTION EXHIBIT
WARNER AVE BRIDGE
OVER BOLSA CHICA CHANNEL

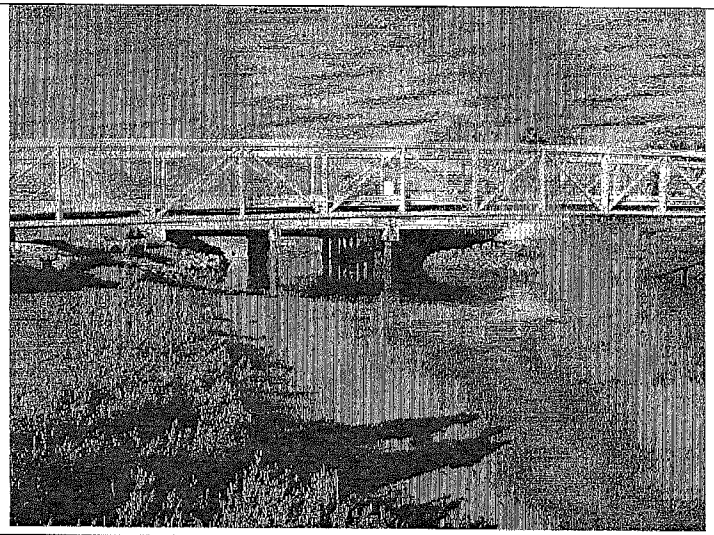
EX-2

ATTACHMENT NO. 3-53

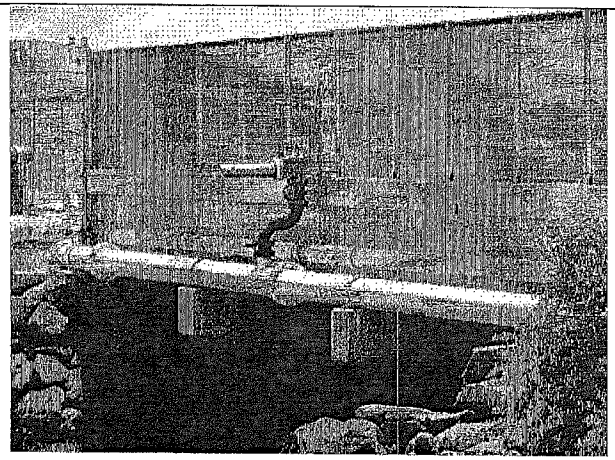
Appendix B Site Photos



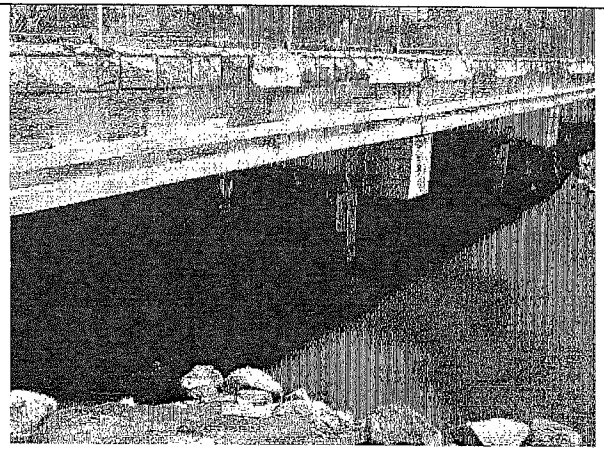
1. View of southern side of bridge, facing north



2. View of pedestrian bridge within 500 foot buffer and Warner bridge north of it at low tide.



3. View of the gas line that crosses Warner Bridge along the northern side of the bridge.



4. View of northern side of bridge offering a detailed view of the damage along the concrete barrier.

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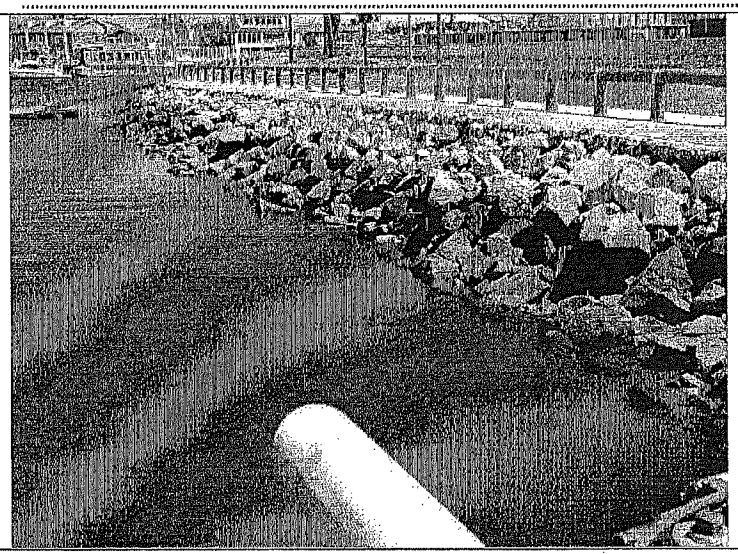
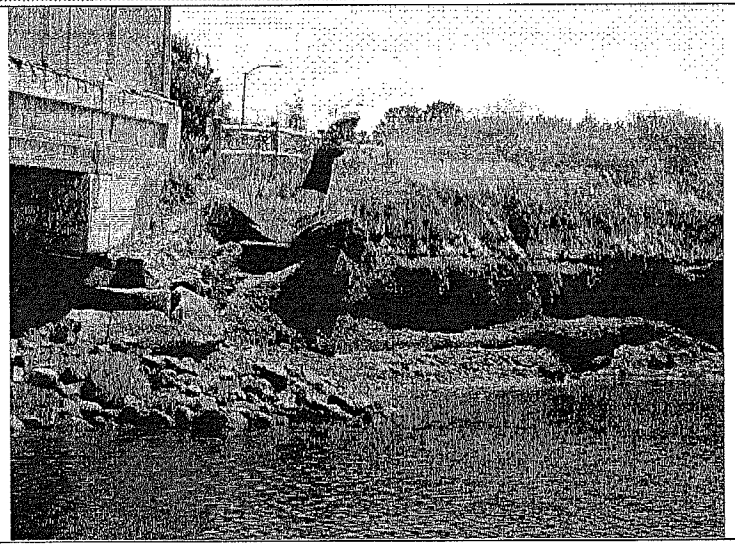
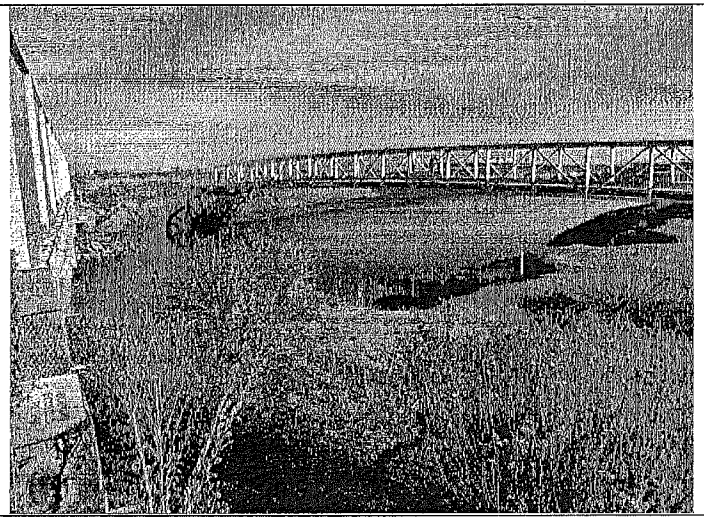


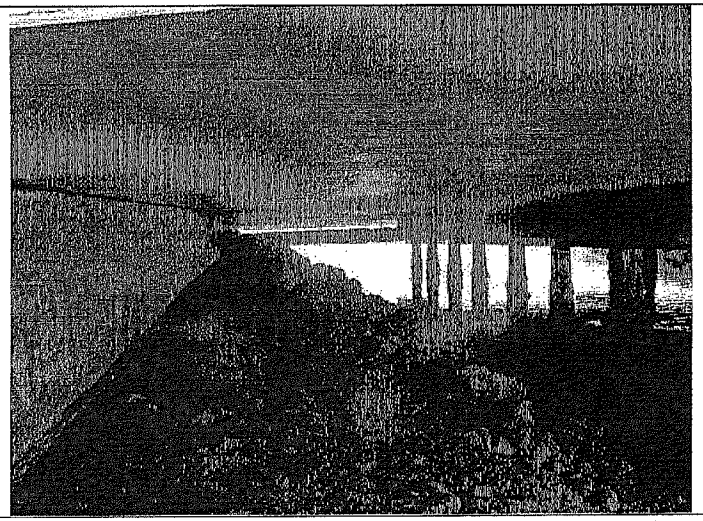
5. View of vacant parking lot and dock to the north of the bridge which may be used as a staging area.



6. This area to the southeast of the bridge will be cleared and graded in order to allow construction access underneath the bridge on the eastern shore.

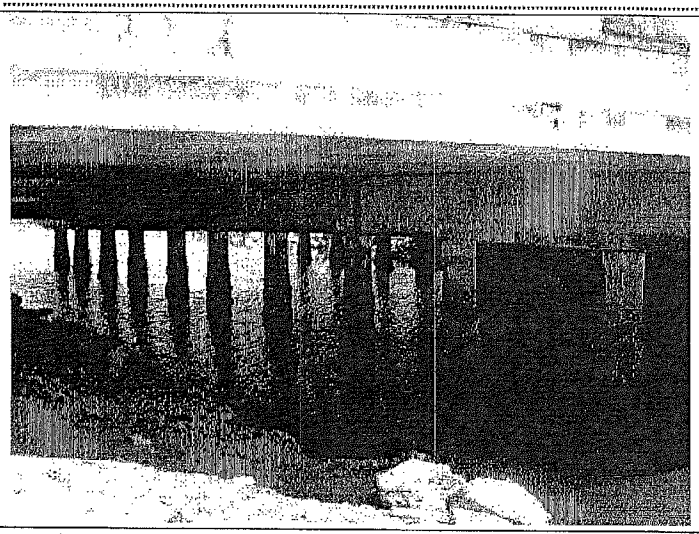


7. View of Bolsa Chica Channel in between Warner bridge and the pedestrian bridge looking SE. The scrub vegetation in the foreground will be cleared to provide construction access underneath the bridge.

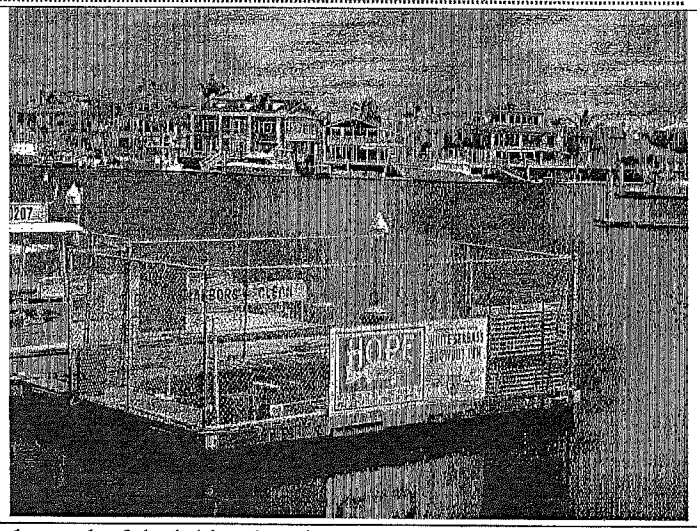


8. View underneath the bridge on the western bank showing where rock slope protection is missing.

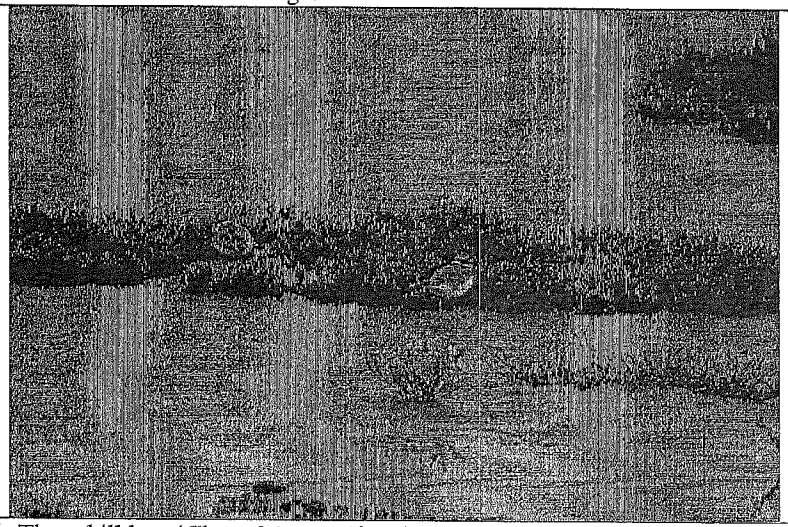
ATTACHMENT NO. 3-55



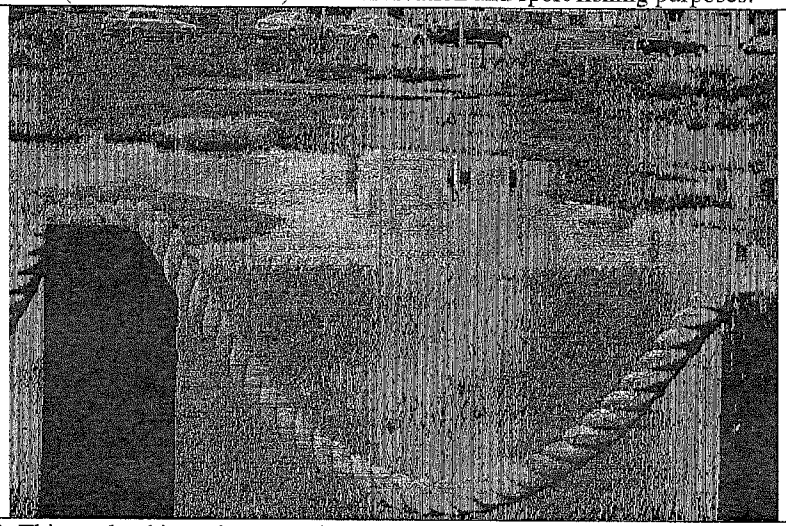
9. View underneath the bridge at low tide, which shows the amount of clearance underneath the bridge.



10. To the north of the bridge there is a pen where the CDFG raises white seabass (*Atractoscion nobilis*) for conservation and sport fishing purposes.



11. These killdeer (*Charadrius vociferus*) are residents of the wetlands and were observed frequently during biological surveys of the Project site.



12. This wetland is to the west of the bridge and thus it is outside of the immediate Project impact area, however it provides habitat for special status species such as Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) within the Project buffer.

ATTACHMENT NO. 9.5e

Appendix C Plant Species Observed

Scientific Name	Common Name	Native/Non-Native
Anagallis arvensis	Scarlet pimpernel	Non-Native
Artemisia californica	California sage brush	Native
Atriplex californica	California salt bush	Native
Atriplex canescens	Fourwing saltbush	Native
Atriplex lentiformis	Quail brush	Native
Atriplex patula	Spear oracle	Native
Avena fatua	Wild oat	Non-Native
Bassia hyssopifolia	Five-hooked bassia	Non-Native
Batis maritimus	Saltwort	Native
Bromus diandrus	Ripgut brome	Non-Native
Callistemon sp.	Bottlebrush	Non-Native
Centaurea melitensis	Tocalote	Non-Native
Centromadia parryi ssp. australis	Southern tarplant	Native
Chenopodium sp.	Goosefoot	Unknown
Conyza sp.	Horseweed	Unknown
Deinandra fasciculata	Common tarweed	Native
Distichlis spicata	Salt grass	Native
Encelia californica	California bush sunflower	Native
Eriogonum fasciculatum	California buckwheat	Native
Eriogonum grande var. rubescens	Red buckwheat	Native
Eriogonum parvifolia	Sea cliff buckwheat	Native
Frankenia salina	Alkali heath	Native
Heterotheca grandiflora	Telegraph weed	Native
Hordeum marinum	Glaucous foxtail barley	Non-Native
Isocoma menziesii	Goldenbush	Native
Isomeris aborea	bladder pod	Native
Juncus acutus	Spiny rush	Native
Limonium californicum	Sea lavender	Native
Lolium perenne	English rye grass	Non-Native
Melilotus alba	White sweetclover	Non-Native
Mesembryanthemum crystallinum	Crystalline iceplant	Non-Native
Myoporum laetum	Lollypop tree	Non-native
Nicotiana glauca	Tree tobacco	Non-Native
Opuntia littoralis	Coastal pricklypear	Native
Polygonum aviculare	Prostrate knotweed	Non-native
Polypogon monspeliensis	Rabbitsfoot grass	Non-Native
Raphanus sativus	Wild radish	Non-Native

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Rumex crispus	Curly dock	Non-Native
Salicornia depressa	Pickleweed	Native
Salvia mellifera	Black sage	Native
Sisymbrium irio	London rocket	Non-Native
Vulpia octoflora	Slender fescue	Native
Washingtonia robusta	Mexican fan palm	Non-Native
Sonchus oleraceus	Sow thistle	Non-Native
Strelitzia reginae	Bird of paradise	Non-Native

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Appendix D Wildlife Species Observed

Scientific Name	Common Name
Aechmophorus occidentalis	Western grebe
Anas americana	American wigeon
Ardea herodias	Great blue heron
Aythya affinis	Lesser scaup
Bucephala albeola	Bufflehead
Butorides virescens	Green heron
Calidris mauri	Western sandpiper
Casmorodius albus	Great egret
Cathartes aura	Turkey vulture
Charadrius vociferus	Killdeer
Columba livia	Rock pigeon*
Corvus brachyrhynchos	American crow
Egretta thula	Snowy egret
Fulica americana	American coot
Geothlypis trichas	Common yellowthroat
Larus californicus	California gull
Larus delawarensis	Ring-billed gull
Limnodromus griseus	Short-billed dowitcher
Limosa fedoa	Marbled godwit
Melospiza lincolnii	Lincoln's sparrow
Mergus merganser	Common merganser
Numenius americanus	Long-billed curlew
Passer domesticus	House sparrow*
Passerculus sandwichensis beldingi	Belding's savannah sparrow**
Pelecanus occidentalis	Brown pelican
Phalacrocorax auritus	Double-crested cormorant
Pluvialis squatarola	Black-bellied plover
Podiceps nigricollis	Eared grebe
Rynchops niger	Black skimmer**
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Sterna antillarum browni	California least tern**
Sterna forsteri	Forster's tern
Sturnus vulgaris	European starling*
Tringa flavipes	Lesser yellowlegs
Tringa semipalmata	Willet
Zenaida macroura	Mourning dove
Zonotrichia leucophrys	White-crowned sparrow
***non-native species**	
****State or federal Endangered, Threatened, Candidate or Species of Special Concern**	

ATTACHMENT NO. 3-59

Appendix E Essential Fish Habitat Assessment

Action Agency

California Department of Transportation

Project Name

Warner Avenue Bridge Maintenance Project

Essential Fish Habitat Background

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires Federal agencies to consult with National Marine Fisheries Service (NMFS) on activities that may adversely affect Essential Fish Habitat (EFH).

The objective of this EFH assessment is to determine whether or not the proposed action(s) "may adversely affect" designated EFH for relevant commercially, federally-managed fisheries species, which are identified in the Pacific Coast Groundfish Fishery Management Plan, within the proposed action area. It also describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects to designated EFH resulting from the proposed action.

Description of Proposed Project

The proposed Project consists of bridge maintenance activities for the Warner Avenue Bridge located in City of Huntington Beach, Orange County, California. Project activities that will be analyzed for impacts to EFH include the installation of rock slope protection and repairs to be made to spalled concrete on the bridge structure. Rock slope protection would be installed on both sides of Warner Bridge, both underneath the bridge and on the banks adjacent to the bridge. Repairs to the spalled concrete would be made to the bridge columns and bent caps and should not result in any impacts to EFH. The proposed Project is expected to begin in fall 2012.

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Essential Fish Habitat Identification

Warner Avenue Bridge spans Bolsa Chica Channel. This channel leads to Huntington Harbor on the north side of the bridge. Water from the Harbor subsequently discharges to the Pacific Ocean via Anaheim Bay. These water bodies and Bolsa Chica Channel to the south of the bridge are estuaries that are classified as Habitat Area of Particular Concern (HAPC) by NMFS. Collectively, these water bodies will be referred to as the Bolsa Chica Channel Area. In addition to its designation as an estuary HAPC, this area is regarded as an eel grass HAPC (Chavez, 2011). **Table 1** presents the species that have been identified as potentially inhabiting estuarine habitats during part of or all of their life stages according to the Groundfish Fisheries Management Plan (Pacific Fishery Management Council, 2005).

Table 1. Species of Fishes, and Life-stages with Designated EFH in the Project Construction Area

Common Name	Scientific Name	Potential Presence in Estuarine Habitat During Each Life Stage			
		Egg	Larvae	Juvenile	Adult
California skate	*Raja inornata*			X	X
English sole	*Parophrys vetulus*	X	X	X	X
Leopard shark	*Triakis semifasciata*			X	X
Lingcod	*Ophiodon elongates*	X	X	X	
Silvergray rockfish	*Sebastes brevispinis*			X	
Soupfin shark	*Galeorhinus galeus*			X	X
Spiny dogfish	*Sqaulus acanthius*			X	X
Spotted ratfish	*Hydrolagus colliei*			X	X
Starry flounder	*Platichthys stellatus*	X	X	X	X

Previous studies that investigated marine resources in the Bolsa Chica Channel area were reviewed to determine the probability for the species in **Table 1** to occur in the area (Knaggs and Mall, 1981; Lane and Hill, 1975; Murray and Leipzig, 2002; Speth

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and Fullerton, 1976). The majority of these species has not been recorded as occurring in the Bolsa Chica Channel area (Knaggs and Mall, 1981). However, Bolsa Chica Channel is within the range of all of these species and they may utilize the bay seasonally at least as larvae or juveniles (Eschmeyer and Herald, 1983; Gotshall, 1981). The most notable exception to these findings is leopard shark (*Triakis semifasciata*), which has been caught and observed in the area as an adult (Lane and Hill, 1975; Murray and Leipzig, 2002). This species uses the bay primarily for spawning and feeding, particularly from spring to summer. Another known resident is the English sole (*Parophrys vetulus*), which has been caught in Anaheim Bay, although it is reportedly rare (Lane and Hill, 1975).

Potential Adverse Effects of Proposed Project

Adverse Effects to Ground Fish EFH

The preferred Project alternative for installing rock slope protection is to release boulders from a barge floated underneath the bridge. The initial deposition of these boulders on the soft-bottomed channel substrate would generate turbidity plumes. These plumes may adversely impact aquatic vegetation such as eel grass (*Zostera marina*), if present, and reduce oxygen availability and visibility inside the channel. However, due to the limited extent of the Project, these effects would be temporary. The placement of the boulders may adversely affect EFH habitat quality by smothering sedentary bottom-dwelling prey organisms. This effect would be temporary in duration since those species can return and recolonize the area following Project activities. In regards to the channel's topography, the deposition of the rock slope protection would result in permanent changes to the hydrologic patterns in the channel. As a result, the boulders would marginally narrow the channel, which may change the velocity of water flow and water circulation. The rock slope protection would also reduce the extent of the estuarine soft-bottomed substrate.

The proposed Project does not expect to incur direct impacts upon groundfish fishery species. The proposed Project plans to commence in fall 2012, which would follow the period that most species, the leopard shark in particular, are active in the bay. In

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addition, any mobile species that are present during the installation of rock slope protection are expected to avoid the Project area. Thus there should not be any direct take of managed fisheries species. Since the area of effect is relatively small in comparison to the remainder of the Bolsa Chica Channel area, there are other easily accessible areas for the resident species to inhabit as temporary alternatives during the installation of rock slope protection.

Finally, the installation of rock slope protection may instigate an outbreak of the invasive aquatic alga caulerpa (*Caulerpa taxifolia*); although the rock slope protection will be caulerpa free. Although all known caulerpa has been eradicated in Huntington Harbor, there may be fragments remaining in the channel bottom. Channel bottom disturbing activities have the possibility to cause any extant individuals of caulerpa to fragment and then invade throughout the channel and harbor. This event would lead to degradation of the marine environment in the Bolsa Chica Channel area.

In addition to potential adverse effects caused by the installation of rock slope protection, the proposed repair activities to the spalled concrete portions of the bridge would have the potential to incur adverse effects on eel grass EFH over a wide area. Eel grass is not currently known in the BSA and was not observed during surveys. However, eel grass is known to exist throughout the waterways of Bolsa Chica and adjoining wetland preserve areas. Eel grass is particularly sensitive to turbidity. For this reason working platforms with water-tight covers will be installed on the bridge supports as a Project Design Feature to contain fallen debris and other contaminants to the water. In addition, silt curtains will be erected to prevent sediment plumes from entering the adjoining waterway. Therefore the negative effects will be minimal.

EFH Conservation Measures

In order to conserve EFH and managed species, Project activities in the water will be scheduled outside of the period that most species are active in the bay. This will prevent impacts to managed species and will avoid the high growth period for eel grass. In order to reduce the chance of generating significant turbidity, rock slope

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protection will be installed at low tide; this measure will also reduce the chance of introducing pollutants and other contaminants into the water. In order to further control turbidity plumes generated by the installation of rock slope protection, the Project will erect silt curtains in the water surrounding the Project impact area. This containment measure will prevent the turbidity plumes from spreading throughout the channel. Rock slope protection will be installed to the original design specifications and will not extend beyond those limits in order to minimize the loss of estuarine habitat. Benthic sampling will be conducted in order to determine benthic productivity prior to the installation of rock slope protection. The remainder of impacts to estuarine EFH that could not be avoided will be compensated adequately with mitigation.

In order to prevent a caulerpa outbreak in the channel, it may be necessary to conduct a survey for the presence of caulerpa in accordance with the Caulerpa Control Protocol (version 4). An initial survey may be conducted during the off-season (outside of the high growth period from March 1st to October 31st) to establish baseline conditions in the Project area. Another survey would then be made during the high growth period within 90 days prior to the commencement of Project activities. If any caulerpa were detected during the surveys, then NMFS would be notified immediately in order to implement a caulerpa eradication plan.

NOAA may require a preconstruction clearance survey for eel grass prior to construction, although this is not likely, as eel grass was not observed during the 2011 surveys.

However, if underwater eel grass surveys are required and eel grass is identified, impacts to eel grass EFH that arise from the installation of the working platform with a water-tight cover would be minimized by first mapping and quantifying the extent of eel grass within the Project impact area. An initial survey would be conducted concurrently with the caulerpa survey in order to establish baseline conditions outside of the high growth period. The preconstruction clearance survey would occur 60 days

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prior to the initiation of Project activities. Another survey would be performed during the high growth period in order to delineate any stands of eel grass. These eel grass beds would be avoided to the extent feasible, and any loss of these beds would be mitigated for at a 1.2 to 1 ratio of eel grass habitat, in accordance with the Southern California Eelgrass Mitigation Policy.

Conclusion

The direct adverse effects to EFH and managed fisheries species described above would be limited since the Project is scheduled to occur outside of the active period for most resident aquatic species. The installation of rock slope protection would generate limited turbidity because it would not extend beyond the bridge's original design specifications. Any turbidity generated will be controlled by silt curtains. Potential adverse effects from caulerpa would be avoided by investigating the presence of caulerpa in the channel prior to any disturbance activities that would instigate an outbreak. The permanent loss of estuarine habitat and eel grass would be mitigated for on-site, which would minimize the minor loss of habitat in the immediate Project area. These conservation measures would result in the proposed Project having a less than significant effect on essential fish habitat.

ATTACHMENT NO. 3.65

References – Essential Fish Habitat

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ATTACHMENT NO. 3-66

Appendix F Preliminary Jurisdictional Delineation Form

ATTACHMENT NO. 3-67

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): _____

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
City
2000

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAP-OP-R-_____

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: Warn
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)
State: CA County: Oran City: Hun
Center coordinates of site (lat/long in degree decimal format):
Lat. 33.711 ° N, Long. 118.0 ° W
Universal Transverse Mercator: 3730 m Easting (x) 4017 m Northing (y)
Name of nearest waterbody: Bolsa

Identify (estimate) amount of waters in the review area:
Non-wetland waters: 998 linear feet: 57 width (ft) and/or 57.68 acres.
Cowardin Class: E1UBL
Stream Flow: tidal channel
Wetlands: 7.8 acres.
Cowardin Class: PEMFx

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: Bols
Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date: _____
☐ Field Determination. Date(s): _____

ATTACHMENT NO. 3-68

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.
This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

ATTACHMENT NO. 3.69

SUPPORTING DATA: **Data reviewed for preliminary JD** (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- [x] Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: _____
- [x] Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - [ ] Office concurs with data sheets/delineation report. _____
  - [ ] Office does not concur with data sheets/delineation report.
- [ ] Data sheets prepared by the Corps: _____.
- [ ] Corps navigable waters' study: _____.
- [x] U.S. Geological Survey Hydrologic Atlas: 18070.
  - [x] USGS NHD data.
  - [ ] USGS 8 and 12 digit HUC maps.
- [ ] U.S. Geological Survey map(s). Cite scale & quad name: _____.
- [x] USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Da
- [x] National wetlands inventory map(s). Cite name: fws.gis.
- [ ] State/Local wetland inventory map(s): _____.
- [x] FEMA/FIRM maps: A1.
- [x] 100-year Floodplain Elevation is: <1.2' (National Geodetic Vertical Datum of 1929)
- [x] Photographs:
  - [x] Aerial (Name & Date): _____.
  - [ ] Other (Name & Date): _____.
- [ ] Previous determination(s). File no. and date of response letter: _____.
- [ ] Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	_____
Signature and date of Regulatory Project Manager (REQUIRED)	Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

ATTACHMENT NO. 3-70

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1	33.7111104	118.06028134	E1UBL	58.67	Subtidal TNW
2	33.7115376	118.06041234	E1UBL	58.67	Subtidal TNW
3	33.7114649	118.05950598	none	-	n\a
4	33.7111785	118.05975380	E1UBL	58.67	Subtidal TNW
5	33.7113600	118.06113376	E1UBL	3.701	Subtidal TNW
6	33.7114543	118.06119172	PEMFx	3.701	Adjacent wetland/RPW
7	33.7114551	118.06077893	PEMFx	3.701	Adjacent wetland/RPW
8	33.7114799	118.06076968	PEMFx	3.701	Adjacent wetland/RPW
9	33.713965	118.06015579	PEMFx	2.84	Adjacent wetland/RPW
10	33.7112947	188.06181605	PEMFx	2.84	Adjacent wetland/RPW
11	33.7112238	118.06168013	PEMFx	2.84	Adjacent wetland/RPW
12	37.7111104	118.05975910	E1UBL	58.67	Subtidal TNW
13					
14					
15					

ATTACHMENT NO. 3.71

HUC CODES from http://water.usgs.gov/GIS/huc_name.html#Region18

Boundary Descriptions and Names of Regions, Subregions, Accounting Units and Cataloging Units

Accounting Unit 180702 -- Santa Ana: The drainage into the Pacific Ocean from the San Gabriel River Basin boundary to the Moro Canyon drainage boundary Near Laguna Beach. California.
Area = 2680 sq.mi.

Cataloging Units
18070201 -- Seal Beach. California.
Area = 90 sq.mi.
18070202 -- San Jacinto. California.
Area = 757 sq.mi.
18070203 -- Santa Ana. California.
Area = 1680 sq.mi.
18070204 -- Newport Bay. California.
Area = 154 sq.mi.

ATTACHMENT NO. 3-72

Soil Map—Orange County and Part of Riverside County, California
(Bolsa Bay Soil Map)

USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

ATTACHMENT NO. 2.25

MAP LEGEND

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

Soils
- Soil Map Units

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

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities
- Postal Code
- PLSS Township and Range
- PLSS Section

Water Features
- Streams and Canals
- 8-Digit Hydrologic Units

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

MAP INFORMATION

Map Scale: 1:2,520 if printed on A size (8.5" × 11") sheet.

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 11N NAD83

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

Soil Survey Area: Orange County and Part of Riverside County, California
Survey Area Data: Version 5, Sep 10, 2008

Date(s) aerial images were photographed: 6/19/2005; 6/8/2005

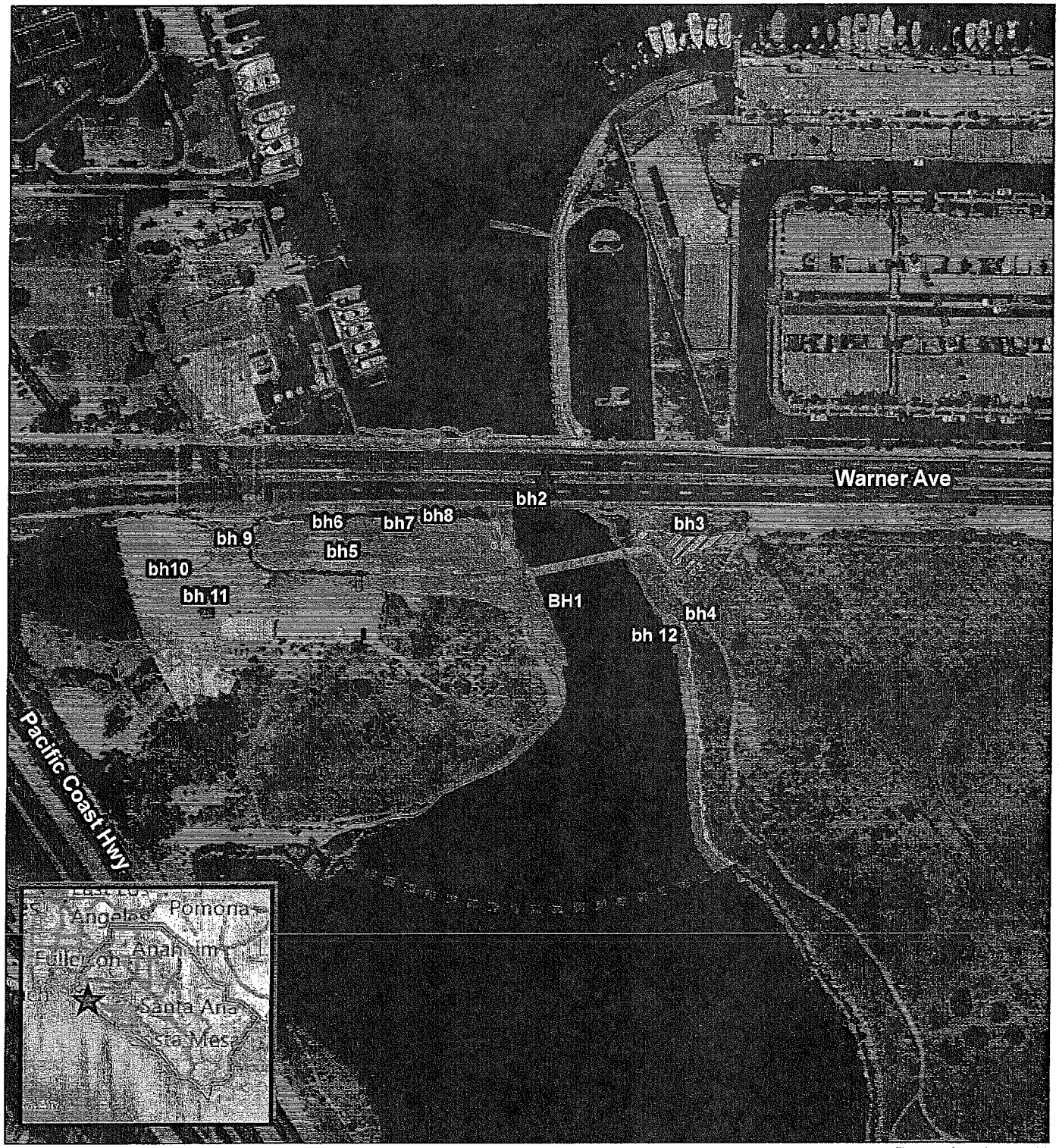
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

ATTACHMENT NO. 5-24

Map Unit Legend

Orange County and Part of Riverside County, California (CA678)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
115	BEACHES	6.9	31.7%
161	MARINA LOAMY SAND, 0 TO 2 PERCENT SLOPES	10.5	48.6%
227	WATER	4.2	19.6%
Totals for Area of Interest		**21.7**	**100.0%**

ATTACHMENT NO. 3.75



Source: Bing Maps, 2010; UltraSystems Environmental, Inc., 2011

December 22, 2011

N

Scale 1:1,800
1 inch = 150 feet

0 75 150 Feet

0 20 40 Meters

Legend

- Warner Avenue Bridge
- 500 Foot Buffer
- Bore Hole
- Culvert Pipe
- OHWM
- CDFG
- CDFG-USACE-OHWM
- CDFG-USACE-Wet
- Tarplant

Huntington Bridges Project

Warner Ave Bridge

Approximate Jurisdictional Waters and Wetlands

ATTACHMENT NO. 3-76

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. Bridge City/County: Huntington Beach Sampling Date: 11/22/2011
Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH 1
Investigator(s): Debbie Kinsinger, Steve Blackwell, Michelle Tollett Section, Township, Range: S30 T5S R11W
Landform (hillslope, terrace, etc.): slough Local relief (concave, convex, none): _____ Slope (%): <3
Subregion (LRR): C Lat: 33.711213070 Long: -118.060281344 Datum: WGS84
Soil Map Unit Name: 115. Beaches NWI classification: — E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes + No _____
Are Vegetation ✓, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes + No _____	Is the Sampled Area within a Wetland?	Yes ✓ No _____
Hydric Soil Present?	Yes + No _____		
Wetland Hydrology Present?	Yes + No _____		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Salicornia virginica	40%	Y	FACW
2. Batis maritima	10%	Y	OBL
3. Algae		N	
4. Bare Ground (50%)			
5.			
6.			
7.			
8.			
		= Total Cover	
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 50% % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 100% (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	1	x 2 =	2
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	2 (A)		3 (B)

Prevalence Index = B/A = 3/2 = 1.5

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:
Mid slope tidal
Boundary test at 10 ft. to west of BH1 sheared pit
Restricting layer at 4 inches no gley colors, clay deposits angular blocky structure

SOIL

Sampling Point: BH1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR4/2	90	5YR 4/4	10	C	5YR4/3	Sandy loam	glayed edges
6-10	7.5YR4/3	50%	7.5YR 4/4	50%			Sandy loam	
10-12	Saturated							
12+	Oxidized dry							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- + Sandy Gleyed Matrix (S4) NO
- + Sandy Redox (S5) yes
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ~Dry below 12 inches
Depth (inches): Outer edge of mudflat at high tide line

Hydric Soil Present? Yes √ No ___

Remarks:
hooded merganser
western merganser
green wing teal
Am widgeon
eared grebe
western grebe
snowy egret
GBH

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3) Episaturated
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- + Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- + Saturation Visible on Aerial Imagery (C9)
- + Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No + Depth (inches): ___

Water Table Present? Yes ___ No + Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes + No ___ Depth (inches): 12 inches

Wetland Hydrology Present? Yes √ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Episaturated at low tide restricting layer below 12 inches w/out saturation
5ft w/s of BH1 test pit has stratified layers but did not meet A5 criteria due to high chroma, lacks gley
Assume edge of primary veg contour to be edge of wetland

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ATTACHMENT NO. 3-78

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. City/County: Huntington Beach Sampling Date: 11/22/11

Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH2

Investigator(s): D. Kinsinger, S. Blackwell Section, Township, Range: S30 T5S R11W

Landform (hillslope, terrace, etc.): slough Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.711537613 Long: -118.060412344 Datum: ~~NAD83~~ WGS

Soil Map Unit Name: 115 Beaches NWI classification: E1UBL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No _____ (If no, explain in Remarks.)

Are Vegetation +, Soil –, or Hydrology – significantly disturbed? Are "Normal Circumstances" present? Yes + No _____

Are Vegetation +, Soil ~, or Hydrology – naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No – problematic	Is the Sampled Area within a Wetland? Yes + No _____
Hydric Soil Present?	Yes +	No _____	
Wetland Hydrology Present?	Yes +	No _____	

Remarks: We can only speculate as to why vegetation doesn't grow here – perhaps excessive shade due to bridge & escarpment, but reducing conditions exist & wetland species have enough water to grow here

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: ~~veg naturally~~ veg problematic due to soil eroding over rip rap & in tidal zone

ATTACHMENT NO. 3.79

SOIL

Sampling Point: BH2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 4/2		5YR 4/4					
8-12+	7.5YR 4/1							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ± Sandy Gleyed Matrix (S4) NO
- ± Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks: gray colors are not "gley" colors. Although % of prominent redox mottles not recorded in field, they were similar to BH1 which had common distinct & prominent mottles.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ± Saturation (A3) 12 inches
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

J. L. DARLING CORP.
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(253) 922-5000

ATTACHMENT NO. 3-80

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. City/County: Orange Sampling Date: 11/22/11
Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH3
Investigator(s): D. Kinsinger, S. Bladewell Section, Township, Range: S30 T5S R11W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): ~~Slope~~ Slope (%):
Subregion (LRR): C Lat: 33.711465974 Long: -118.059805986 Datum: WGS84
Soil Map Unit Name: 161 Marina Loamy Sand 0-2% NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes +	No	Is the Sampled Area within a Wetland? Yes No +
Hydric Soil Present?	Yes	No +	
Wetland Hydrology Present?	Yes	No +	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. POMO Ann. Beard grass	10	.23 Y	FACW
2. Lolium sp Italian Rye	10	.23 Y	FAC
3. ATSE Australian saltbush	2	.05 N	FAC
4. Rumex crispus Curly Dock	1	.02 N	FACW
5. Centromadia Southwestern tarplant	20	.45 Y	FAC
6. Polygonum aviculare Knotweed	#1	N	FAC
7. ?			
8.	44		
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No

Remarks:

ATTACHMENT NO. 3.B1

SOIL

Sampling Point: BH3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 10	7.5YR 3/2	100					~~silt~~ loam	
10 - 12	7.5YR 3/2	100					loam	
12 - [redacted]								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No +

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ___ Depth (inches): _____

Water Table Present? Yes _____ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ___ Depth (inches): 12

Wetland Hydrology Present? Yes _____ No +

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Fails FAC-Neutral

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ATTACHMENT NO. 3-82

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. City/County: Huntington Beach, CA Sampling Date: 11/22/2011
Applicant/Owner: City of HBeach State: CA Sampling Point: BH4
Investigator(s): Debbie Kinsinger, Steve, S. Blackwell Section, Township, Range: S30 T5S R11W
Landform (hillslope, terrace, etc.): tidal flat Local relief (concave, convex, none): slope Slope (%): 20
Subregion (LRR): Arid West C Lat: 33.711178597 Long: -118.059753800 Datum: WGS84
Soil Map Unit Name: BHq Marina Loamy Sand NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes + No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes +	No ____	Is the Sampled Area within a Wetland? Yes ____ No +
Hydric Soil Present?	Yes ____	No +	
Wetland Hydrology Present?	Yes +	No ____	

Remarks: Dug several test pits to find something different enough to record but only found relevant diffences below the vegetation line.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m)			
1. Salicornia virginica	70%	Y	OBL
2. Batis Maritima	10%	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 20% % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 1	x 1 = 1
FACW species 1	x 2 = 2
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = 3/3 = 100%

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No ____

Remarks:

SOIL

Sampling Point: BH4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/3	100%						
6-10	7.5YR 4/3	100%	5YR 7/4	5%			5YR 3/1	<1%
10-12	7.5YR 4/2	100%	Saturated					
12+	Saturated							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ~~[illegible]~~ massive silt settle

Depth (inches): 14 inches

Hydric Soil Present? Yes ● No +

Remarks: prominent if Δvalue > 2 if value > 2 no hue Δ2 → yes

hue > 2 = y if value Δ0 = y chroma Δ1 = y then 5% distinct mottles

sandy redox must have matrix chroma 2 or less w/in 6 in, not sandy redox

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3)
- + Water Marks (B1) (Nonriverine)
- + Sediment Deposits (B2) (Nonriverine)
- + Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes + No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ATTACHMENT
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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Bridge City/County: Huntington Beach Sampling Date: 11-23-11
Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH5
Investigator(s): Debbie Krieger, M. Marriota Section, Township, Range: S30 T5S R11W
Landform (hillslope, terrace, etc.): tidal wet Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): C Lat: 33.711360029 Long: -118.061133765 Datum: W8584
Soil Map Unit Name: 115 Beaches NWI classification: PEMFx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes + No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	Is the Sampled Area within a Wetland? Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. X			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Disp Salt grass	70	Y	FACW
2. Frsi Alkali heath	10	N	FACW+
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 25 20 % Cover of Biotic Crust _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: BH5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5 YR 3/1						Loamy Sand	
6-11	10 YR 3/2						"	
11-14							"	
14+							Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:
We dug several test pits in the vicinity of BH5. 1) one has ~~some have~~ mucky layer but not 1cm thick
2) Further plots towards inundated area w/ snails on surface, ~~grey~~ most grey color is 7.5YR 4/2. ~~7.5YR~~ 3) Inundated hole has gley color 4/10Y
4) w/in 3 in of H_2O had 7.5YR 4/2

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes ___ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturation shown @ 12 inches but not below, where soil texture changes.

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ATTACHMENT NO. 3.86

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. Bridge City/County: Orange Sampling Date: 11-23-11

Applicant/Owner: Huntington Beach, City of State: Sampling Point: BA 6

Investigator(s): Debbie Kinsinger, M. Marrioto Section, Township, Range: S30 T5S R11W

Landform (hillslope, terrace, etc.): tidal wet Local relief (concave, convex, none): _____ Slope (%): 52

Subregion (LRR): C Lat: 33.711454357 Long: -118.06119725 Datum: WGS84

Soil Map Unit Name: 115 Beaches NWI classification: PEMFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes +	No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present?	Yes +	No _____	
Wetland Hydrology Present?	Yes +	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	80	Y	OBL
2. Batis maritima	10	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No _____

Remarks:

ATTACHMENT NO. 3.87

SOIL

Sampling Point: BH 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6 4	4/10Y	100					Sandy clay Loam	
6-4-8	7.5YR 4/2							
8-13	7.5YR 4/2							Restrictive layer below

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ✓ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- + Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compact sand

Depth (inches): 8"

Hydric Soil Present? Yes + No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- + Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- + Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes + No ___ Depth (inches): 4

Water Table Present? Yes ___ No ? Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes + No ___ Depth (inches): ___

Wetland Hydrology Present? Yes + No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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ATTACHMENT NO. 3-88

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. City/County: Orange Sampling Date: 11-22-11

Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH7

Investigator(s): D. Kinsinger, M. Merrietta Section, Township, Range:

Landform (hillslope, terrace, etc.): tidal wet Local relief (concave, convex, none): S30 T5S R11W Slope (%): <2

Subregion (LRR): C Lat: 33, 711455132 Long: -118.060778934 Datum: NAD83

Soil Map Unit Name: 115. Beaches NWI classification: PEMFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes + No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes + No ____	Is the Sampled Area within a Wetland? Yes + No ____
Hydric Soil Present?	Yes + No ____	
Wetland Hydrology Present?	Yes + No ____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Salicornia virginica	2025	+Y	OBL
2. Batis maritima	70	+Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. City/County: Orange Sampling Date: 11.22.11
Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH7
Investigator(s): D. Kinsinger, M. Merrietta Section, Township, Range:
Landform (hillslope, terrace, etc.): tidal wet Local relief (concave, convex, none): S30 T5S R11W Slope (%): e2
Subregion (LRR): C Lat: 33, 711455132 Long: -118.060778934 Datum: NAD83
Soil Map Unit Name: 115. Beaches NWI classification: PEMFx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes + No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes + No ____	Is the Sampled Area within a Wetland? Yes + No ____
Hydric Soil Present?	Yes + No ____	
Wetland Hydrology Present?	Yes + No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Salicornia virginica	2025	+Y	OBL
2. Batis maritima	70	+Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No ____

Remarks:

SOIL

Sampling Point: BH7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	4/10Y	100					Sandy loam	
4-8	7.5 Y R 4/2						"	
8-13	7.5 YR 4/2							restrictive layer water saturated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- + Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted sand

Depth (inches): ~ 8"

Hydric Soil Present? Yes + No ___

Remarks:

Better color match for 0-4" 7.5YR 5/1

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- + Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes + No ___ Depth (inches): 4

Water Table Present? Yes ___ No + Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes + No ___ Depth (inches): ___

Wetland Hydrology Present? Yes + No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

J. L. DARLING CORP.
www.RiteintheRain.com
(253) 922-5000

ATTACHMENT NO. 3.91

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. City/County: Orange Sampling Date: 11.23.11

Applicant/Owner: City of Huntington Beach State: CA Sampling Point: DA 8

Investigator(s): D. Kinsinger, M. Marriotta Section, Township, Range:

Landform (hillslope, terrace, etc.): tidal wet Local relief (concave, convex, none): S30 T5S R11W Slope (%):

Subregion (LRR): C Lat: 33.711479947 Long: -118.060769682 Datum: WGS84

Soil Map Unit Name: 115 Beaches NWI classification: PEMFy

Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes + No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes + No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present?	Yes _____ No +	
Wetland Hydrology Present?	Yes + No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Batis maritima	10	Y	OBL
2. Salicornia virginica	5	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 85 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No _____

Remarks:

SOIL

Sampling Point: BA 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	7.5YR 4/1	100						
1-13	7.5YR 4/3							Restrictive layer below

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Very compact sand

Depth (inches): 3

Hydric Soil Present? Yes ___ No +

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- + Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- + Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes + No ___ Depth (inches): < 1

Water Table Present? Yes ___ No + Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes + No ___ Depth (inches): 3

Wetland Hydrology Present? Yes + No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

J. L. DARLING CORP.
www.RiteintheRain.com
(253) 922-5000

ATTACHMENT NO. 3.93

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. City/County: Orange Sampling Date: 11-23-11

Applicant/Owner: City of Huntington Beach State: CA Sampling Point: B#9

Investigator(s): D. Kinsinger, M. Marrietta Section, Township, Range:

Landform (hillslope, terrace, etc.): tidal wet Local relief (concave, convex, none): S30T5SR11W Slope (%): <2

Subregion (LRR): C Lat: 33.713965 Long: -118.0615579 Datum: NAD83

Soil Map Unit Name: 115. Beaches NWI classification: PEMFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes + No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes + No _____	Is the Sampled Area within a Wetland? Yes + No _____
Hydric Soil Present?	Yes + No _____	
Wetland Hydrology Present?	Yes + No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	35	+ Y	OBL
2. Batis maritima	15	+ Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No _____

Remarks:

ATTACHMENT NO. 3-94

SOIL

Sampling Point: BH9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5 YR 4/2						Sandy Clay loam	
4-6	Gley 4/N		Mottles 7.5YR 4/3	2%			Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- + Sandy Gleyed Matrix (S4)
- + Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- + Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: very compact sand

Depth (inches): 6"

Hydric Soil Present? Yes + No ___

Remarks: need 5% distinct or prominent redox to qualify as redox depression,

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- + Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes + No ___ Depth (inches): <1"

Water Table Present? Yes ___ No + Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes + No ___ Depth (inches): 0-6"

Wetland Hydrology Present? Yes + No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

J. L. DARLING CORP.
www.RiteintheRain.com
(253) 922-5000

ATTACHMENT NO. 3.95

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. Bridge City/County: Huntington Beach, Orange City Sampling Date: 11-28-11

Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH 4-10

Investigator(s): Debbie Kinsinger, M. Marriotta Section, Township, Range: S30 T5S R11W

Landform (hillslope, terrace, etc.): drainage basin Local relief (concave, convex, none): _____ Slope (%): <1

Subregion (LRR): LRR(C) Lat: 33.711294722 Long: -118.061816051 Datum: WGS84

Soil Map Unit Name: 13 eaches MU 115 NWI classification: PEMFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes + No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes +	No ____
Hydric Soil Present?	Yes +	No ____
Wetland Hydrology Present?	Yes +	No ____

Is the Sampled Area within a Wetland? Yes + No ____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: (Distichlis littoralis)			
1. Shore grass (Monanthochloe littoralis)	75	+ Y	
2. Salicornia virginica	2	- N	
3. Batis maritima	3	- N	
4.			
5.			
6.			
7.			
8.			
	____ = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust —

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No ____

Remarks:

ATTACHMENT NO. 3.96

SOIL

Sampling Point: BH 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-~~3~~ 2	4/10Y	98%	7.5YR 4/4	2%				@4 inches root part 7.5YR 4/4
4-6	4/10Y							4/10Y w/ root areas of 3/N lower layer
6+	3N	100%						Not saturated below 6"
								Saturation goes to 4"
								Some organic matter black
								in 6+ range

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ~~X~~ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Loamy Mucky Mineral (F1)
- + Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes + No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- + Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- + Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes + No ____ Depth (inches): _____

Water Table Present? Yes ____ No ___ Depth (inches): _____

Saturation Present? (Includes capillary fringe) Yes + No ____ Depth (inches): _____

Wetland Hydrology Present? Yes + No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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ATTACHMENT NO. 3.97

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave. Bridge City/County: Huntington Beach Orange Co. Sampling Date: 11/28/11
Applicant/Owner: City of Huntington Beach State: CA Sampling Point: BH 11
Investigator(s): D. Kinsinger, M. Marriotta Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Tidal Wet Local relief (concave, convex, none): S30 T5S R11W Slope (%): c 2
Subregion (LRR): C Lat: 33.711223810 Long: -118.061680135 Datum: ~~NAD83~~ WGS84
Soil Map Unit Name: 115 Beaches NWI classification: PEMF x
Are climatic / hydrologic conditions on the site typical for this time of year? Yes + No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes + No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes + No _____	Is the Sampled Area within a Wetland? Yes + No _____
Hydric Soil Present?	Yes + No _____	
Wetland Hydrology Present?	Yes + No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bats maritima	2	+ Y	
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes + No _____

Remarks:

ATTACHMENT NO. 3.98

SOIL

Sampling Point: BH 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 4/1	85	7.5YR 4/2	15			Loamy	
2.5-4	7.5YR 4/2	99					Loamy Sand	
4-6	7.5YR 4/2	100					Loam	6" + is restrictive layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- + Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- + Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: compacted sand
Depth (inches): 6"

Hydric Soil Present? Yes + No ___

Remarks:
10Y to 4/2 is no chroma to 2 still less than 2 so mottles are distinct
mottles are > 5% so meets F8 redox dark surface
& mottes > 2" thick

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- + Surface Water (A1)
- ___ High Water Table (A2)
- + Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- + Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes + No ___ Depth (inches): <0.5
Water Table Present? Yes ___ No + Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes + No ___ Depth (inches): ___

Wetland Hydrology Present? Yes + No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
BH 2207323.2, 60111389 BH 2
BH 2207208 60N33 4
BH2207204 60 N69 1
BH 2207190 60N330 1?
BH

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Warner Ave Bridge City/County: Huntington Beach/Orange Co. Sampling Date: 3/11/12
Applicant/Owner: City of Huntington Beach State: CA Sampling Point: 1/28/11
Investigator(s): D. Kinsinger M. Marriotta Section, Township, Range: 30S T5S R11W
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): C Lat: 33.711110486 Long: -118.059759100 Datum: NAD 83
Soil Map Unit Name: 227 Water NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No +	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present?	Yes —	No _____	
Wetland Hydrology Present?	Yes —	No _____	

Remarks: Several test pits @ higher elev. did not meet hydric soils criteria until in the subtidal zone, no vegetation in this pit

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
Total Number of Dominant Species Across All Strata: _____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____ around point

Remarks: mud flat / open water

ATTACHMENT NO. 3-100

SOIL

Sampling Point: BH12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	4/10Y	85	5YR 4/3	15			loam	mudflat
6-12+	4/10Y	85	5YR 4/3	15			sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- + Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- + Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes + No ___

Remarks:

gley matrix

Hue ≥ 2
Δ value ≥ 0
Δ chroma ≥ 2
then prominent mottles

>15% mottles > 2" thick = F8

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- + Surface Water (A1)
- + High Water Table (A2)
- + Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- + Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- + Aquatic Invertebrates (B13) mussels
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes + No ___ Depth (inches): ___

Water Table Present? Yes + No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes + No ___ Depth (inches): ___

Wetland Hydrology Present? Yes + No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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ATTACHMENT NO. 3.101