

**CALIFORNIA COASTAL COMMISSION**

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Staff Report: July 19, 2001  
Hearing Date: August 7-10, 2001  
Commission Action:

**Item T7b****STAFF REPORT: REGULAR CALENDAR****RECORD PACKET COPY****APPLICATION NUMBER:** 5-00-321**APPLICANTS:** City of Seal Beach and City of Long Beach

**AGENTS:** Bill Zimmerman, Zimmerman Engineering  
Dennis Haglan, J. Muller International  
Michael Houlihan, Michael Brandman Assoc.

**PROJECT LOCATION:** Marina Drive from First Street, City of Seal Beach, Orange County to North Marina Drive, City of Long Beach, Los Angeles County including the Marina Drive Bridge at the San Gabriel River.

**PROJECT DESCRIPTION:** Demolish existing 64 foot wide by 391 foot long four-lane bridge and construct a new 66 foot wide by 394 foot long two-lane bridge that is 12.36 to 13.61 feet above mean sea level including twelve 5-foot diameter piles in the San Gabriel River, a fishing pier, sidewalks, and bicycle lanes. In addition, change the four-lane approach roadways to two-lane roadways; construct replacement sidewalks and bicycle lanes; construct new landscape median; and change signalized intersections to stop-controlled intersections.

**SUMMARY OF STAFF RECOMMENDATION**

The proposed project raises issues regarding the fill of coastal waters, construction and operational phase impacts upon water quality; construction phase impacts upon public access, obstruction of public views and hazards. Staff recommends that the Commission **APPROVE** a permit for the proposed development with conditions relating to: the prevention of adverse impacts to marine resources of the San Gabriel River, compliance with the requirements of the resource agencies, protection of coastal access, implementation of an assumption of the risk requirement; revisions to plans including a requirement for extraction or deeper cut off of existing pilings and proposed temporary pilings, implementation of water quality BMPs, and use of a bridge rail system which minimizes the obstruction of views; and identification of a debris disposal site.

**LOCAL APPROVALS:** City of Seal Beach approval-in-concept dated October 2, 2000 and City of Long Beach Approval-in-concept dated October 13, 2000.

**SUBSTANTIVE FILE DOCUMENTS:** Wetland Evaluation for Marina Drive Bridge Based on California Coastal Act Wetland Definition by Michael Brandman Associates dated January 25, 2001; Letter from California Department of Fish and Game dated October 13, 2000 regarding use of bridge debris for augmentation of Bolsa Chica Artificial Reef; Letter from J. Muller International dated October 16, 2000 regarding bridge design alternatives, rip rap and artificial reef augmentation; Letter from California State Lands Commission dated November 15, 1999; U.S. Army Corps of Engineers Pre-Construction Notification for No. 199916566-VAW; Los Angeles County Dept. of Public Works Bridge Rating dated February 8, 1995; California Dept. of Transportation Bridge Rating dated December 5, 1996; Letter from National Marina Fisheries Service dated July 26, 2000; California Department of Fish and Game Streambed Alteration Agreement #5-140-00 dated March 23, 2001; Draft Natural Environmental Study for Marina Drive Bridge dated August 2000 by Michael Brandman Associates; Analysis titled California Coastal Commission Application Questions and Responses dated March 23, 2001 by the City of Seal Beach; California Regional Water Quality Control Board, Santa Ana Region Water Quality Certification for the Proposed Marina Drive Bridge Project dated August 14, 2000; Traffic Study for the Marina Bridge Replacement dated May 8, 2000 by Katz, Okitsu & Associates; Water Quality Study dated June 2000 by Michael Brandman Associates; Letter from the California Dept. of Fish and Game dated September 29, 1999; Archeological and Historic Survey Assessment dated June 6, 2000 by Michael Brandman Associates; Coastal Zone Study dated July 2000 by Michael Brandman Associates; Draft Floodplain Study dated March 2000 by Michael Brandman Associates; Foundation Report by Earth Mechanics, Inc. dated February 15, 2000; City of Long Beach Certified Local Coastal Program.

**STAFF NOTE:**

a. Jurisdiction

Pursuant to Section 30519 of the Coastal Act, any development located within the Commission's area of original jurisdiction requires a coastal development permit from the Commission. The Commission's area of original jurisdiction includes tidelands, submerged lands, and public trust lands, whether filled or unfilled. In the City of Long Beach, the Chapter 138 Line and the actual mean high tide line (MHTL) generally differentiate the Commission's area of retained (original) jurisdiction from the landward area for which the City of Long Beach has accepted coastal development permit jurisdiction pursuant to the City of Long Beach certified Local Coastal Program (LCP).

The currently proposed project is the demolition of an existing bridge and construction of a new bridge on filled tidelands and submerged lands. A coastal development permit

is required from the Commission for the portion of the proposed development within the City of Long Beach because the project site is located within the Commission's area of original jurisdiction. In addition, there is no certified local coastal program or land use plan for the City of Seal Beach. Therefore, the portion of the development within the City of Seal Beach requires a coastal development permit from the Coastal Commission. The Commission's standard of review for the proposed development is the Chapter 3 policies of the Coastal Act. The City of Long Beach certified LCP is advisory in nature and may provide guidance for the portion of the development within Long Beach. The proposed project does not conflict with any part of the City of Long Beach certified LCP.

b. Federal Consistency

Under the California Coastal Management Program, a Coastal Development Permit (CDP) issued by the Commission functions as the federal consistency certification and no other consistency review is necessary. In this case, if approved by the California Coastal Commission, a coastal development permit will be issued after satisfaction of the special conditions. The final special conditions will be forwarded after the Commission adopts the findings for that project. Upon transmittal of the permit, the applicant will have satisfied the federal consistency requirements of the federal Coastal Zone Management Act and the Corps can issue its permit.

**I. STAFF RECOMMENDATION, MOTION AND RESOLUTION OF APPROVAL:**

The staff recommends that the Commission adopt the following resolution to **APPROVE** the coastal development permit application with special conditions:

**MOTION:**

*"I move that the Commission approve with special conditions Coastal Development Permit 5-00-321 per the staff recommendation as set forth below."*

**STAFF RECOMMENDATION OF APPROVAL:**

Staff recommends a **YES** vote which would result in approval of the permit as conditioned and adoption of the following resolution and findings. An affirmative vote by a majority of the Commissioners present is needed to pass the motion.

**RESOLUTION TO APPROVE A PERMIT:**

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development

as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

## **II. STANDARD CONDITIONS**

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## **III. SPECIAL CONDITIONS**

### **1. CONSTRUCTION RESPONSIBILITIES AND DEBRIS REMOVAL**

The permittee shall comply with the following construction-related requirements:

- a. Netting, tarps and/or other forms of barriers shall be installed between the water and the work areas to prevent any unpermitted material from entering the San Gabriel River.
- b. In order to ensure the capture of any materials not successfully captured as a result of the requirements of Subsection A of this condition, floating booms shall be placed across the San Gabriel River channel (upstream

and downstream of the bridge) in order to capture floating debris during the cleaning and construction phases.

- c. The storage or stockpiling of soil, silt, other organic or earthen materials, or any materials and chemicals related to the construction shall not occur where such materials/chemicals could pass into the waters of the San Gabriel River. Any spills of construction equipment fluids or other hazardous materials shall be immediately contained on-site and disposed of in an environmentally safe manner as soon as possible.
- d. Construction vehicles operating within the banks of the San Gabriel River channel (e.g. on the bridge deck) shall be inspected daily to ensure there are no leaking fluids. If there are leaking fluids, the construction vehicles shall be serviced immediately. Equipment and machinery shall be serviced, maintained and washed only in confined areas specifically designed to control runoff and prevent discharges into the San Gabriel River. Thinners, oils or solvents shall not be discharged into sanitary or storm sewer systems.
- e. Washout from concrete trucks shall be disposed of at a location not subject to runoff and more than fifty feet away from all stormdrains, open ditches and surface waters.
- f. All floatable debris and trash generated by construction activities within the project area shall be disposed of as soon as possible, and in no event later than at the end of each day.
- g. All grading and excavation areas shall be properly covered and sandbags and/or ditches shall be used to prevent runoff from leaving the site, and measures to control erosion must be implemented at the end of each day's work.
- h. Activities shall not cause turbidity increases in surface waters to exceed: (a) 20 percent if background turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU); (b) 10 NTU if background turbidity is between 50 and 100 NTU; and, (c) 10 percent if background turbidity is greater than 100 NTU. Monitoring of turbidity downstream of construction operations will be conducted daily during construction activities that may cause turbidity. If activities exceed the above criteria, construction activities associated with causing turbidity will be discontinued until the above criteria is met.
- i. Construction activities shall not cause visible oil, grease, or foam in the work area or downstream.

- j. Silt curtains shall be placed within the river so that all effluent from dewatering activities will pass through the silt curtains.
- k. The use of cofferdams shall not affect the San Gabriel River channel's capability to convey a 100-year flood event.
- l. If coffer dams are not used, silt curtains shall be placed around all work areas within the river channel.
- m. All construction debris shall be retrieved from the river bottom and seafloor. A post-construction channel bottom survey, subject to the review and approval of the Executive Director, shall be conducted using appropriate survey techniques to identify submerged objects to ensure that all construction debris has been removed from the river bottom and seafloor.
- n. Construction activities shall be limited to the non-flood season which will vary from year to year depending on the weather (generally April – October).
- o. Revegetate disturbed areas with native or drought-tolerant species as soon as possible.

**2. CONFORMANCE WITH THE REQUIREMENTS OF THE RESOURCE AGENCIES**

The permittee shall comply with all permit requirements and mitigation measures of the California Department of Fish and Game, the National Marine Fisheries Service, and the U.S. Army Corps of Engineers with respect to preservation and protection of water quality and marine environment as identified in Exhibits 5, 9, and 10 of the staff report dated July 19, 2001. Any change in the approved project which may be required by the above-stated agencies shall be submitted to the Executive Director in order to determine if the proposed change shall require a permit amendment pursuant to the requirements of the Coastal Act and the California Code of Regulations.

**3. PHASING OF CONSTRUCTION – PUBLIC ACCESS**

The applicant shall implement the proposed project in phases that will consistently ensure maximum public access along Marina Drive and the trail along the San Gabriel River while at the same time ensuring safe public use of Marina Drive and the trail along the San Gabriel River.

4. **TEMPORARY PUBIC ACCESS SIGNAGE**

During any construction which requires the obstruction of a road or trail used for public access, the applicant shall provide temporary signage, placed in conspicuous locations, which identify alternative public access routes which bypass the temporarily closed portions of the road or trail.

5. **COASTAL ACCESS**

In order to reduce adverse impacts to public access and recreation during the summer peak beach use period, the applicant shall maintain a continuous open thoroughway which will allow pedestrians and cyclists using the trail along the San Gabriel River to access the beach at the end of First Street in Seal Beach via the trail from inland locations on all weekends and holidays during the time period commencing on the Saturday of Memorial Day weekend and ending on Labor Day of any year during which construction occurs.

6. **ASSUMPTION OF RISK**

- A) By acceptance of this coastal development permit, the applicant acknowledges and agrees: (i) that the site may be subject to hazards from seismic events, liquefaction, storms, waves, floods and erosion; (ii) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and (v) to agree to include a provision in any subsequent sublease or assignment of the development authorized by this permit requiring the sublessee or assignee to submit a written agreement to the Commission, for the review and approval of the Executive Director, incorporating all of the foregoing restrictions identified in (I) through (iv).
- B) **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a copy of a written agreement by the applicant, in a form and content acceptable to the Executive Director, accepting all of the above terms of subsection A of this condition.

**7. PLAN REVISIONS**

- A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit revised plans to the Executive Director for review and approval. The revised plans shall show the following changes to the project:
1. Where feasible, existing bridge pilings and abutments and any pilings for temporary construction related structures (i.e. trestles) shall be completely extracted from the river bed and disposed in accordance with Special Condition 8 of this coastal development permit. Where complete extraction is not feasible, any structures left in place shall be cut off a minimum of 1 meter (3.28 feet) below the surface of the river bed.
  2. The applicant shall implement permanent Best Management Practices (BMP's) which shall mitigate (infiltrate or treat) stormwater and urban runoff discharged from the completed project from each storm, up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event, with an appropriate safety factor, for flow-based BMPs. BMP's may include, but are not limited to, fossil filters, grease/oil separators, and inlet trash racks on the existing and proposed catch basins which would drain into the pipes and drainage outlets approved by this permit. Plans shall indicate the type(s) of BMPs to be installed and the locations where the BMPs would be installed. The plans shall also indicate that all structural and non-structural BMPs shall be maintained in a functional condition throughout the life of the approved development. Maintenance activity shall be performed according to the recommended maintenance specifications contained in the California Stormwater BMP Handbooks (California Stormwater Quality Task Force, 1993) for selected BMPs. At a minimum, maintenance shall include the following: (i) all structural BMPs shall be inspected, cleaned and repaired, as needed prior to the onset of the storm season, no later than October 1st of each year and (ii) should any of the project's surface or subsurface drainage/filtration structures or other BMPs fail or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system and restoration of the eroded area. Should repairs or restoration become necessary, prior to commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if an amendment or new coastal development permit is required to authorize such work.
  3. The applicant shall maximize the public views available to motorists and pedestrians from the proposed bridge through the installation of bridge rails that have been crash tested and approved for use in California, such as the "Alaska rail", which minimize visual obstructions for bridge users.



- B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

8. **LOCATION OF DEBRIS DISPOSAL SITE**

**PRIOR TO ISSUANCE OF A COASTAL DEVELOPMENT PERMIT**, the applicant shall identify in writing, for the review and approval of the Executive Director, the location of the disposal site of the excess soil, demolition and construction debris resulting from the proposed project. Disposal shall occur at the approved disposal site. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place.

**IV. FINDINGS AND DECLARATIONS**

The Commission hereby finds and declares:

A. **PROJECT DESCRIPTION**

The project description submitted by the applicants states as follows:

*The proposed project includes the replacement of Marina Drive Bridge and additional improvements along Marina Drive between First Street and North Marina Drive. The majority of the project site is located within the City of Seal Beach and a portion of the site is located in the City of Long Beach. Marina Drive Bridge extends over the San Gabriel River and connects to the City of Seal Beach on the east and City of Long Beach on the west (Exhibits 1 and 2).*

*Both Cities are currently receiving seismic retrofit funding from FHWA to replace the Marina Drive Bridge. The bridge was originally built in the 1930's and was substantially rehabilitated in 1963. Caltrans inspected the bridge in 1993 and provided an overall condition rating of poor for the bridge structure. Cracks were observed on the pavement, especially on the east half of the bridge deck, the stringers were split horizontally at almost all spans, some deck board locations are no longer connected properly at the stringers, the sidewalk has settled approximately one inch at the existing fishing pier, the metal handrail is spot rusting throughout the bridge, and rusted rebar is exposed at several spalls at the east abutment.*

### EXISTING BRIDGE/ROADWAY CHARACTERISTICS

The existing bridge structure is approximately 19.5 meters (64 feet) wide and 119.2 meters (391 feet) long. The structure includes a wooden deck and 14 support bents (support frames) each with eight individual, 0.46-meter (1.5-foot) by 0.46-meter (1.5-foot), reinforced concrete pilings. There are 12 support bents that have reinforced concrete piles that are located within the channel extend below the bottom of the river channel and the remaining two bents or abutments have piles that extend into the soil located outside of the river channel. The existing bridge structure is on a vertical curve. The lowest points of the bridge are at the bridge ends where the soffit elevation is at 3.76 meters (12.36 feet) above mean sea level. The highest point of the bridge is at the middle of the bridge where the soffit elevation is at 4.31 meters (14.4 feet) above mean sea level. Attached to the bridge structure is a 135.3-square meter (1,456-square foot) fishing pier that is 2.44-meter (8-foot) wide by 55.5-meter (182-foot) long. The fishing pier includes a concrete deck with seven bents each with a 0.46-meter (1.5-foot) octagon precast/prestressed concrete pile. Each of the fishing pier bents and pilings are parallel and centered south of the bridge structure bents and pilings. The abutment support is located at the West End of the bridge and extends approximately to the middle of the bridge.

### Roadway Geometrics and Traffic Controls

Marina Drive is a four-lane roadway between First Street and North Marina Drive. The Marina Drive/North Marina Drive intersection is stop-controlled and Marina Drive has one westbound right turn lane and one westbound through/left turn lane. The Marina Drive/First Street intersection is signalized and Marina Drive has one eastbound right turn lane, one eastbound through lane, and one eastbound left-turn lane. The Marina Drive Bridge has 1.5-meter (5-foot) wide concrete sidewalks along the entire length of the bridge. Between the bridge and First Street, the north side of Marina Drive has a 1.5-meter (5-foot) wide concrete sidewalk while the south side of Marina Drive has a 1.5-meter (5-foot) wide intermittent concrete, asphalt, and dirt sidewalk.

### PROJECT CHARACTERISTICS Bridge Structure

The proposed bridge structure is approximately 20.11 meters (66) feet wide and 120 meters (394 feet) long (Exhibit 4). The structure includes a cast-in-place, post-tensioned concrete box girder superstructure and 3 seismically reinforced concrete bents each with four individual, 1.51-meter (5-foot) diameter reinforced concrete columns/pilings. Similar to the existing bridge, the proposed bridge structure will be on a vertical curve. The lowest points of the bridge are at the abutments where the soffit elevation is at 3.77 meters (12.36 feet) above mean sea level. The highest point of the bridge is at the middle of the bridge where the soffit elevation is at 4.15 meters (13.61 feet) above mean sea level. Compared to the existing bridge, the proposed soffit at the abutments would be located at the same elevation while the

soffit elevation at middle of the bridge would be approximately 0.16 meter (0.52 feet) lower. The fishing pier will be replaced with an extended overhang on the south edge of the bridge from the west abutment to approximately the center of the bridge. This extended deck area will be 2.5 meters (8.2 feet) wide and 55.9 meters (183 feet) in length and would have the same or greater area ( $\geq 135.3$  square meters [1,456 square feet]) as the existing fishing pier.

#### Roadway Geometrics and Traffic Controls

Marina Drive is proposed as a two-lane roadway between First Street and North Marina Drive. At the Marina Drive/North Marina Drive intersection, one westbound right turn lane and one westbound through/left turn lane are proposed on Marina Drive and an all-way stop-controlled intersection would remain. The Marina Drive/First Street intersection is proposed to be changed from a signalized intersection to an all-way stop-controlled intersection. Marina Drive is proposed with one eastbound right-turn/through lane and one eastbound left-turn lane. The proposed geometrics of the Marina Drive bridge are illustrated on the attached Exhibit. The Marina Drive Bridge is proposed with a 1.5-meter (4.9-foot) wide sidewalk, 1.5-meter (4.9-foot) wide bike path and a 3.6 meter (11.8-foot) traffic lane on the north side of the bridge and a 3-meter (9.8-foot) wide sidewalk, 1.8-meter (5.9-foot) bike path and a 4.2 meter (13.8-foot) traffic lane on the south side of the bridge. The proposed bridge will also include a 3.9 meter (12.8-foot) median which varies to 0.3 meters (1-foot) to accommodate the westbound left turn lane at the North Marina Drive intersection. The proposed travel way along the Marina Drive Bridge includes approximately the same width as the existing travel way. The sidewalk on the north side of the bridge has the same width as the existing sidewalk. However, the proposed sidewalk on the south side of the bridge is 1.5 meters (4.9 feet) wider than the existing sidewalk. The sidewalk is proposed to be wider than the existing sidewalk so that the sidewalk can be consistent with an existing City of Seal Beach policy for sidewalk widths as shown in the City's Standard Drawing STD100. Due to the proposed widening of the sidewalk on the south side of the bridge, the southwest quadrant of the bridge structure (area that includes the replaced fishing pier) will extend outside of the existing right-of-way by 1.1 meters (3.3 feet). The City of Long Beach currently owns the portion of the proposed bridge structure that is outside of the existing right-of-way. Between the bridge and First Street, the north and south sides of Marina Drive are proposed with 1.5-meter (4.9-foot) wide concrete sidewalks and 1.5-meter (4.9-foot) wide bike path on the north side and a 1.8-meter (5.9-foot) wide bike lane on the south side. Marina Drive between the bridge and First Street will also include a landscape median.

#### Construction Approach

Construction of the replacement bridge will occur in two phases including improvements along Marina Drive between the bridge and First Street and at the intersection of Marina Drive and North Marina Drive. The Cities of Seal Beach and

Long Beach have agreed to replace the bridge in two phases to allow automobile and pedestrian traffic access to be maintained. Construction activities will occur within and outside of the 100-year flood level in the San Gabriel River. Construction activities within the 100-year flood level would be limited to non-flood periods so that potential floodwater does not affect construction activities. The non-flood periods will vary from year to year depending on weather. Construction activities outside the 100-year flood level are proposed to occur at any time of the year.

#### Two Phase Bridge Construction Approach

Under a two-phase construction approach, bridge replacement and street improvements will take approximately 24-32 months. The first phase will include demolition and replacement of the northern portion of the bridge and implementation of the street improvements on the north side of Marina Drive between the bridge and First Street and at the Marina Dr./ North Marina Dr. intersection. A temporary barrier rail will be placed along the bridge to contain traffic on the south side of the existing bridge. During demolition and construction activities on the north side of the bridge, one 7.6-meter (25-foot) wide by 120-meter (394-foot) long temporary construction trestle structure that includes 12 to 18 steel bents, each with four individual 0.49-meter (1.5-foot) by 0.49-meter (1.5-foot) support piles may be constructed on the north side of the existing bridge for operating construction equipment. The contractor will determine the location of the construction trestle. Completion of the first phase is expected to take approximately 12 months.

The second phase will include demolition and replacement of the southern portion of the bridge and fishing pier, and implementation of the street improvements on the south side of Marina Drive between the bridge and First Street and at the Marina Dr./ North Marina Dr. intersection. A temporary rail will be placed along the new northern portion of the bridge to contain traffic on the north side of the bridge. During demolition and construction activities on the south side of the bridge, one 7.6-meter (25-foot) wide by 120-meter (394-foot) long temporary construction trestle structure that includes 12 to 18 steel bents, each with four individual 0.49-meter (1.5-foot) by 0.49-meter (1.5 foot) support piles may be constructed on the south side of the existing bridge for construction operating equipment. The contractor will determine the location of the construction trestle. Completion of the second phase is expected to take approximately 12-20 months.

Cofferdams may also be used to remove the existing reinforced concrete piles from the river bottom under both phases. The proposed use of cofferdams will be determined by the contractor. It is anticipated that the contractor may use cofferdams at different stages of demolition and casting new piles. Sand bags or some other material may be used to divert the water flows in the San Gabriel River by blocking as much area as possible without significantly interfering normal water flow within the river channel. During the flood season, no cofferdams will be allowed

*in the channel. The flood periods will vary from year to year depending on the weather.*

#### Marina Drive Improvements

*During the construction of the replacement bridge, the improvements along Marina Drive between the bridge and First Street and at the intersection of Marina Drive and North Marina Drive will proceed simultaneously. These improvements will occur in two phases so that access is maintained. Completion of the roadway improvements for each phase is expected to take approximately four months each within a 12-month period.*

#### Staging Area

*The staging area for construction activities under the two-phase approach may include one 45.7-meter (150-foot) by 45.7-meter (150-foot) area. This area is proposed at the southeast corner of Marina Drive and First Street.*

### **B. AQUATIC RESOURCES**

The proposed bridge crosses the San Gabriel River approximately ½ mile inland of the river's mouth at the Pacific Ocean. The river is tidally influenced at the subject location, creating an estuarine aquatic habitat. In addition, the river has been channelized and the banks of the river protected by rip rap and other protective works. This channelization and rip rap extends from the Pacific Ocean several miles inland. There is no native riparian vegetation along the banks.

While the river has been extensively modified, the river does support a variety of wildlife including waterfowl, gulls, terns, cormorants, pelicans, and wading birds. Notably, the open water areas provide occasional foraging and resting areas for Brown pelican (*Pelecanus occidentalis*) [Federally endangered], elegant tern (*Sterna elegans*), Great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), and great egret (*Ardea albus*). However, there are no nesting areas for these birds. In addition, a variety of benthic infauna (bottom dwellers) are found in the soft river bed and a variety of rocky intertidal species are found on the rip rap and upon the pilings of the existing bridge. Fish present include white croaker (*Genyonemus lineatus*), queenfish (*Seriphus politus*), northern anchovy (*Engraulis mordax*), speckled sanddab (*Citharichthys stigmaeus*), batray (*Myliobatis californica*), round stingray (*Urolophus halleri*), California halibut (*Paralichthys californicus*), spotted turbot (*Pleuronichthys ritteri*), and diamond turbot (*Hypsosetta guttulata*). Fish species which may be associated with the existing bridge pilings include shiner serperch (*Cymatogaster aggregata*), black surfperch (*Embiotoca jacksoni*), pile perch (*Damalichthys vacca*), tilapia (*Tilapia mossambica*), yellowfin goby (*Acanthogobius flavimanus*), and longjaw mudsucker (*Gillichthys mirabilis*). Green turtles (*Chelonia mydas*) and hawksbill turtles (*Eretmochelys imbricata*), California sea lion (*Zalophus californica*), bottlenose dolphin (*Tursiops*

truncatus), and California gray whale are known to use the coastal waters offshore of the river and have entered the river mouth periodically. Meanwhile, the San Gabriel River is considered Essential Fish Habitat by the National Marine Fisheries Service for the northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), Pacific mackerel (*Scomber japonicus*), and Jack mackerel (*Trachurus symmetricus*). These fish species are not considered threatened or endangered, however, their habitat is considered important under the Federal Magnuson-Stevens Fishery Management and Conservation Act. Section 30230 of the Coastal Act mandates the protection of the biological productivity of coastal waters so that healthy populations of all species of marine organisms is maintained for long-term commercial, recreational, scientific, and educational purposes.

1. Fill of Coastal Waters and Loss of Marine Habitat

One of the main reasons for preserving, expanding, and enhancing Southern California's remaining wetlands (including estuaries) is because of their important ecological function. First and foremost, wetlands provide critical habitat, nesting sites, and foraging areas for threatened or endangered species. Wetlands also serve as migratory resting spots on the Pacific Flyway a north-south flight corridor extending from Canada to Mexico used by migratory bird species. In addition, wetlands serve as natural filtering mechanisms to help remove pollutants from storm runoff before the runoff enters into streams and rivers leading to the ocean. Further, wetlands serve as natural flood retention areas.

Another critical reason for preserving, expanding, and enhancing Southern California's remaining wetlands is because of their scarcity. As much as 75% of coastal wetlands in southern California have been lost, and, statewide up to 91% of coastal wetlands have been lost.

Section 30108.2 of the Coastal Act states:

*"Fill" means earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area.*

The proposed project will involve the placement of bridge abutments, 12 large diameter concrete piles, rip rap and temporary construction-related coffer dams and piles for a temporary trestle in the estuarine waters of the San Gabriel River. Measured in terms of the footprint, permanent impacts include 5,390 square feet of fill for bridge abutments (concrete/rip-rap/soil), and 215 square feet for pilings. In addition, coffer dams will cause 64,486 square feet of temporary impact and the pilings for the temporary construction trestles will have approximately 304 square feet of temporary impact. Measured in terms of volume (cubic feet) of fill, the bridge abutments (concrete/rip-rap/soil) would have 6,550 cubic feet of permanent impact and the pilings would have 17,869 cubic feet of impact. The temporary impacts would include 18,010 cubic feet for the temporary construction trestle pilings. These abutments, piles, rip rap and coffer

dams constitute fill of coastal waters. Compared with the fill from the existing bridge there would be 43 square feet less impact (measured in terms of the footprint) for the pilings and no change in fill for the abutments. Measured in terms of volume, there would be an additional 1,974 cubic feet of fill for the piles and no change in the volume of fill for the abutments. Under Section 30233 of the Coastal Act, fill of coastal waters is only allowed when several criteria are met, including (a) the project must fall within one of the use categories specified; (b) the proposed project must be the least environmentally damaging alternative; and (c) feasible mitigation measures to minimize adverse environmental effects must be provided. Section 30233 of the Coastal Act states, in part:

*(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:...*

*(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*

The proposed project meets the first criteria because the proposed bridge is a public facility which is intended for public service purposes. The proposed abutments, piles, rip rap and coffer dams necessary for construction of the bridge will fill coastal waters. Fill of coastal waters for incidental public service purposes is an allowable use under Section 30233(a)(5) of the Coastal Act.

Under Section 30233, the proposed project must also be the least environmentally damaging alternative. Alternatives to the proposed project include no project; retrofit of the existing bridge; replacement of the bridge in precisely the same configuration; construction of a bridge having five spans, a clear span bridge; or –the proposed project- a four span, cast-in-place, pre-stressed concrete box girder bridge.

Under the no project alternative, the applicant could only pursue simple maintenance activity. The existing bridge, most recently retrofitted in the early 1960's, is deteriorating and is at the end of it's economic life (see Los Angeles County Dept. of Public Works Bridge Rating dated February 8, 1995; California Dept. of Transportation Bridge Rating dated December 5, 1996). Simple maintenance could not feasibly repair the bridge, nor bring the bridge up to present engineering and safety standards. Simple maintenance would only prolong the condition of the existing bridge and would not address seismic stability issues. Safe use of the bridge would be precluded without seismic retrofit of the existing bridge or replacement of the bridge.

The second alternative, seismic retrofit of the bridge, would entail repairs to the bridge deck, replacement of stringers, reconstruction of sidewalks, replacement of handrails,

and seismic reinforcement of the existing bridge piles. Since the existing piles would remain in place, there would be no decrease to the quantity of fill of coastal waters. Meanwhile, the proposed project would result in a 43 square foot decrease in the quantity of fill of coastal waters. Since the seismic retrofit alternative would have more fill than the proposed project, the retrofit alternative is not the least environmentally damaging feasible alternative.

The third alternative, replacement of the project in the same configuration would cause the same amount of fill as the existing bridge. This alternative is not environmentally superior to the proposed project because the proposed project would have less fill of coastal waters than reconstruction of the bridge in the same configuration.

The five span bridge would involve the construction of a bridge using a precast prestressed concrete bulb tee or box girder bridge. This bridge system would have four rows of pilings rather than three rows of pilings, as proposed. The additional pilings would cause additional fill of coastal waters. Therefore, the proposed four span alternative is environmentally superior to a five span bridge.

The fifth alternative is the construction of a clear span bridge having no fill of coastal waters. The clear span alternative would be environmentally superior to the proposed project from the standpoint of fill of coastal waters because the clear span would have no fill while the proposed project will have 5,619 square feet of permanent fill for bridge abutments and pilings. However, the clear span alternative would require higher structures than the proposed bridge which would have adverse impacts upon public coastal views. For instance, a clear span bridge would require the use of a 17 foot thick box girder that would raise the terminal point of the bridge 12.5 feet above the terminal point of the existing bridge. The elevated bridge profile would adversely impact public views to and along the shoreline. For instance, motorists, pedestrians and cyclists approaching the bridge from inland locations would have less or no views of the Pacific Ocean because a taller bridge would block the horizon. Meanwhile, the proposed bridge would decrease the elevation of the terminal point of the bridge by approximately  $\frac{1}{2}$  foot, which would improve views to and along the shoreline. A lower bridge would provide more expansive views of the horizon. In addition, construction of a clear span alternative would require the elevation of the approach roadways and construction of retaining walls along the flanks of the elevated roadway. These elevated approach roadways would block additional public views. Meanwhile, the approach roadways of the proposed bridge will remain at their existing elevation and would have no adverse impact upon public views. Accordingly, the clear span alternative is advantageous from the standpoint of fill of coastal waters but is disadvantageous from the standpoint of impacts upon public views. Conversely, the proposed four span alternative is disadvantageous from the standpoint of fill of coastal waters but is advantageous from the standpoint of impacts upon public views. In this case, the Commission finds that the environmental impact upon public views caused by a clear span bridge would be more significant than the environmental impact that the proposed four span bridge



would have upon coastal waters. Therefore, the Commission finds the four span bridge is environmentally superior than the clear span bridge.

In addition, the applicant contends that the clear span alternative is not economically feasible. The applicants state that the proposed project is entirely funded by two sources, the Federal HBRR program with a \$4.6 million cap and the State Seismic Retrofit Program with a \$1.1 million cap and a local government matching fund requirement. The proposed bridge could be funded with the available funding sources. Meanwhile, a clear span bridge is estimated to cost \$16.5 million which substantially exceeds available funds for the project. In extreme cases, cost can be a relevant factor. An independent assessment has not been conducted to confirm the applicant's arguments regarding cost. However, in this case, the Commission need not determine whether actual cost would make a clear span bridge infeasible because the Commission has determined that the proposed alternative is less environmentally damaging than a clear span alternative, thus, the clear span alternative would not be mandated in any case.

The sixth alternative is the proposed project, construction of a four span, cast-in-place, pre-stressed concrete box girder bridge. The proposed bridge will have abutments and pilings which will cause approximately 5,619 square feet of permanent fill of coastal waters. The proposed fill would result in a net 43 square foot decrease in the fill of coastal waters compared with the existing bridge. Also, the proposed bridge design has been reviewed by the Commission's coastal engineer whom has concluded that, for the proposed type of bridge construction, the bridge is designed with the minimum amount of fill necessary to mitigate hazards present at the site. For instance, reduction of seismic hazards dictates the proposed diameter of the pilings. Also, the soils in the river bed have been determined to be slightly corrosive. In addition to seismic hazard mitigation, the pilings must be designed with sufficient concrete cover to prevent or minimize any migration of the corrosive components through the outer cover to steel rebar within the pilings. Smaller diameter pilings (such as those used on the existing bridge) are more susceptible to penetration and corrosion of rebar. The proposed larger diameter pilings mitigate this impact by increasing the quantity of protective concrete between corrosive soils and steel rebar. The proposed bridge piling system will minimize or avoid recurrence of the rebar corrosion problem presently occurring on the existing bridge. Minimizing potential corrosion would also minimize future need to repair or reinforce the pilings which could have future adverse construction related impacts. The proposed bridge is also 7 feet thinner than the existing bridge which will have lesser visual impacts.

Another consideration in the design of the bridge is the hydraulic impact the bridge may have upon flood water elevation levels and tidal exchange. The proposed bridge will improve the hydraulic action of the bridge compared with the existing bridge. For instance, during a 100-year flood event, the proposed bridge would decrease the water surface elevation upstream of the bridge by 0.6 to 0.7 feet compared with the existing bridge. A bridge having more spans (such as the retrofit, in-kind replacement, and five

span alternatives) would increase flood water elevation levels, therefore, from a flood hazard perspective the proposed alternative is environmentally superior to the other alternatives which have piles. Tidal exchange is not significantly impeded by the existing bridge and would only be improved by the reduced quantity of pilings included in the proposed bridge design. Meanwhile, a clear span alternative would have no impact upon flood water elevation levels and tidal exchange. However, the Commission's coastal engineer has determined that there would be no significant benefit upon flood water elevation levels and tidal exchange obtained by using a clear span alternative as opposed to the proposed project.

It should be noted that the installation of the new pilings will result in temporary disturbance to the existing vertical substrate. The existing pilings provide a vertical substrate for mollusks and other marine organisms. However, the proposed project will replace the vertical substrate upon which mollusks and other marine organisms settle. Therefore, no long-term impact will occur to this habitat. Also, the bridge would not significantly change the shadow or shading pattern cast by the bridge. In addition, there is no eelgrass or other sensitive aquatic vegetation in the project area, therefore there is no sensitive subsurface vegetation which could be adversely affected by changes to the shading pattern of the bridge.

In addition to the mitigating features of the proposed bridge noted above, the applicant is proposing several other mitigation measures to reduce the impact of the proposed project. For instance, the applicant is proposing to avoid construction activity in or above the river during the flood season. In addition, the applicant is proposing to perform a post-construction channel bottom survey to identify submerged objects and to ensure that all construction debris has been removed from the river bottom and seafloor. The applicant is also proposing to mitigate habitat losses by making the dismantled pilings and concrete bridge structures available for artificial reef enhancement projects. Use of such materials would need to be coordinated through the California Department of Fish and Game who has preliminarily indicated that the bridge debris may be appropriate for use in an artificial reef (Exhibit 6). However, the applicant would need to obtain an amendment to this coastal development permit or a separate permit for the artificial reef enhancement if there is no other valid coastal development permit for the reef. As noted more fully below, Special Condition 8 would require the applicant to obtain a coastal development permit for any artificial reef augmentation, as required by the Coastal Act. The proposed measures serve to mitigate adverse impacts of the proposed development. In order to assure the measures are implemented, the Commission imposes Special Condition 1 and Special Condition 2. Special Condition 1 outlines the applicants construction responsibilities. Special Condition 2 requires the applicant to comply with the resources agencies requirements (Exhibits 5, 9, and 10). Requirements of the resource agencies includes investigation and use of bridge debris for construction of an artificial reef, where feasible and as allowed by other agencies.

Also, the proposed project includes the demolition of the existing bridge and the construction and removal of a temporary construction trestle. The applicant is proposing to cut off the existing bridge piles 2 feet below the channel bottom. In addition, the pilings for the construction trestle will be cut off 2 feet below the bottom of the river channel. In effect, the applicant is proposing to leave the pilings in place rather than completely extract the pilings. Since the pilings would be left in place they would continue to occupy softbottom habitat that could otherwise be used by benthic infauna. The Commission finds that the persistent presence of the unused pilings would cause a significant impact upon benthic infaunal habitat. Therefore, the Commission imposes Special Condition 7 which requires the applicant, where feasible, to entirely remove the existing bridge pilings and temporary construction trestle pilings. However, the Commission recognizes that complete removal of all of the pilings may be technically infeasible or may in some instances cause structural stability problems for the proposed structure. For instance, during removal of the pilings the aged and corroded structures may break off and become irretrievable or create a gap in the soil below the partially extracted pile causing future problems for the foundation of the new bridge. In circumstances where removal of the pilings would be technically infeasible or would result in structural stability problems for the proposed bridge, Special Condition 7 allows the applicant to cut the pilings off as deep as possible, but no less than 3.28 feet (1 meter) below the river bottom. As is described more fully in the Hazards section of these findings, a deeper-than-proposed cutoff depth is necessary to avoid exposure of any remaining subsurface structures as a result of river bed scour.

In addition, the proposed project will generate debris from demolition of the existing bridge and construction of the new bridge. The applicant has suggested that some of the debris will be disposed at a disposal facility. Meanwhile, as noted above, other debris (from the bridge) may be useful to augment an artificial reef. Disposal of debris in any manner within the coastal zone must be analyzed for consistency with the Chapter 3 policies of the Coastal Act. In order to assure that any disposal within the coastal zone occurs with a coastal development permit, the Commission imposes Special Condition 8, which requires that prior to issuance of a coastal development permit, the applicant shall identify in writing, for the review and approval of the Executive Director, the location of the disposal site of the demolition and construction debris resulting from the proposed project. Disposal shall occur at the approved disposal site. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place. Accordingly, the applicant is on notice that a coastal development permit is necessary if any debris from the bridge is to be used to augment or create any artificial reef. The applicant may satisfy this requirement by demonstrating that there is an existing valid coastal development permit under which the reef creation or augmentation may occur. Otherwise, an amendment to this permit or a new coastal development permit will be needed to authorize the reef creation or augmentation.

The proposed project will result in the fill of open coastal waters for an incidental public service purpose which is an allowable use under Section 30233 of the Coastal Act. In

addition, the proposed project is the least environmentally damaging alternative, and as conditioned does provide feasible mitigation measures. These mitigation measures are contained in Special Conditions 1, 2, 7 and 8. Therefore, the Commission finds the proposed project is consistent with Section 30233 of the Coastal Act.

2. Other Marine Resources and Water Quality

Sections 30230 and 30231 of the Coastal Act require the protection of biological productivity and marine resources. Section 30230 of the Coastal Act states:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

According to the Natural Environmental Study submitted by the applicant, the lower reaches of the San Gabriel River –where the subject site is located- have been listed by the State Water Resources Control Board as having impaired water quality due to elevated levels of contaminants within fish tissues. In addition, according to records maintained by the Orange County Health Care Agency, the beaches in Seal Beach have been posted or closed at least 20 times since June 1999 for violations of state water quality standards. Water quality in the river is affected by point and non-point sources discharges throughout the watershed of the river. In addition, water quality is affected by elevated water temperatures caused by thermal discharges from the nearby Haynes-Alamitos and Scattergood Generating Stations upstream of the proposed project.

The proposed project involves the reconstruction of roadways and demolition of an existing bridge and construction of a new bridge. These proposed activities will require construction adjacent to and within the tidally influenced portion of the San Gabriel

River. In addition, use of the bridge and roadways may cause impacts upon water quality.

Construction phase impacts include improper storage or placement of construction materials, debris, or waste in a location subject to erosion and dispersion or in a manner which allows such materials to be discharged into the river and coastal waters via rain or urban runoff. These actions would result in adverse impacts upon the marine environment that would reduce the biological productivity of coastal waters. For instance, construction debris entering the river or coastal waters may cover and displace soft bottom habitat. In addition, the use of machinery in coastal waters not designed for such use may result in the release of lubricants or oils that are toxic to marine life. Sediment discharged to the river or coastal waters may cause turbidity which can shade and reduce the productivity of marine vegetation and foraging avian and marine species' ability to see food in the water column. Other impacts include the installation of the pilings, cofferdams, and bridge abutments which may disturb the riverbed and generate turbidity plumes which (depending on the tides) may be distributed up or down stream. According to the applicant's water quality study, construction and demolition activity may also re-suspend pollutants historically washed into the river such as trace metals, hydrocarbons, and organic pesticides.

Post-construction phase impacts relate to the use of the proposed bridge and roadways. Run-off from roadways and bridges is commonly polluted with petroleum hydrocarbons including oil and grease from vehicles; heavy metals; synthetic organic chemicals; litter; fertilizers, herbicides, and pesticides; and bacteria and pathogens from animal waste. The discharge of these pollutants to coastal waters can cause: eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat, including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity which both reduce the penetration of sunlight needed by aquatic vegetation which provide food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; and acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes and reduce optimum populations of marine organisms and have adverse impacts on human health.

The applicant is proposing the following measures to address the water quality impacts of the project: 1) avoid construction activity in or above the river during the rainy season; 2) avoid placing soil, silt or other organic or earthen materials where such materials could pass into the surface water of the San Gabriel River; 3) inspect construction vehicles operating within the banks of the San Gabriel River daily for leaks and repair leaks; 4) Activities will not cause turbidity increases in surface waters to exceed: (a) 20 percent if background turbidity is between 0 and 50 NTU; (b) 10 NTU if background turbidity is between 50 and 100 NTU; and, (c) 10 percent if background turbidity is greater than 100 NTU. Monitoring of turbidity downstream of construction

operations will be conducted daily during construction activities that may cause turbidity. If activities exceed the above criteria, construction activities associated with causing turbidity will be discontinued until the above criteria is met; 5) construction activities will not cause visible oil, grease, or foam in the work area or downstream; 6) all areas disturbed by project activities shall be protected from washout or erosion; 7) a floating boom will be placed downstream of the proposed construction activities and across the San Gabriel River to capture floating debris during construction operations; 8) silt curtains will be placed within the River so that all effluent from dewatering activities will pass through the silt curtains; 9) cofferdams will be designed so that the San Gabriel River channel's capability to convey a 100-year flood event is not affected; 10) if coffer dams are not used, silt curtains will be placed around all work areas within the river channel; 11) all floatable debris and trash generated by construction activity within the project area will be disposed of at the end of each day; 12) all construction debris will be retrieved from the river bottom and seafloor; 13) a post-construction channel bottom survey will be conducted using appropriate survey techniques to identify submerged objects to ensure that all construction debris has been removed from the river bottom and seafloor.

The California Department of Fish and Game, National Marine Fisheries Service, and the U.S. Army Corps of Engineers have reviewed the above proposed mitigation measures and adopted those measures in their approvals of the project (Exhibits 5, 9, and 10). In addition, the Regional Water Quality Control Board has issued a water quality certification for the proposed project (Exhibit 7). Special Condition 2 requires the applicant to conform with the mitigation measures outlined by the other resources agencies as these mitigation measures serve to address the water quality and marine resource impacts from the proposed project.

Meanwhile, in order to assure that the proposed project does not result in any accidental or unanticipated discharges, spills or other activities that could harm marine resources and water quality, and to assure the applicant is aware of their responsibility to implement these measures under this coastal development permit, the Commission imposes Special Condition 1. Special Condition 1 requires the applicant to implement the proposed water quality measures. In addition, Special Condition 1 clarifies the applicant's construction responsibilities regarding the use of netting, tarps or other barriers to prevent unpermitted material from entering the San Gabriel River; and prohibitions regarding the washout of concrete trucks.

Construction activity will disturb upland areas. For instance, a 150 foot by 150 foot area of vacant land at the corner of First Street and Marina Drive in the City of Seal Beach (i.e. the former Department of Water and Power [DWP] energy facility site) will be used for construction staging. Upland wildlife species associated with these areas are tolerant of human disturbance and there is no anticipated adverse impact upon these resources. However, if left unvegetated, the disturbed area could be subject to erosion from urban runoff and storm events. The erosion of soil from the site would contribute to siltation and turbidity impacts within the San Gabriel River. In order to avoid this

impact, the Commission imposes Special Condition 1.o. which requires the applicant to revegetate any disturbed areas of the project site with native or drought tolerant plants upon completion of construction.

The measures proposed by the applicant and required under Special Condition 1 address construction phase impacts but do not address the operational phase impacts that the proposed project would have upon water quality and marine resources. As noted above, the proposed project would contribute petroleum hydrocarbons, oil and grease, heavy metals, and litter among other pollutants to the San Gabriel River. The proposed project includes new storm drain inlets on the decks of the bridge and along the portions of the roadway proposed for reconstruction. The drains on the deck of the bridge connect with the storm drains on land which are designed to discharge via new storm drain outlets to be incorporated in the new proposed bridge abutments. Each of these storm drain inlets must be designed to capture and treat polluted storm water which will discharge from the roadway and bridge deck. Due to the limited amount of land available within the right-of-way, use of vegetated filter strips, grassed swales, pond systems, and infiltration systems to treated polluted storm water may not be feasible. Therefore, structural best management practices provide the most feasible manner to address the water quality impacts from the proposed project. In order to address the operational phase water quality impacts of the proposed project, the Commission imposes Special Condition 7 which requires the applicant to submit revised plans indicating that Best Management Practices (BMP's) shall be implemented which shall treat, infiltrate or filter stormwater runoff from each storm, up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event, with an appropriate safety factor, for flow-based BMPs. BMP's may include, but are not limited to, fossil filters, grease/oil separators, and inlet trash racks on the existing and proposed catch basins which would drain into the pipes and drainage outlets approved by this permit. Plans shall indicate the type(s) of BMPs to be installed and the locations where the BMPs would be installed. The plans shall also indicate that all structural and non-structural BMPs shall be maintained in a functional condition throughout the life of the approved development. Maintenance activity shall be performed according to the recommended maintenance specifications contained in the California Stormwater BMP Handbooks (California Stormwater Quality Task Force, 1993) for selected BMPs. At a minimum, maintenance shall include the following: (i) all structural BMPs shall be inspected, cleaned and repaired, as needed prior to the onset of the storm season, no later than October 1st of each year and (ii) should any of the project's surface or subsurface drainage/filtration structures or other BMPs fail or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system and restoration of the eroded area. Should repairs or restoration become necessary, prior to commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if an amendment or new coastal development permit is required to authorize such work.



The Commission finds that, as conditioned, the proposed project will ensure that marine resources and water quality be protected as required by Sections 30230 and 30231 of the Coastal Act.

**C. PUBLIC ACCESS AND RECREATION**

One of the fundamental goals stated in the Coastal Act is the maximization of public access and recreation along the coast. The proposed project must conform with the following Coastal Act policies which protect and encourage public access and recreational use of coastal areas.

Section 30210 of the Coastal Act states:

*In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30213 of the Coastal Act states:

*Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*

Section 30234.5 of the Coastal Act states:

*The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.*

Section 30252 of the Coastal Act states:

*The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.*



The existing bridge is part of a coastal transportation route that connects the City of Seal Beach and City of Long Beach (Exhibit 1). The subject bridge is part of a secondary roadway which provides secondary access between the cities. Primary access between the two cities is provided via Pacific Coast Highway and the Pacific Coast Highway bridge which crosses the San Gabriel River approximately ½ mile inland of the subject site. In addition, the existing bridge provides pedestrian access across the San Gabriel River. The existing bridge also contains a recreational fishing pier which provides a lower cost recreational facility to the public.

The existing bridge is designed with 2 lanes of traffic in each direction. Although the proposed bridge is 2 feet wider than the existing bridge, the proposed project would eliminate one lane in each direction. Wider sidewalks, a new bike lane in each direction and a center median will be constructed in place of the 2 traffic lanes that are to be eliminated.

Reducing the number of travel lanes in each direction could adversely impact public access to the coast by reducing the capacity of the roadway to accommodate traffic generated by people visiting the coast. However, the applicant has prepared a traffic study dated May 8, 2000 which indicates that the proposed project would not cause any adverse impact upon traffic in the project area. The traffic study indicates that the current bridge operates at level of service (LOS) 'B'. LOS B is described as 'good' with light to moderate traffic. Including anticipated traffic increases and the reduction in the number of lanes, the traffic study indicates that the level of service would remain at level B for the intersection at First Street and Marina Drive. Meanwhile, the LOS at N. Marina Drive at Marina Drive would decrease to LOS C (moderate traffic with insignificant delay). However, according to the traffic study the intersection at N. Marina Drive and Marina Drive would decrease to LOS C even if there was a second pair of lanes to accommodate traffic on the bridge. Therefore, the proposed reduction in the quantity of traffic lanes would have an insignificant impact upon public automobile access to the coast.

Meanwhile, the proposed project would improve non-automobile circulation within the area through the construction of new bicycle lanes in each direction on the bridge. These bicycle lanes would connect with the existing pedestrian and bicycle lane located on the eastern bank of the San Gabriel River.

The proposed project will also include a new fishing pier to replace the fishing pier that will be demolished when the existing bridge is removed. The new fishing pier will be approximately the same dimensions as the existing pier. Therefore, the proposed project will have no adverse impact upon the public's ability to fish from the bridge.

The proposed project would also improve the safety of this coastal access route by strengthening the bridge against seismic hazards. Damage to the bridge by a seismic event would negatively affect public access to the coast and the transportation system in general. Therefore, the proposed project would improve the public's ability to access

the coast by providing a safer and stronger bridge that is more likely to withstand seismic events.

However, there will be short-term construction related impacts on public use of the bridge and the trail along the San Gabriel River. Although the proposed construction will temporarily close portions of the bridge, the project will be done in two phases in order to keep at least two traffic lanes open at all times (one lane each direction). The project phasing will allow the public to continue to cross the San Gabriel River as the new bridge is being constructed.

Due to the proposed phasing, it will be possible to cross the San Gabriel River at all times during project construction. However, there will be periods of time during the 32 month construction period that pedestrians and cyclists will not be able to traverse Marina Drive when traveling on the existing pathway which runs along the eastern bank of the San Gabriel River. Accordingly, a pedestrian or cyclist originating from inland locations along the path would not be able to reach the beach at the end of First Street in Seal Beach via the path. However, there are alternatives which would allow pedestrians and cyclists to bypass the construction area. For instance, pedestrians and cyclists could be detoured at Pacific Coast Highway and along First Street to reach the beach at the end of First Street. Signage would be necessary to direct pedestrians and cyclists to the detour.

In order to minimize the period of time that the trail along the San Gabriel River is obstructed by the proposed project, the Commission imposes Special Conditions 3 and 4. Special Condition 4 requires that during any construction which requires the obstruction of a road or trail used for public access, the applicant shall provide temporary signage, placed in conspicuous locations, which identify alternative public access routes which bypass the temporarily closed portions of the road or trail. Special Condition 3 requires that the applicant shall implement the proposed project in phases which allow for maximum public access along Marina Drive and the path along the San Gabriel River while at the same time ensuring safe public use of Marina Drive and the San Gabriel River.

Also, in order to reduce adverse impacts to public access and recreation during the summer peak beach use period, the Commission imposes Special Condition 5 which requires the applicant to maintain a continuous open throughway which will allow pedestrians and cyclists using the trail along the San Gabriel River to access the beach at the end of First Street in Seal Beach via the trail from inland locations on all weekends and holidays from Memorial Day weekend until Labor Day.

The proposed project will not negatively affect recreational boating or other uses of the waters of the San Gabriel River. Under the proposed project, the depth of the existing channel would not change. In addition, while the elevation of the top of the bridge deck will decrease by approximately  $\frac{1}{2}$  foot, the clearance under the bridge will not be adversely impacted because the proposed bridge deck is 7 feet thinner than the

existing bridge deck. Therefore, the proposed project would provide an additional 6.5 feet of clearance between the bridge structure and the water compared with the existing bridge. Furthermore, there is no direct connection between the San Gabriel River and any existing harbor. Therefore, the river is not utilized as a thoroughfare for boat traffic. However, the river is occasionally used by small watercraft for recreational purposes. The reduction in the number of rows of pilings and the additional clearance afforded by the thinner bridge deck will improve watercraft access to the river.

Therefore, as conditioned, the Commission finds that the proposed project is consistent with the public access and recreation policies of the Coastal Act.

#### **D. VISUAL RESOURCES**

Section 30251 of the Coastal Act states:

*The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas...*

Section 30251 of the Coastal Act requires that the scenic and visual resources of coastal areas be considered and protected as a resource of public importance. In addition, public views to and along the ocean and scenic coastal areas shall be protected.

The proposed project would demolish an existing bridge and construct a new bridge. The proposed bridge crosses the San Gabriel River near its confluence with the Pacific Ocean. There are no other roadways between the proposed bridge and the Pacific Ocean in the vicinity of the subject site. Public blue-water views of the ocean are available from the existing bridge, from N. Marina Drive on the Long Beach side of the bridge and from Pacific Coast Highway which is inland of the bridge. In addition, public views of the water are available to pedestrians and cyclists using the public recreational trail which runs along the eastern bank of the San Gabriel River.

Views of the Pacific Ocean through the existing bridge are obstructed by 12 rows of bents and pilings. Views through the bridge would be improved by the proposed design which will only have 3 rows of bents and pilings. In addition, views through the bridge would be improved because the existing bridge deck is approximately 12 feet thick, while the proposed bridge will have a deck that is approximately 5 feet thick.

However, the applicant is proposing to use a "Type 26" concrete barrier with hand rail on the proposed bridge. This bridge railing would consist of an approximately 3 foot tall (above the bridge deck) solid concrete wall topped by a tubular hand rail. This

proposed bridge rail would obstruct views through the bridge as well as views of coastal waters obtained by motorists using the bridge. Compared with the existing bridge, which has an open metal railing, the proposed bridge railing would adversely impact views through and from the bridge.

The Commission has reviewed a variety of bridge rail systems which would minimize the public view impacts caused by bridge rails. In a letter dated June 29, 2001 to the California Department of Transportation (Exhibit 11), the Commission expressed a preference for the use of either the "Alaska", "Wyoming", or "Type 80" rail systems. For bridges where views from the bridge are important, as is the case at the subject site, the "Alaska" rail type would be preferred. In order to reduce the adverse impact the proposed project would have upon public views to and along the coast, the Commission imposes Special Condition 7 which requires the applicant to revise the plans for the proposed bridge to include a rail system which minimizes impacts upon public views through and from the bridge. The plans are to be reviewed and approved by the Executive Director and the applicant shall implement the approved plan. As conditioned, the Commission finds the proposed project consistent with Section 30251 of the Coastal Act.

#### **E. HAZARDS**

The Coastal Act states that new development must minimize risks to life and property and not create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area.

Section 30253 of the Coastal Act states, in part:

*New development shall:*

- (1) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Development located in or near the ocean has the potential to be damaged by wave energy, floods, seismic events, storms and erosion. The proposed project is located on the San Gabriel River and is susceptible to these natural hazards. No development in the water can be guaranteed to be safe from hazard.

Given that the applicants have chosen to implement the project despite these risks, the applicant must assume the risks. Therefore, the Commission imposes Special

Condition 6 which requires the applicant to agree to assume the risk of development in the hazardous area. Special Condition 6 ensures that the permittee understands and assumes the potential hazards associated with development in or near the water. Through acceptance of this coastal development permit, the applicant acknowledges and agrees: (i) that the site may be subject to hazards from seismic events, liquefaction, storms, waves, floods and erosion; (ii) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and (v) to agree to include a provision in any subsequent sublease or assignment of the development authorized by this permit requiring the sublessee or assignee to submit a written agreement to the Commission, for the review and approval of the Executive Director, incorporating all of the foregoing restrictions identified in (i) through (iv).

In addition to undertaking development in a hazardous area, the proposed project will generate a hazard that can be minimized or is avoidable. As proposed, the pilings from the existing bridge and the pilings for the temporary construction trestle will be cut off approximately 2 feet below the river bed floor. Accordingly, the majority of the pilings will remain abandoned in place. According to the Hydraulic and Scour Analysis prepared for the proposed project dated February 2000, there is potential for the riverbed to scour approximately 20 feet ( 6.38 meters) at the piers associated with the bridge. Since the existing pilings would be cut off only 2 feet below the river bed floor the pilings would be exposed during scouring events. The exposed piers would be an obstruction to material which is carried by the river. This material could become trapped against the exposed pilings and create a dam which obstructs water and other material. This dam could cause flooding or other hazards. In addition, the exposed pilings could be a hazard for watercraft using the San Gabriel River.

In order to avoid or minimize the hazard which would be created by leaving the pilings from the existing bridge and proposed construction trestles in place, the Commission imposes Special Condition 7. Special Condition 7 requires the applicant to completely extract the pilings from the river bed, where feasible. Where extraction is not feasible due to technical problems or potential adverse impacts on the stability of the foundation of the new bridge, Special Condition 7 would allow the applicant to leave selected pilings in place. Any pilings left in place would need to be cut off as deep as possible but not less than 3 feet below the surface of the river bed. As noted elsewhere in these findings, the Commission's engineer has determined that an additional minimum 1 foot (i.e. in addition to the 2 feet proposed) cut off depth is necessary to minimize hazards related to leaving the piling in place.

Therefore, as conditioned, the Commission finds that the proposed project is consistent with Section 30253 of the Coastal Act.

**F. LOCAL COASTAL PROGRAM**

**1. Long Beach**

Pursuant to Section 30519 of the Coastal Act, any development located within the Commission's area of original jurisdiction requires a coastal development permit from the Commission. The Commission's area of original jurisdiction includes tidelands, submerged lands, and public trust lands, whether filled or unfilled. In the City of Long Beach, the Chapter 138 Line and the actual mean high tide line (MHTL) generally differentiate the Commission's area of retained (original) jurisdiction from the landward area for which the City of Long Beach has accepted coastal development permit jurisdiction pursuant to the City of Long Beach certified Local Coastal Program (LCP).

Within the City of Long Beach, the proposed project is constructed entirely upon submerged lands and filled public trust lands. Therefore, a coastal development permit is required from the Commission for all of the proposed development located in the City of Long Beach. The standard of review for the proposed development is the Chapter 3 policies of the Coastal Act. The City of Long Beach certified LCP is advisory in nature and may provide guidance. The City of Long Beach LCP was certified by the Commission on July 22, 1980. The proposed project does not conflict with the policies of the certified LCP.

**2. Seal Beach**

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal development permit only if the permitted development will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with the Chapter Three policies of the Coastal Act.

On July 28, 1983, the Commission denied the City of Seal Beach Land Use Plan (LUP) as submitted and certified it with suggested modifications. The City did not act on the suggested modifications within six months from the date of Commission action. Therefore, pursuant to Section 13537(b) of the California Code of Regulations, the Commission's certification of the land use plan with suggested modifications expired. The LUP has not been resubmitted for certification since that time. Since the City of Seal Beach does not have a certified Local Coastal Program, the Commission has authority to issue the coastal development permit for all of the proposed project within the City of Seal Beach.

The proposed development, as conditioned, is consistent with the Chapter Three policies of the Coastal Act. Therefore, the Commission finds that the proposed development would not prejudice the ability of the City of Seal Beach to prepare a

certified local coastal program consistent with the Chapter Three policies of the Coastal Act.

**G. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

Section 13096 of the California Code of Regulations requires Commission approval of coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The proposed project will cause the fill of coastal waters, result in construction and operational phase impacts upon water quality; cause construction phase impacts upon public access, would obstruct public views and be exposed to hazards. In order to mitigate these adverse environmental effects the project has been conditioned to: prevent adverse impacts to marine resources of the San Gabriel River, comply with mitigation measures outlined by the resource agencies, avoid and minimize coastal access impediments, require the applicant to assume the risk of development; revise the project to include a requirement for extraction or deeper cut off of existing and proposed temporary pilings, implement water quality BMPs, and to use of a bridge rail system which minimizes the obstruction of views; and identify a debris disposal site.

The proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act. As conditioned, there are no feasible alternatives or additional feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and complies with the applicable requirements of the Coastal Act to conform to CEQA.





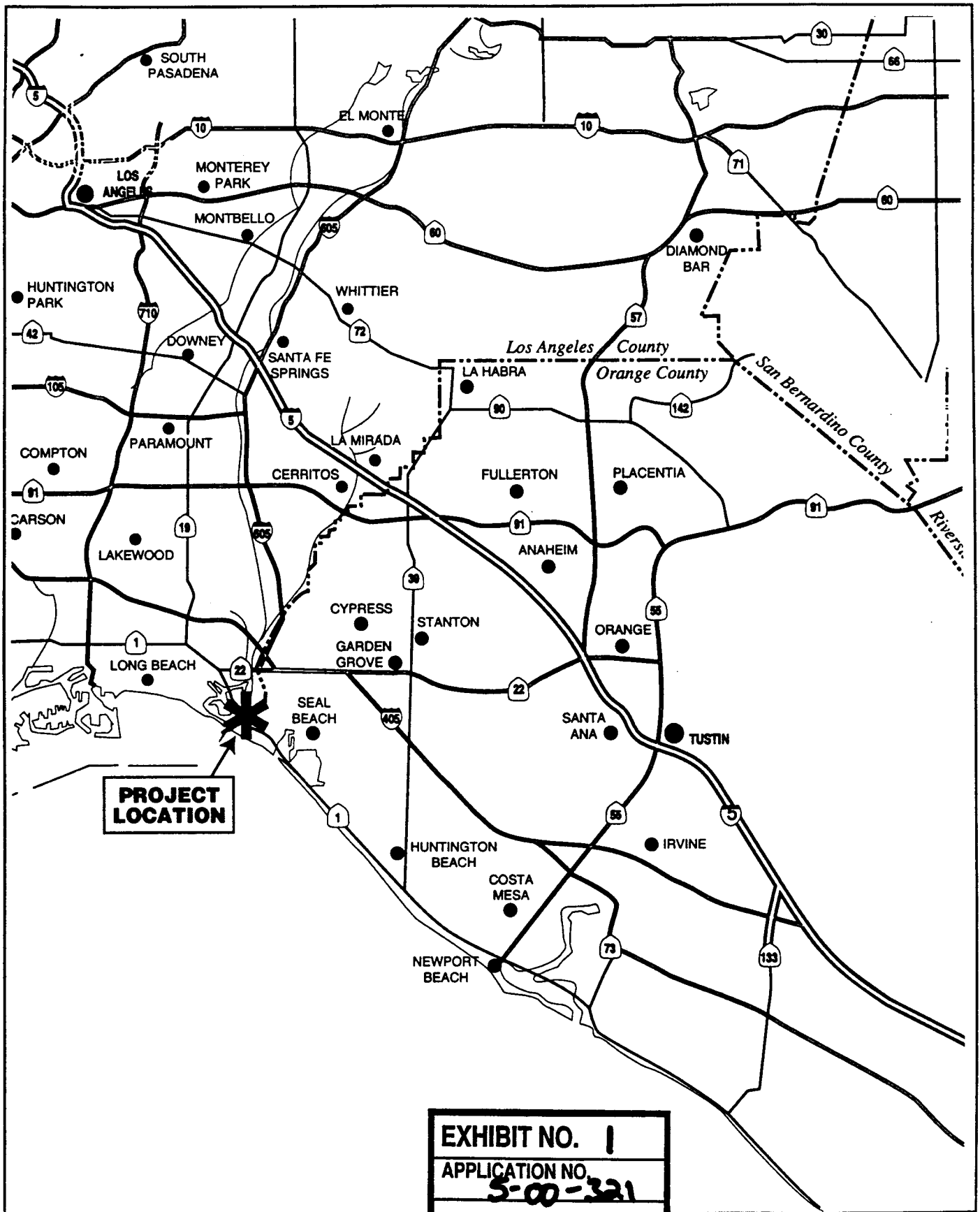
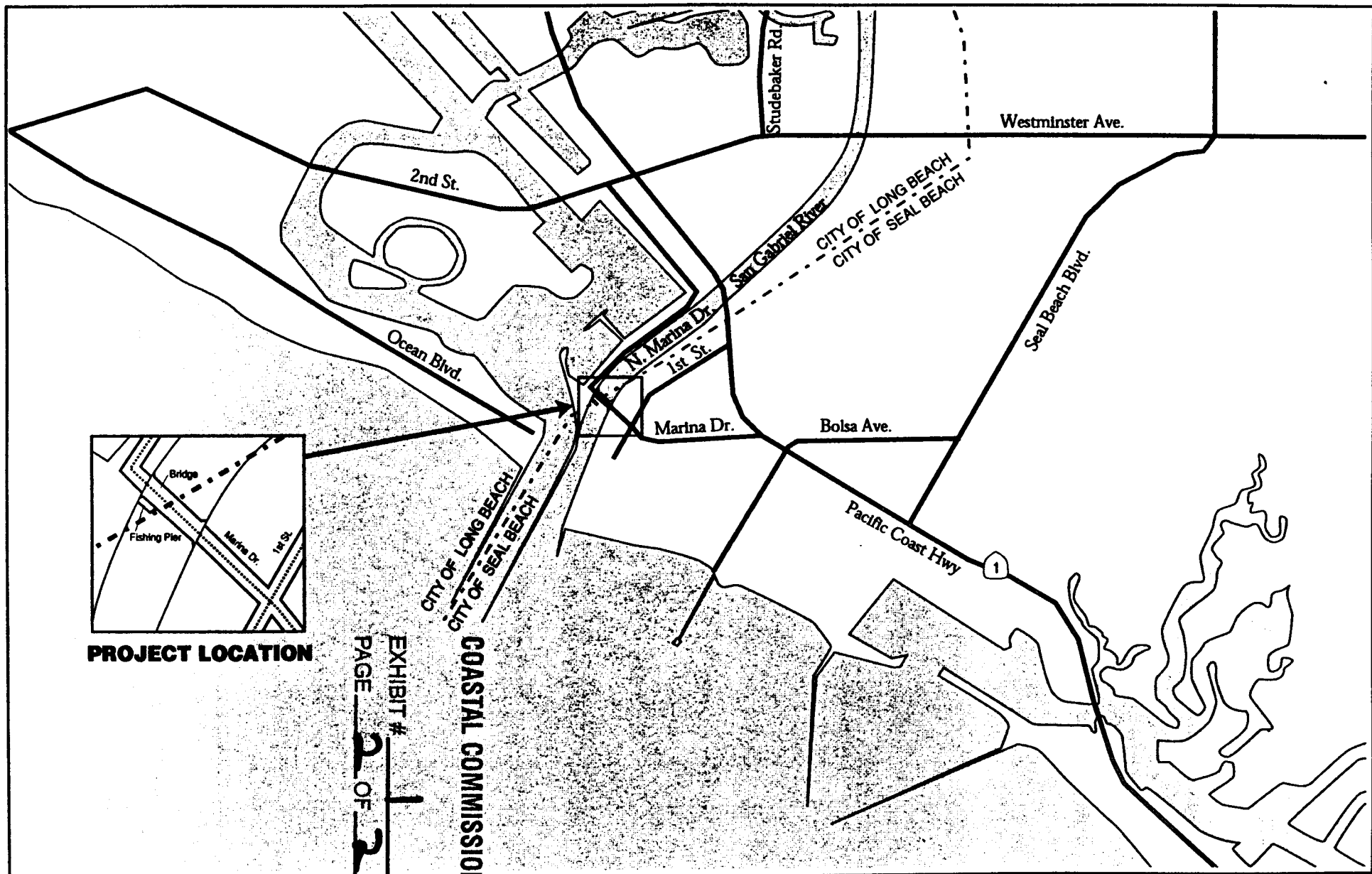


EXHIBIT NO. 1
APPLICATION NO. 5-00-321
P 1 OF 2



**PROJECT LOCATION**

EXHIBIT # **1**  
PAGE **2** OF **2**

**COASTAL COMMISSION**

SOURCE: USGS Los Alamitos, Long Beach and Seal Beach Maps. 1997 Horizons Technology, Inc.

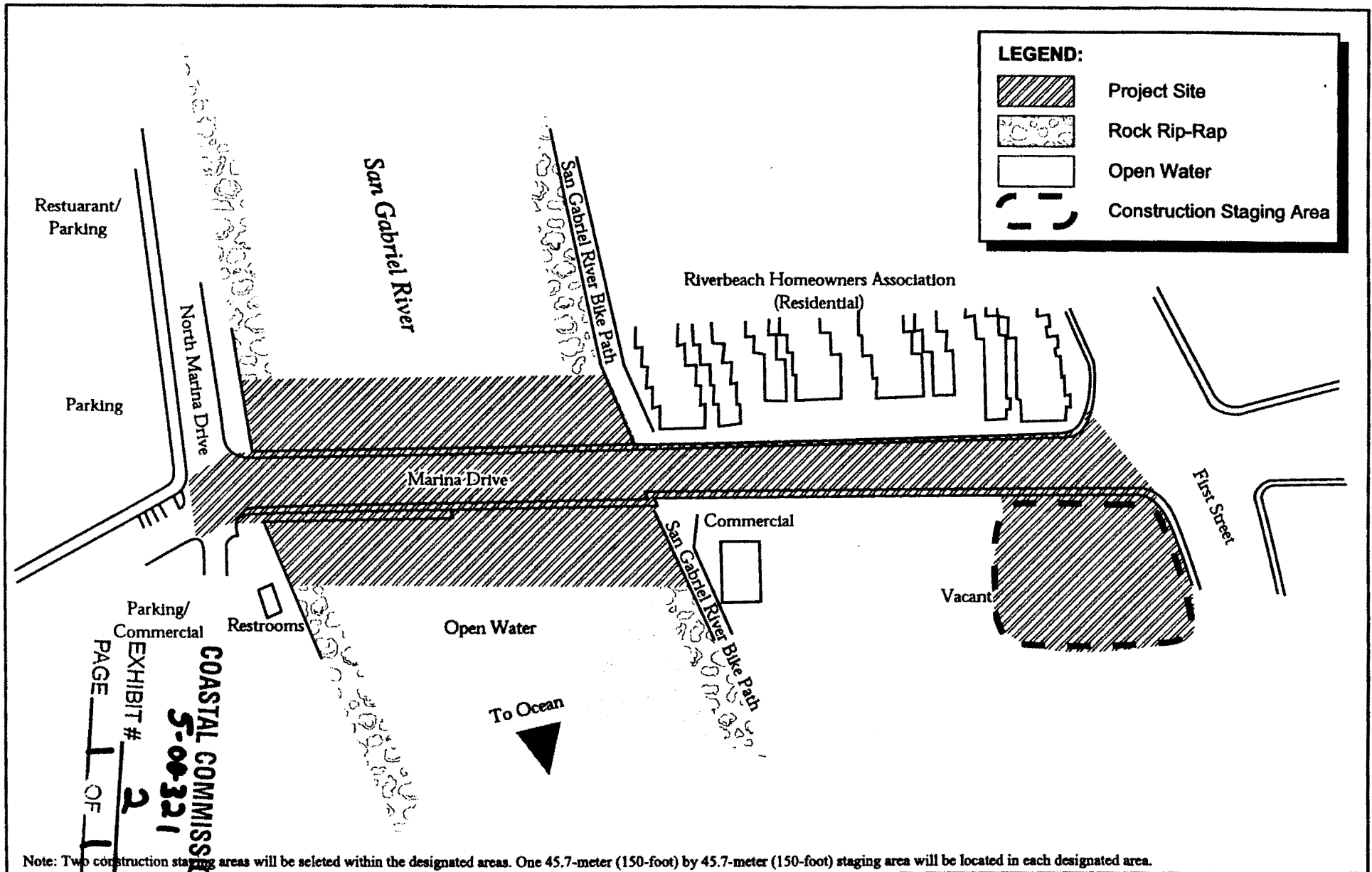


Michael Brandman Associates

22180001 • 3/

## Exhibit 2 Local Vicinity Map

MARINA BRIDGE REPLACEMENT PROJECT • CITY OF SEAL BEACH

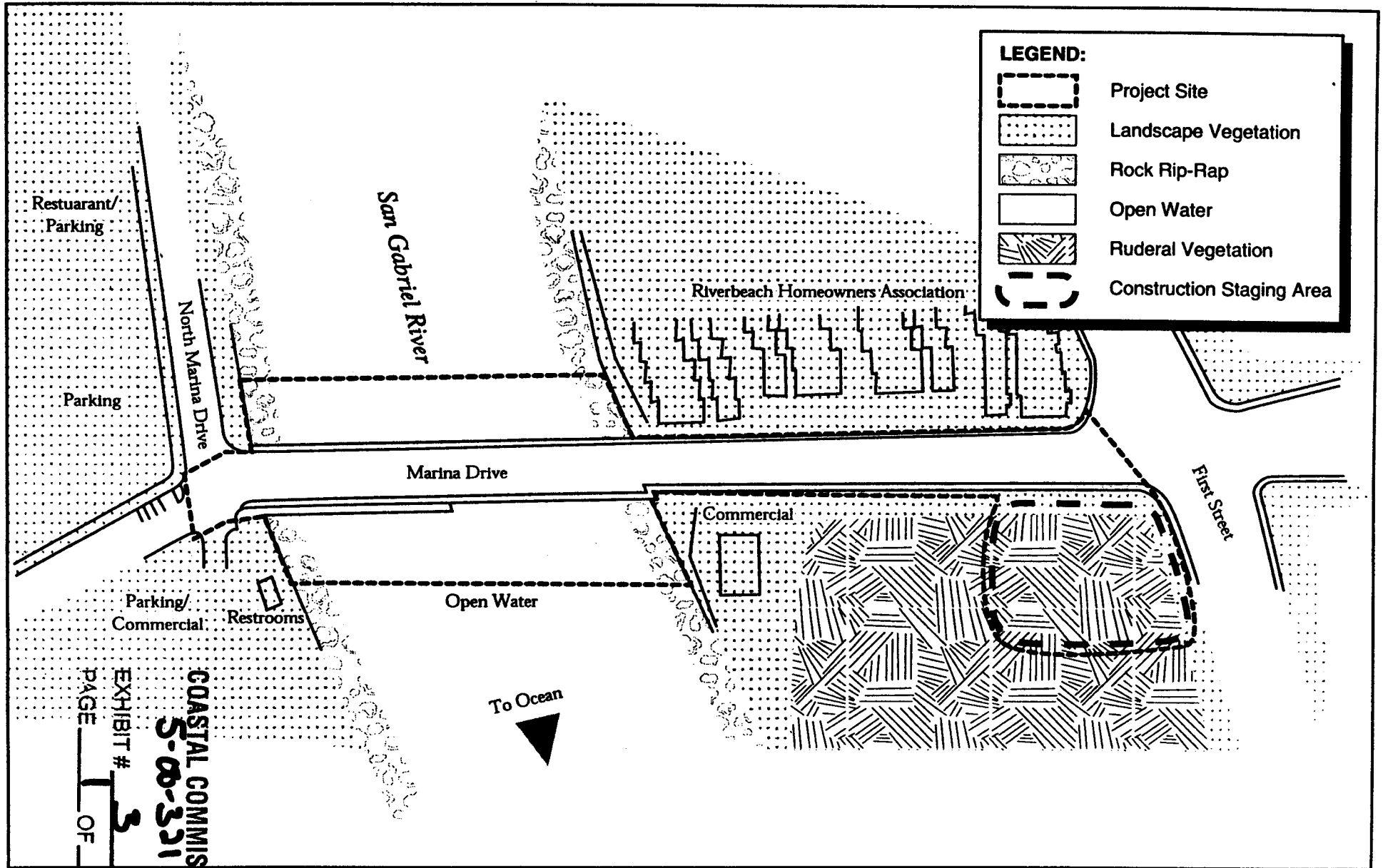


Michael Brandman Associates

22180001 • 3/2000

### Exhibit 3 Project Site Map

MARINA BRIDGE REPLACEMENT PROJECT • CITY OF SEAL BEACH



# CITY OF SEAL BEACH

## MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER REPLACEMENT

### PROJECT NO. 676

#### GENERAL NOTES

- 1 ALL WORK AND MATERIALS SHALL COMPLY WITH THE STANDARD PLANS AND SPECIFICATIONS AND SPECIAL PROVISIONS FOR PUBLIC WORKS CONSTRUCTION, AND IN ACCORDANCE WITH THE STANDARD PLANS OF THE CITY OF SEAL BEACH, CITY OF LONG BEACH, ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY AND AMERICAN PUBLIC WORKS ASSOCIATION (ALL LATEST EDITION)
- 2 CONTRACTOR SHALL NOTIFY THE CITY OF SEAL BEACH FOR INSPECTION, 24 HOURS IN ADVANCE OF STARTING WORK AT (562) 431-2527 EXT. 321
- 3 THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES 48 HOURS IN ADVANCE PRIOR TO WORKING AROUND THEIR FACILITIES
- 4 THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (1-800-422-4153) TWO DAYS PRIOR TO ANY EXCAVATION
- 5 THE CONTRACTOR SHALL NOT OPERATE ANY MAIN LINE WATER VALVES
- 6 THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES DURING CONSTRUCTION AMPLE MEANS AND DEVICES WITH WHICH TO PROMPTLY REMOVE AND PROPERLY DISPOSE OF ALL WATER FROM ANY SOURCE ENTERING THE EXCAVATION OR OTHER PARTS OF THE WORK.
- 7 ALL ASPHALT AND CONCRETE CUTS SHALL BE PERFORMED BY SAWCUTTING EXISTING PAVEMENT SHALL BE REMOVED A MINIMUM OF 300mm OUTSIDE THE LIMITS OF THE TRENCH.
- 8 ALL ASPHALT CONCRETE REPLACEMENT SHALL BE TYPE II C2-AR-4000.
- 9 ALL EXISTING IMPROVEMENTS NOT SHOWN AS BEING REPLACED, INCLUDING STRIPING, REMOVED OR DAMAGED SHALL BE REPLACED IN KIND, OR AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS
- 10 THE EDGES OF ALL AC PATCH SHALL BE SEALED WITH SS-IN ASPHALT EMULSION.
- 11 TRAFFIC CONTROL AND CONSTRUCTION SIGNING SHALL BE PER APWA WATCH MANUAL, OR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION MANUAL OF TRAFFIC CONTROLS FOR WARNING SIGN LIGHTS AND DEVICES.
- 12 CONTRACTOR SHALL "PLATE" THE EXCAVATION PER APWA WATCH MANUAL AND OPEN ALL LANES TO TRAFFIC AND PEDESTRIANS AT THE COMPLETION OF WORK EACH DAY. CLOSING ANY LANE OF THROUGH TRAFFIC SHALL REQUIRE APPROVAL OF THE CITY ENGINEER.
- 13 CITY REPRESENTATIVE TO DELINEATE PARKWAY LANDSCAPE AREAS TO BE PROTECTED IN PLACE.
- 14 WATER LINE SHALL BE CONSTRUCTED AT A MINIMUM DEPTH OF 0.9M FROM GROUND LINE TO TOP OF PIPE.
- 15 CONTRACTOR SHALL COOPERATE WITH ANY AND ALL ESTABLISHMENTS AND BUSINESSES DURING CONSTRUCTION.
- 16 REMOVE AND REPLACE CURB AND GUTTER, AND SIDEWALK JOINT LINE TO JOINT LINE
- 17 ALL CONCRETE REPLACEMENT SHALL BE REPLACED IN KIND WITH 560-D-3250 CONCRETE.
- 18 ALL DIMENSIONS ARE APPROXIMATE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS, INCLUDING GAS, ELECTRIC, WATER, SEWER, AND TELEPHONE.
- 19 FOR BRIDGE GENERAL NOTES AND INDEX TO BRIDGE PLANS, SEE BRIDGE PLANS

#### UTILITY

##### COMPANY/AGENCIES

S.C. EDISON COMPANY  
S.C. GAS COMPANY  
COMCAST  
GENERAL TEL. COMPANY  
S.B. WATER DEPARTMENT  
S.B. SEWER DEPARTMENT  
ENGINEERING AND INSPECTION  
TRAFFIC SIGNALS  
L.B. WATER DEPT. (SS & SD)  
L.B. GAS & ELECTRIC DEPT.  
CITY LIGHT & POWER L.B.  
EXXON - MOBL. OIL CO.

##### CONTACT

MARK LANDRICK  
KEVIN STONESFER  
VICKI BARAJAS  
PATRICK DILLON  
JEFF WATSON  
STEVE STOCKETT  
S.B. CITY HALL  
S.B. CITY HALL  
LARRY OAKS  
DALE HOLDMANN  
JOANNA KRAATZ

##### TELEPHONE

(714) 895-0278  
(714) 378-3438  
(714) 338-2000  
(714) 375-8702  
(562) 493-8660 EXT. 409  
(562) 493-8660 EXT. 432  
(562) 431-2527  
(562) 431-2527  
(562) 570-2330  
(562) 570-2030  
(562) 983-2000

#### INDEX TO PLANS

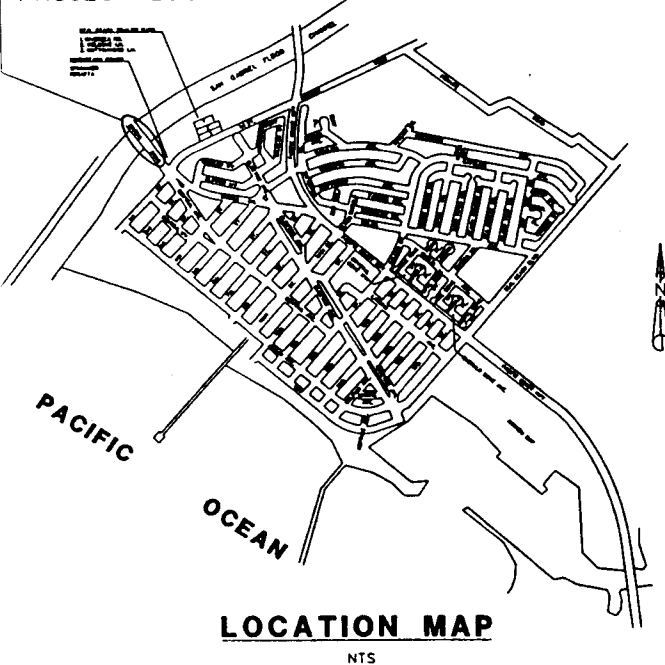
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	TITLE SHEET	1
X	ROAD CROSS SECTIONS	1
PP	PLAN & PROFILE	2
C	CONSTRUCTION DETAILS	2
U	WATER LINE & UTILITY	2
T	TRAFFIC HANDLING	2
SS	SIGNING & STRIPING	1
L	LIGHTING	1
S	STRUCTURE (BRIDGE)	31

#### ABBREVIATIONS

SEE CALTRANS STD PLAN A10A, B0-1

C&G CURB AND GUTTER  
CB CATCH BASIN  
CLB CITY OF LONG BEACH  
DWG DRAWING  
FD FOUND  
OCS ORANGE COUNTY SURVEY  
REF REFERENCE  
SPK SPIKE  
T THICKNESS  
W WASHER, WATER

#### PROJECT LOCATION



#### LOCATION MAP

NTS

COASTAL COMMISSION  
5-00-321

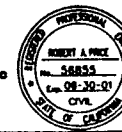
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4

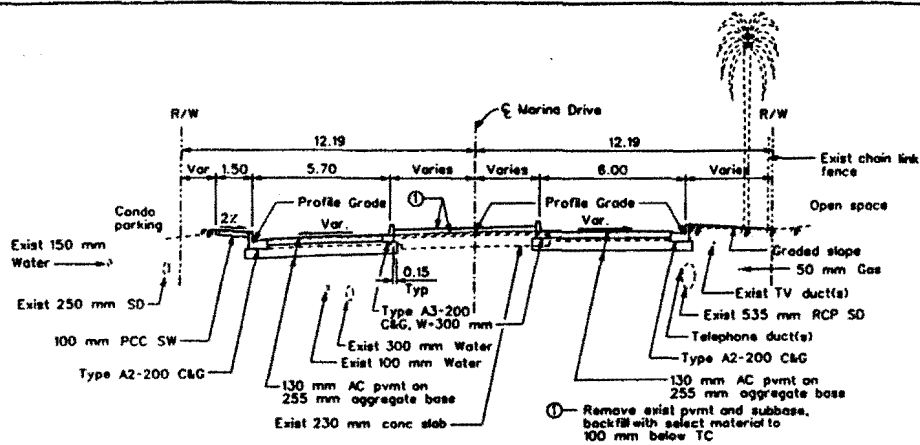
PAGE 1 OF 42



Prepared Under the Supervision of:



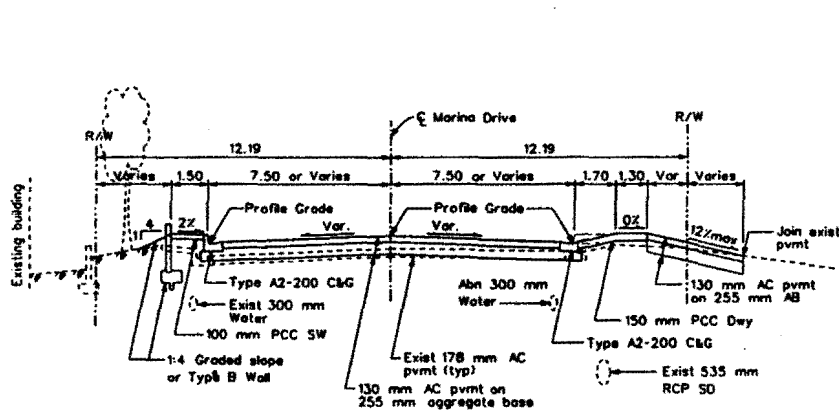
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REVISIONS		TITLE SHEET	
DATE	BY	PROJECT NO.	676
		DRAWING NO.	
AS BUILT		SHEET 1 OF 1	
FIELD BOOK REF		SHEET 1 OF 1	
PLAN REF		SHEET 1 OF 1	



**TYPICAL ROAD SECTION**

1:100H : 1:50V

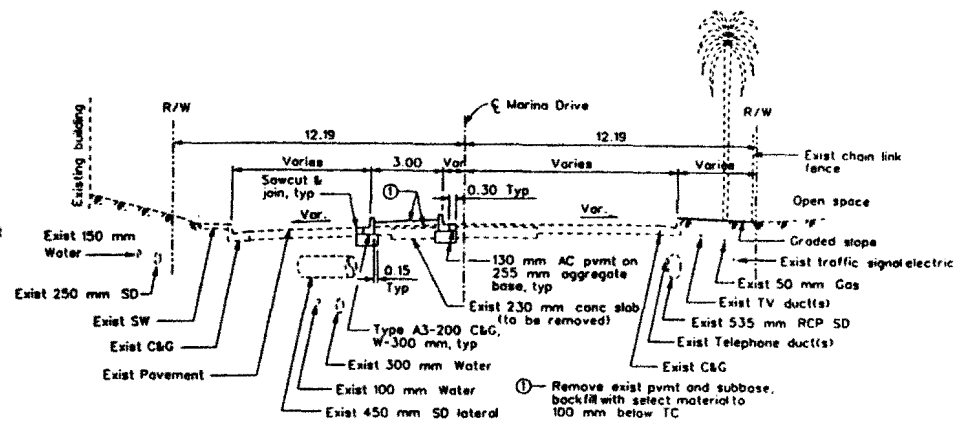
Vicinity STA 12-20, looking upstation



**TYPICAL ROAD SECTION**

1:100H : 1:50V

Vicinity STA 11-45, looking upstation



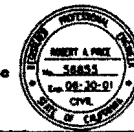
**TYPICAL ROAD SECTION**

1:100H : 1:50V

Vicinity STA 12-45, looking upstation

NOTE: Depths to Existing underground utilities are approximate.

All dimensions are shown in meters, except as noted



**J. MILLER INTERNATIONAL**  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: ROAD CROSS SECTIONS	
DATE	BY	APPROVED	PROJECT NO. 676
AS BUILT		DIRECTOR OF PUBLIC WORKS	DRAWING NO. X-1
FIELD	DESIGN	RECOMMENDED	
PLAN	REP		
SHEET 1 OF 1		SHEET 1 OF 1	

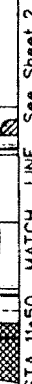
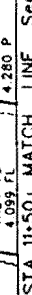
COASTAL COMMISSION


EXHIBIT #

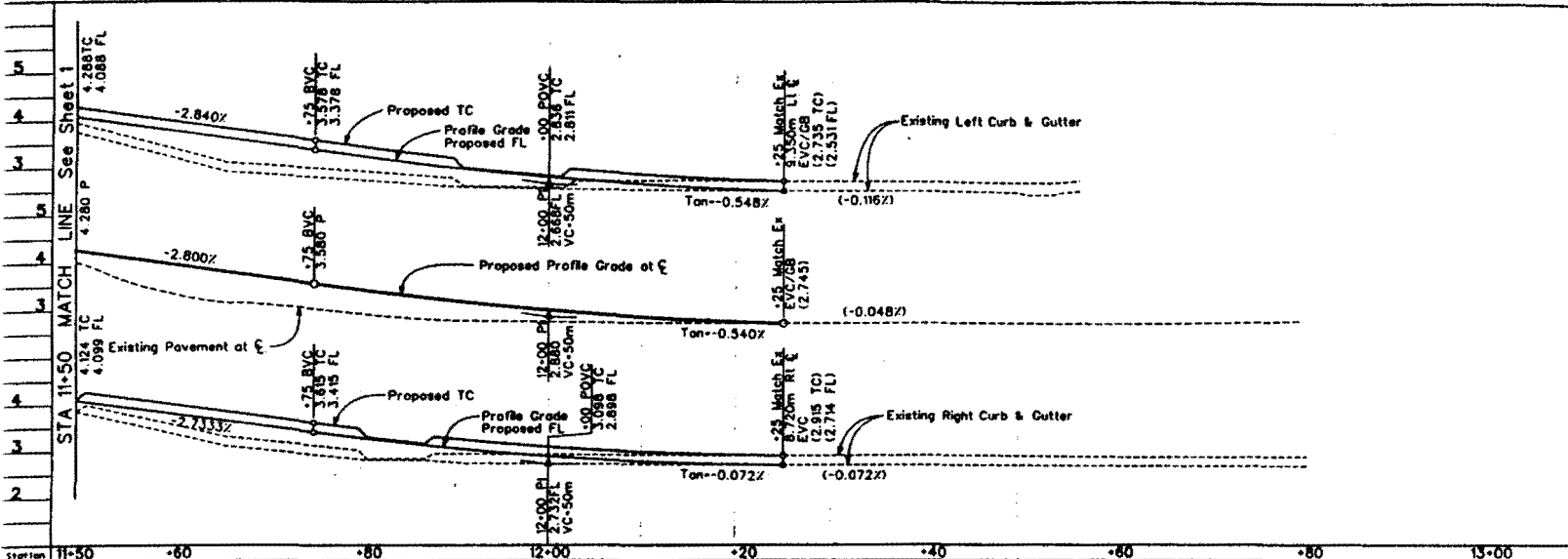
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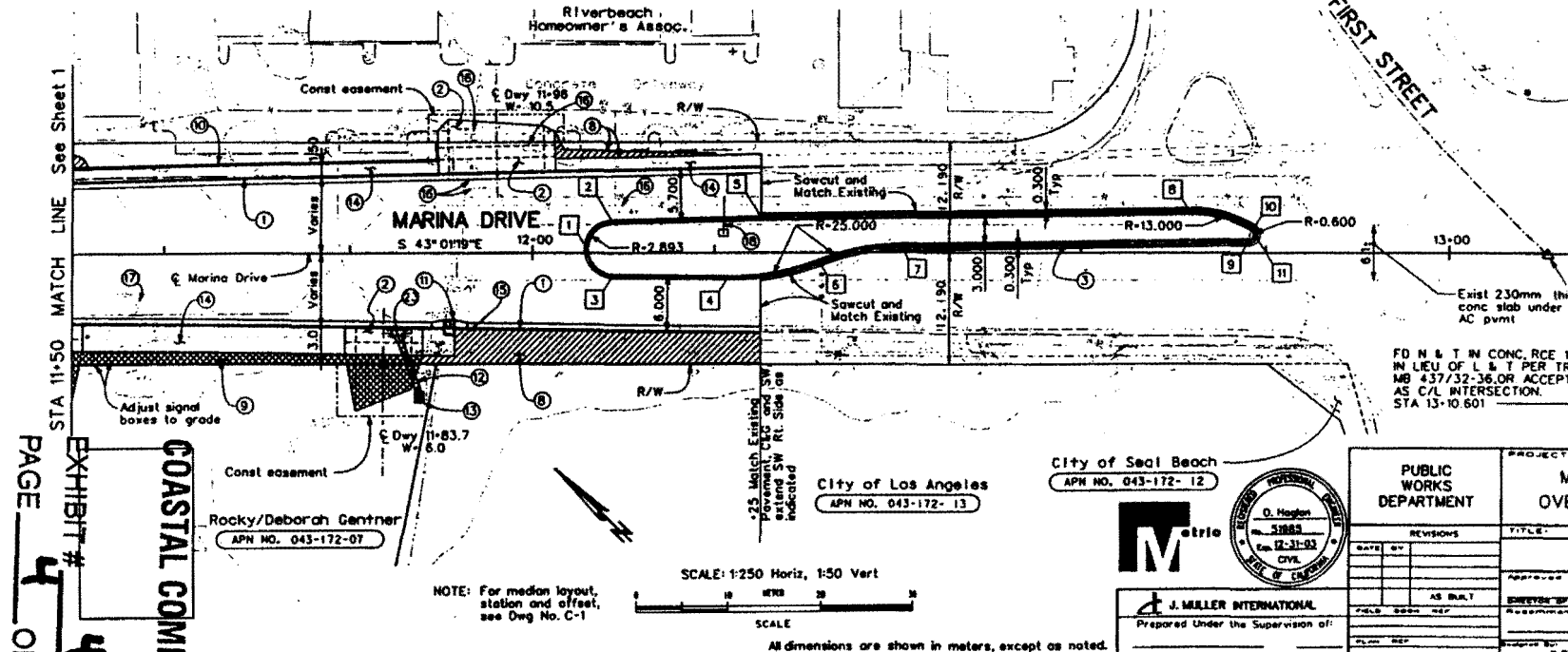
2 OF 42



PUBLIC WORKS DEPARTMENT	PROJECT	
	MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS	TITLE	
DATE BY	PLAN AND PROFILE	
	ADDRESS	PROJECT NO
	DIRECTOR OF PUBLIC WORKS DES. DIV. DATE	676
AS BUILT	Recommended	DRAWING NO.
FIELD GOOD NOT		PP-1
PLAN REF	SHEET NO. _____ OF _____ DRAW NO. _____ OF _____ ELEVATION NO. _____ OF _____	1



- CONSTRUCTION NOTES**
- 1 New Conc. Curb and Gutter APWA 120-1, Type A2-200
  - 2 New Conc. Driveway Approach APWA 110-1, Type A (Modified)
  - 3 New Concrete Curb, APWA 120-1, Type A3-200, W-300 mm
  - 4 New Conc. Curb Ramp APWA 111-2, Case B, Type 2
  - 5 New Conc. Curb Ramp APWA 111-2, Case A, Type 1
  - 6 New Conc. Curb & Gutter, APWA 120-1, Type A2-150, W-457 mm
  - 7 New Conc. Cross Gutter, APWA 122-1
  - 8 Grade slope from back of sidewalk to existing ground at R/W or as indicated
  - 9 Pave slope with full depth AC Pvmnt (Type III C2-AR-4000) from back of sidewalk to existing pavement at R/W or as shown
  - 10 New Masonary Retaining Wall APWA 618-1, Type B Wall with Metal Hand Railings APWA 606-1, Type C, see details on Dwg No. C-2
  - 11 Remove exist catch basin and replace with Curb Opening Catch Basin, per APWA 307-2, and Local Depression Type G per APWA 313-1 with H and H - 50 mm, see details on Dwg No. C-1
  - 12 New 450 mm dia RCP connector pipe, see Dwg No. C-1 for details
  - 13 New Grating Catch Basin-Alley, APWA 304-2, see Dwg No. C-1 for details
  - 14 New PCC Sidewalk, t = 100 mm
  - 15 Relocate existing light pole to finished grade
  - 16 Adjust existing valve covers to finished grade per CLB Std Plan No. 126
  - 17 Adjust existing MH covers to finished grade per APWA 205-1
  - 18 19 mm Ø water service connection for landscaping, cap end and protect with Case J valve box per APWA 506-1
  - 19 Construct Type A survey Monument per CLB Std Plan No. 201
  - 20 Construct Type "C" monument and casing per CLB Std Plan No. 202
  - 21 Construct Type "T" benchmark. Final location to be determined by City of Long Beach per CLB Std Plan 203
  - 22 18 288 m long median taper per CLB Std Plan No. 108
  - 23 New Junction Structure per APWA 331-2, see Dwg No. C-1 for details



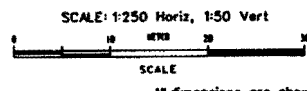
COASTAL COMMISSION  
EXHIBIT # 4  
PAGE 42 OF 42

Rocky/Deborah Gantner  
APN NO. 043-172-07

City of Los Angeles  
APN NO. 043-172-13

City of Seal Beach  
APN NO. 043-172-12

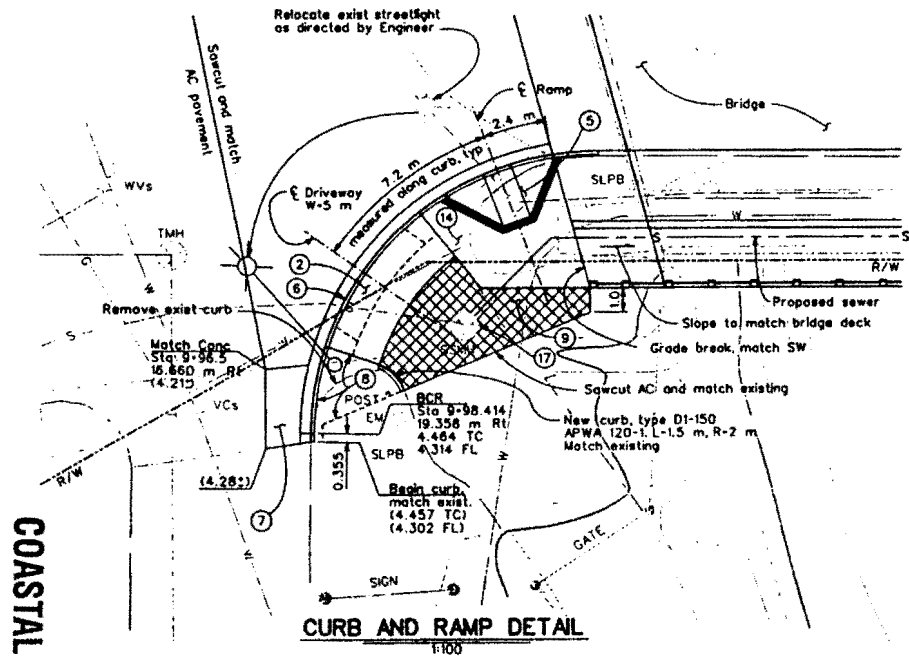
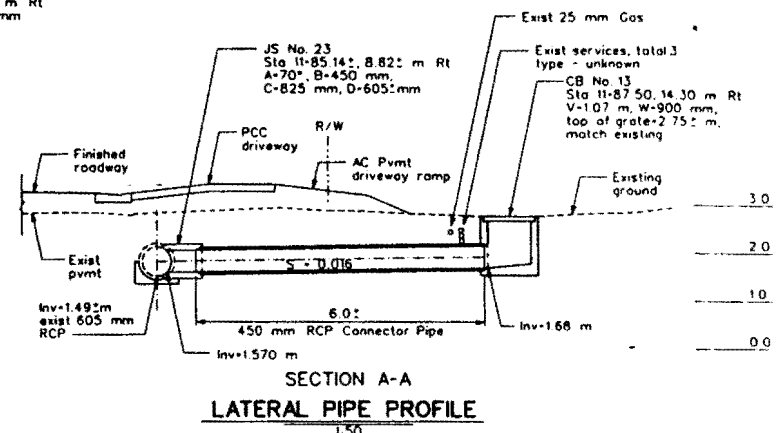
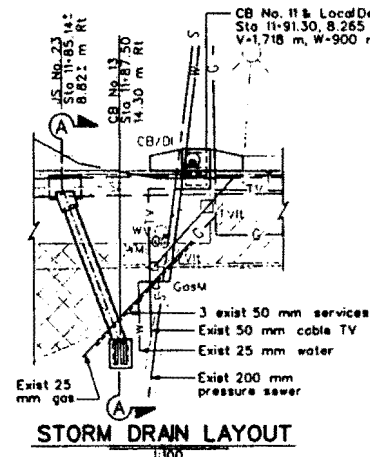
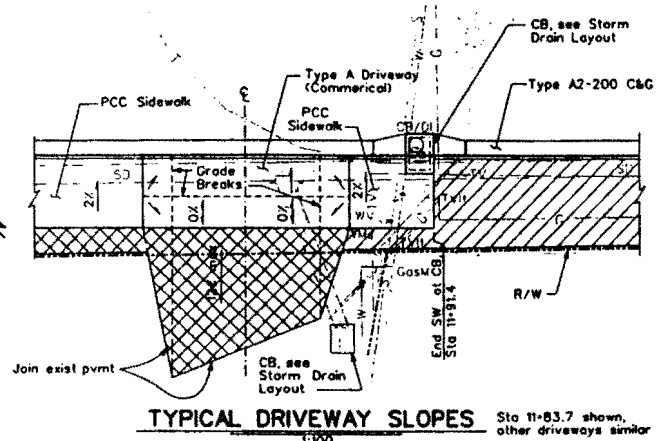
NOTE: For median layout, station and offset, see Dwg No. C-1



J. MILLER INTERNATIONAL  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE:	
DATE	BY	APPROVED	
		DESIGNED BY: J. MILLER	
		CHECKED BY: J. MILLER	
		PROJECT NO. 678	
		DRAWING NO. PP-2	
		SHEET 2 OF 2	





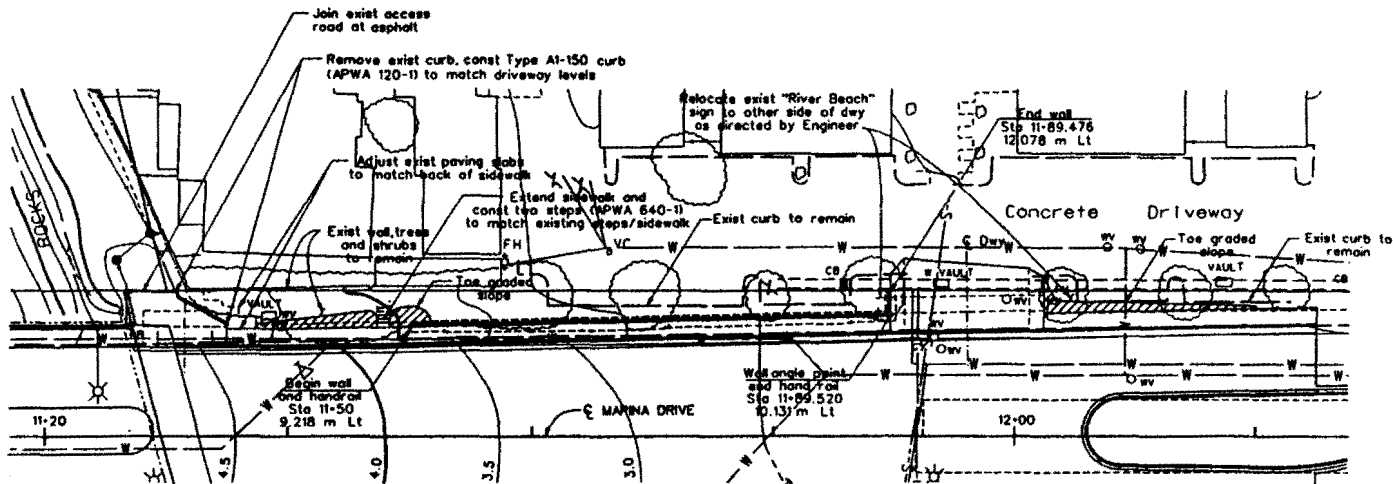
# MEDIAN LAYOUT INFORMATION

1	Sta 12-06.00 0.39 m Lt Begin median nose	7	Sta 12-40.00 0.86 m Lt Begin tangent
2	Sta 12-08.83 3.30 m Lt Begin tangent	8	Sta 12-71.73 4.30 m Lt Begin curve
3	Sta 12-08.85 2.49 m Rt Begin tangent	9	Sta 12-78.21 1.39 m Lt Begin curve
4	Sta 12-21.53 2.67 m Rt Begin curve	10	Sta 12-78.50 2.51 m Lt Point of compound curve
5	Sta 12-25.11 3.65 m Lt Angle point	11	Sta 12-78.80 1.99 m Lt End median nose
6	Sta 12-31.12 0.91 m Rt Point of reverse curve		

NOTE: For construction notes see Dwg. No. PP-2

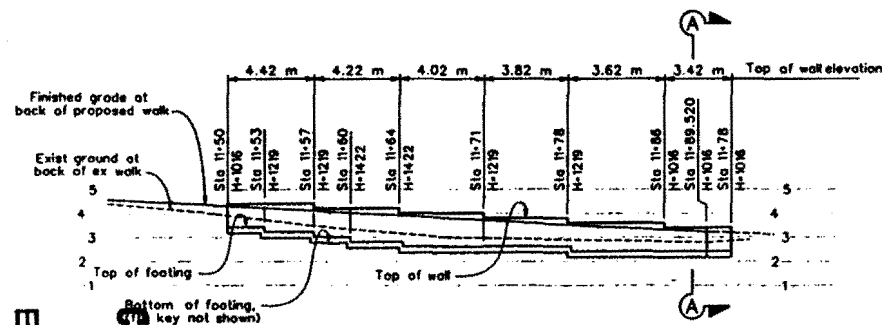
All dimensions are shown in meters, except as noted

		<b>PUBLIC WORKS DEPARTMENT</b>		<b>PROJECT</b> MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
		<b>CONSTRUCTION DETAILS No. 1</b>		<b>TITLE</b>	
<b>REVISIONS</b>		<b>APPROVED</b>		<b>PROJECT NO</b> 676	
<b>AS BUILT</b>		<b>DESIGNED BY PUBLIC WORKS</b>		<b>DRAWING NO</b> C-1	
<b>PREPARED UNDER THE SUPERVISION OF</b>		<b>DATE</b>		<b>SHEET</b> 1 OF 2	



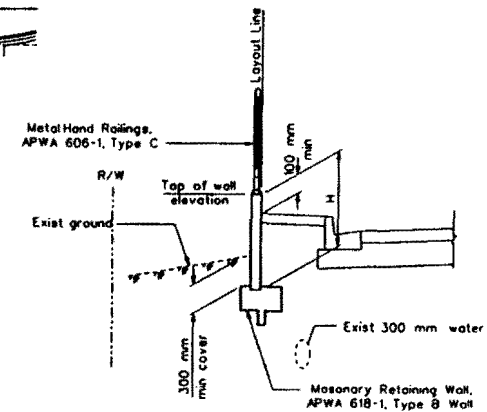
RETAINING WALL PLAN

1:200



RETAINING WALL ELEVATION

1:200 (1:100V)



SECTION A-A

1:50 (1:25V)

EXHIBIT # 4  
PAGE 6 OF 42  
COASTAL COMMISSION

All dimensions are shown in meters, except as noted

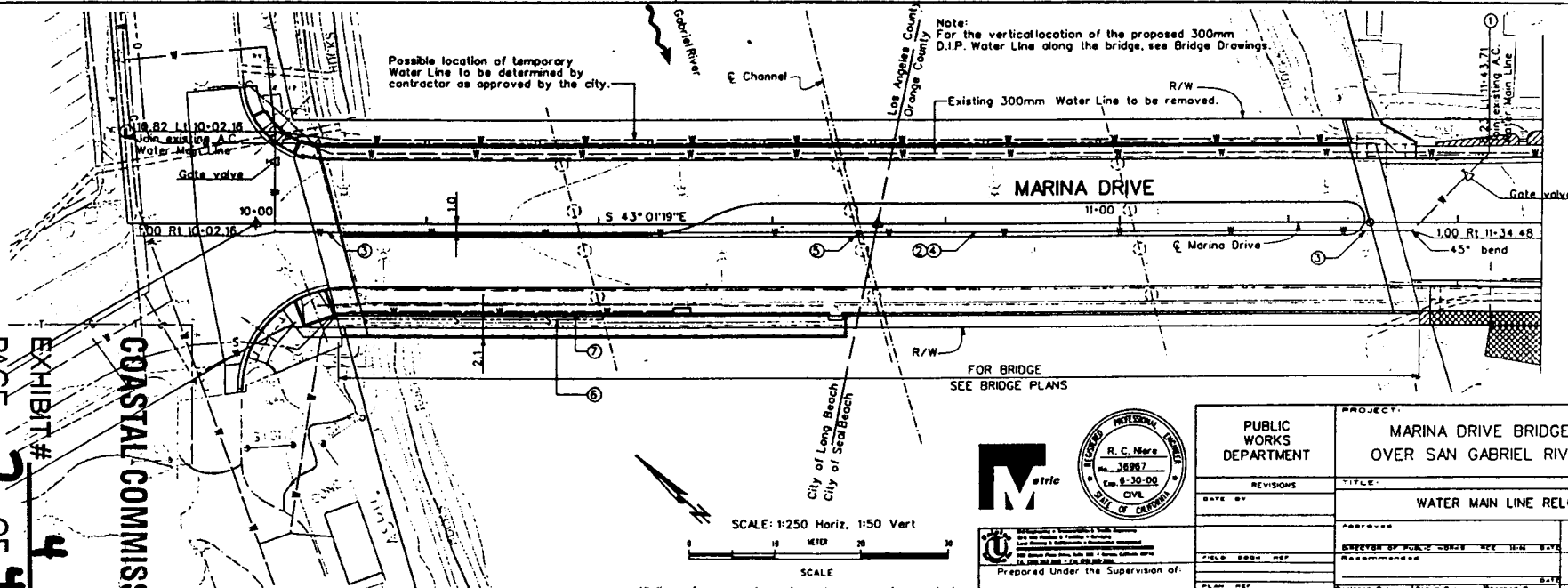
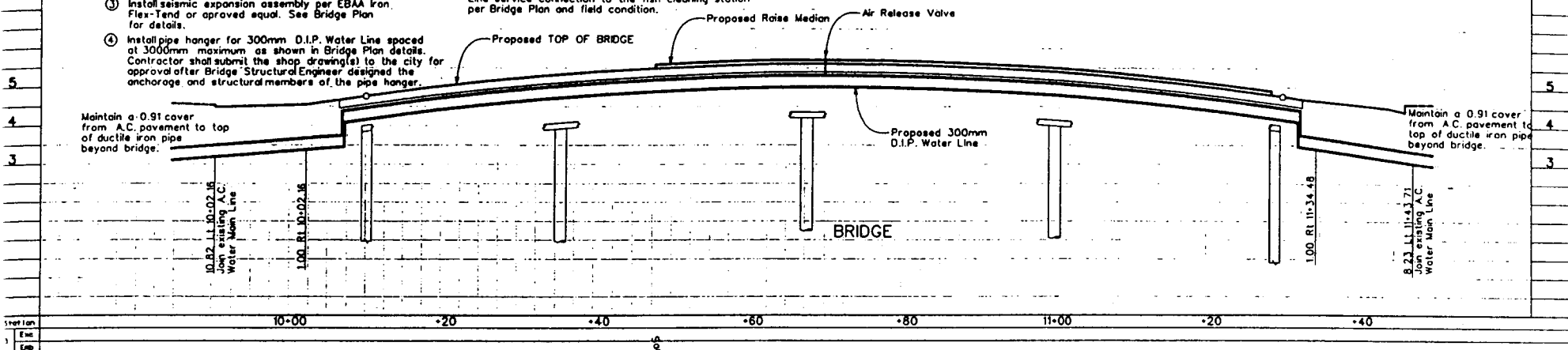
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		<b>REVISIONS</b>		<b>TITLE:</b> CONSTRUCTION DETAILS No. 2	
<b>J. MULLER INTERNATIONAL</b> Prepared Under the Supervision of:		<b>DATE BY</b> 		<b>PROJECT NO.</b> 678	
		<b>AS BUILT</b>		<b>DRAWING NO.</b> C-2	
				<b>SHEET 2 OF 2</b>	

# CONSTRUCTION NOTES

- ① Point of Connection (P.O.C.) of the installation of 300mm Ductile Iron Pipe (D.I.P.) Water Line and its appurtenances per city's requirements, AWWA (American Water Works Association) and field condition.
- ② Install 300mm D.I.P. Water Line and its appurtenances with steel casing pipe as shown in Bridge Plan details and minimum 0.91m cover under AC pavement.
- ③ Install seismic expansion assembly per EBAA Iron, Flex-Tend or approved equal. See Bridge Plan for details.
- ④ Install pipe hanger for 300mm D.I.P. Water Line spaced at 3000mm maximum as shown in Bridge Plan details. Contractor shall submit the shop drawing(s) to the city for approval after Bridge Structural Engineer designed the anchorage and structural members of the pipe hanger.
- ⑤ Install 50.80mm Air Release Valve per APCO series 150 or approved equal.
- ⑥ 100mm Sewer Line. Contractor to submit shop drawing for the Sewer Line service connection to the fish cleaning station per Bridge Plan and field condition.
- ⑦ 1.91mm existing Water Line to be removed and replaced. Contractor to submit shop drawing for the Water Line service connection to the fish cleaning station per Bridge Plan and field condition.

Maintain a 0.91 cover from A.C. pavement to top of ductile iron pipe beyond bridge.

Maintain a 0.91 cover from A.C. pavement to top of ductile iron pipe beyond bridge.



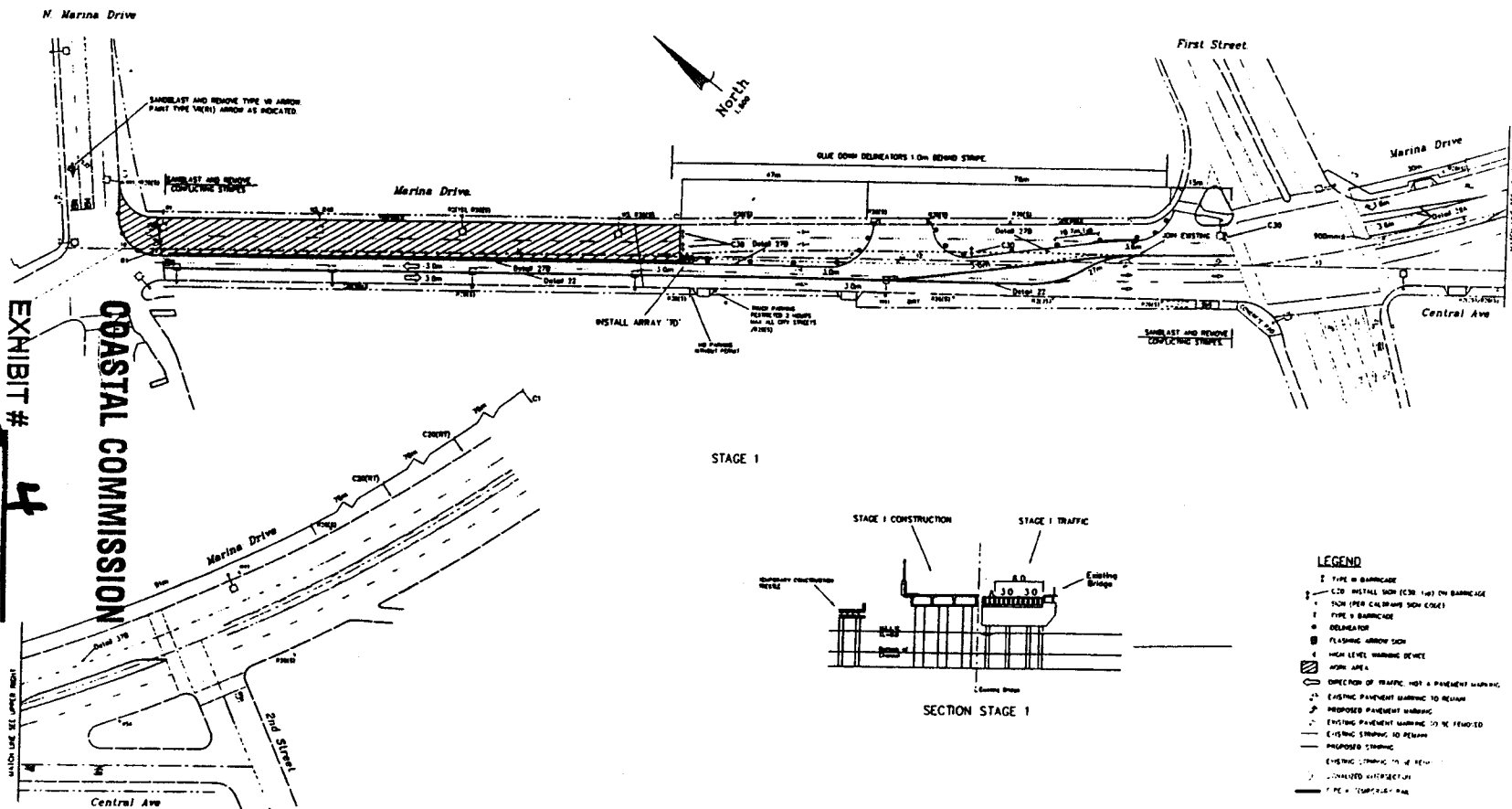
PAGE 7 OF 42  
EXHIBIT # 4  
COASTAL COMMISSION

SCALE: 1:250 Horiz, 1:50 Vert  
SCALE  
All dimensions are shown in meters, except as noted.

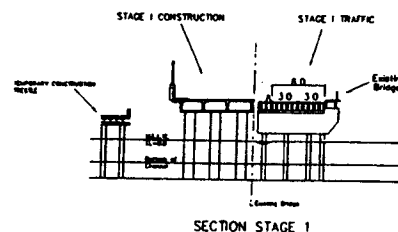


Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: WATER MAIN LINE RELOCATION	
DATE BY		APPROVED	PROJECT NO. 676
FIELD	BOB	REVIEWER OF PUBLIC WORKS DEPT. SEE 11-11-00	DRAWING NO. U-1
PLAN	REP	DATE	SHEET 1 OF 1



STAGE 1



LEGEND

- 1 TYPE II BARRICADE
- 2 C-20 INSTALL SIGN (30" x 48") ON BARRICADE
- 3 SIGN (PER CALTRANS SIGN CODE)
- 4 TYPE II BARRICADE
- 5 DELINEATOR
- 6 FLASHING ARROW SIGN
- 7 HIGH LEVEL WARNING DEVICE
- 8 WORK AREA
- 9 DIRECTION OF TRAFFIC WITH A PAVEMENT MARKING
- 10 EXISTING PAVEMENT MARKING TO REMAIN
- 11 PROPOSED PAVEMENT MARKING
- 12 EXISTING PAVEMENT MARKING TO BE REMOVED
- 13 EXISTING STRIPING TO REMAIN
- 14 PROPOSED STRIPING
- 15 EXISTING STRIPING TO BE REMOVED
- 16 ANALYZED INTERSECTION
- 17 TYPE II TEMPORARY SIGN

100% SUBMITTAL

GENERAL NOTES

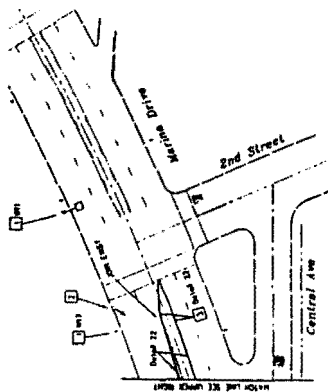
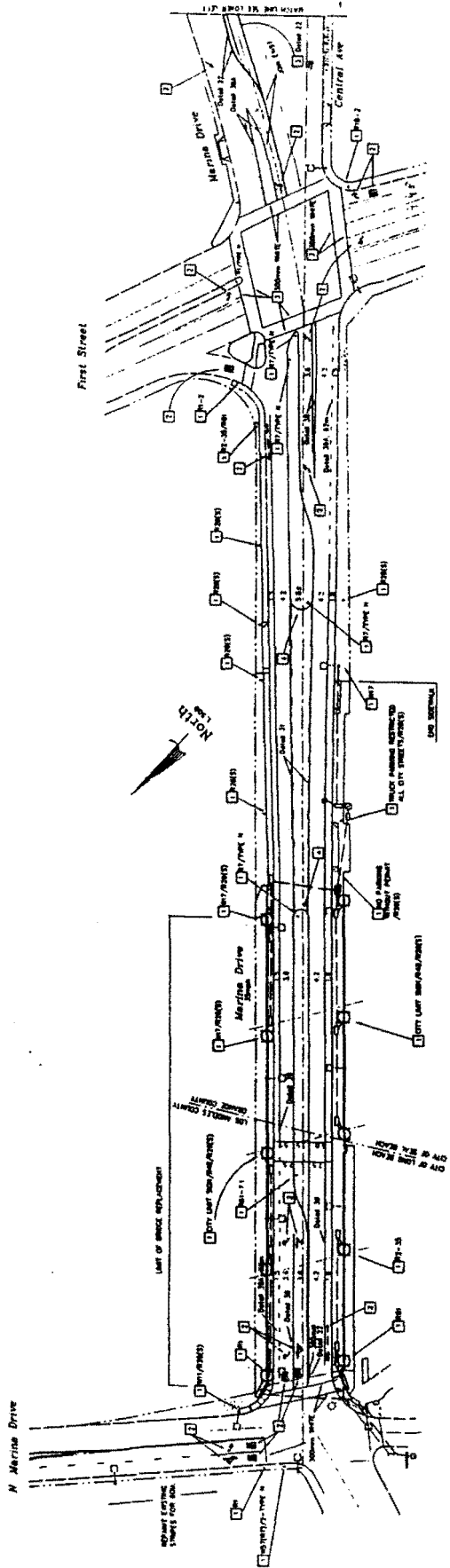
1. ALL WORK AND MATERIALS SHALL COMPLY WITH THE CALIFORNIA MANUAL OF TRAFFIC CONTROLS IN CONSTRUCTION AND MAINTENANCE ZONES, LATEST EDITION.
2. ALL STRIPING AND MARKING SHALL COMPLY TO THE STATE OF CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, INCLUDING STANDARD PLAN 4-20, DETAILS.
3. THE CONTRACTOR SHALL PROVIDE FOR ACCESS TO ALL ADJACENT PROPERTIES (EXCEPT AS INDICATED ON THESE PLANS).
4. ALL CONFLICTING STRIPING SHALL BE REMOVED. BLACK-BUT PAINT WILL BE ALLOWED NO LONGER THAN 3 WEEKS FOR TEMPORARY REMOVALS ONLY.
5. ALL SIGNS SHALL BE REFLECTORIZED AND STANDARD SIZE.
6. ALL DELINEATORS SHALL BE 12" WIDEN PORTABLE, REFLECTORIZED AND MAINTAINED CORRECT IN THE INDICATED POSITION AT ALL TIMES, AND SHALL BE REPAIRED, REPLACED OR CLEANED AS NECESSARY TO PRESENT THEIR APPEARANCE AND CONTRAST.
7. ONLY THE TUBULAR DELINEATOR DEVICES SPECIFIED IN ABOVE GENERAL NOTE #1 SHALL BE USED ON THIS PROJECT.
8. THE CONTRACTOR SHALL MAINTAIN A 24-HOUR BASE ALL SIGNS, DELINEATORS, BARRICADES, ETC., TO INSURE PROPER FLOW AND SAFETY OF TRAFFIC.
9. THE CONTRACTOR SHALL HAVE ALL SIGNS, DELINEATORS, BARRICADES, ETC., PROPERLY INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
10. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO CAUSE AS LITTLE INCONVENIENCE AS POSSIBLE TO ADJACENT PROPERTY OWNERS.
11. THESE PLANS INDICATE VEHICULAR TRAFFIC CONTROL IN THE WORK AREA DURING CONSTRUCTION ACTIVITY. ADDITIONAL TRAFFIC CONTROLS, TRAFFIC SIGNS, OR BARRICADES MAY BE REQUIRED BY THE POLICE. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OF ANY ADDITIONAL DEVICES NECESSARY TO ASSURE SAFETY TO THE PUBLIC AT ALL TIMES DURING CONSTRUCTION.
12. EXISTING LOCATION AND TYPE OF CONSTRUCTION SIGNS (CST, CLE, CLEA) SHALL BE AS DIRECTED BY THE ENGINEER BASED UPON CONSTRUCTION CONDITIONS.
13. ALL SIGNAL EQUIPMENT, LAMPS, SERVICE PEDALS, AND CONTROLLED CABLES SHALL BE PROTECTED IN PLACE. IF EQUIPMENT IS DAMAGED THE CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED EQUIPMENT TO THE SATISFACTION OF THE ENGINEER.



PLANS DESIGNED BY  
*Kate Obispo & Associates*  
KATE OBISPO & ASSOCIATES  
1744 S. GARDEN STREET, SUITE 200  
SAN ANTONIO, TEXAS 78204  
TEL: 214-520-1111 FAX: 214-520-1112

PUBLIC WORKS DEPARTMENT	PROJECT:	MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
	TITLE:	TRAFFIC HANDLING PLANS STAGE 1 CONSTRUCTION	
DESIGNED BY:	APPROVED:	PROJECT NO:	676
CHECKED BY:	DATE:	DRAWING NO:	T-1
DATE:	DATE:	SHEET:	1 OF 2





100% SUBMITTAL

- CONSTRUCTION NOTES:**
- 1. BRIDGE AND APPROACH SHALL BE CONSTRUCTED TO THE STREET LIGHT AS INDICATED
  - 2. RETAINMENT WALLING SHALL BE INDICATED
  - 3. RETAINMENT WALLING SHALL BE INDICATED
  - 4. RETAINMENT WALLING SHALL BE INDICATED
  - 5. RETAINMENT WALLING SHALL BE INDICATED

**LEGEND**

- CROSSING**
- 1. 10' WIDE BY 10' PARALLEL JUNCTION
  - 2. STREET LIGHT LAYOUT
  - 3. SIDE LAYOUT TO BE INDICATED
  - 4. TRAFFIC SIGNAL LAYOUT
  - 5. PARALLEL LAYOUT 8' x 8' BY 1' x 1' LAYOUT

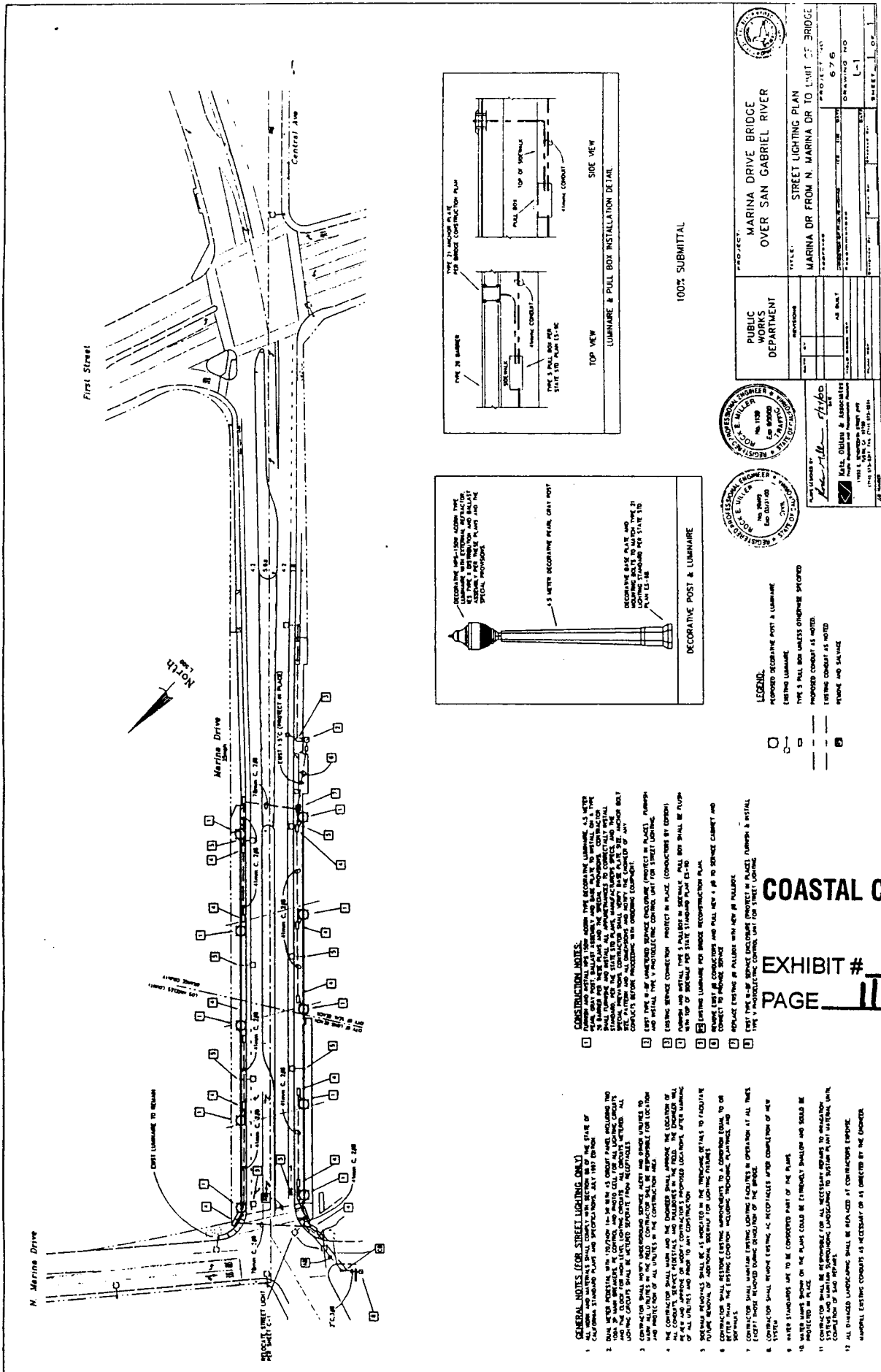
**SIGNING AND STRIPING GENERAL NOTES:**

- 1. ALL SIGNING AND STRIPING SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND THE CALIFORNIA SIGNING AND STRIPING MANUAL.
- 2. ALL SIGNING AND STRIPING SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND THE CALIFORNIA SIGNING AND STRIPING MANUAL.
- 3. ALL SIGNING AND STRIPING SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND THE CALIFORNIA SIGNING AND STRIPING MANUAL.
- 4. ALL SIGNING AND STRIPING SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND THE CALIFORNIA SIGNING AND STRIPING MANUAL.
- 5. ALL SIGNING AND STRIPING SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND THE CALIFORNIA SIGNING AND STRIPING MANUAL.

**COASTAL COMMISSION**

EXHIBIT # 4  
PAGE 10 OF 42

		<b>PROJECT:</b> MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	<b>PROJECT NO.:</b> 07-14
		<b>TITLE:</b> SIGNING AND STRIPING PLAN MARINA DRIVE FROM N MARINA DR TO FEET 17	<b>DRAWING NO.:</b> 55-1
<b>PUBLIC WORKS DEPARTMENT</b>		<b>DATE:</b> 	<b>SCALE:</b> 



PROJECT		MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
PUBLIC WORKS DEPARTMENT		STREET LIGHTING PLAN MARINA DR FROM N. MARINA DR TO LIMIT OF BRIDGE	
DATE		6-7-65	
DRAWN BY		L-1	
CHECKED BY			
APPROVED BY			
SHEET		OF	

DESIGNED BY		K. H. GILLEN & ASSOCIATES 1000 N. GATEWAY BLVD. LOS ANGELES 17, CALIF.	
DATE		6-7-65	
PROJECT NO.		1000	
SHEET NO.		1-1	

LEGEND	
□	PROPOSED DECORATIVE POST & LUMINAIRE
□	EXISTING LUMINAIRE
□	TYPE 3 PULL BOX UNLESS OTHERWISE NOTED
□	EXISTING CONDUIT AS NOTED
□	REMOVE AND SALVAGE

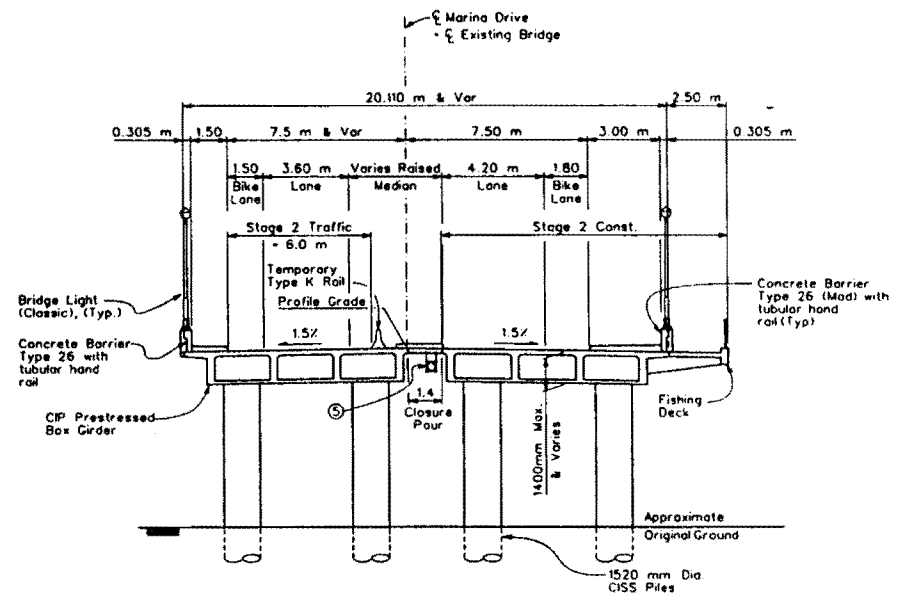
CONSTRUCTION NOTES	
1	REMOVE AND SALVAGE EXISTING TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
2	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
3	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
4	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
5	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
6	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
7	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
8	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
9	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
10	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
11	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.
12	INSTALL TYPE 3 PULL BOX UNLESS OTHERWISE NOTED.

GENERAL NOTES (FOR STREET LIGHTING ONLY)	
1	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, JULY 1967 EDITION.
2	ALL MATERIALS SHALL BE OF THE BEST QUALITY AVAILABLE AND SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER.
3	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, JULY 1967 EDITION.
4	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, JULY 1967 EDITION.
5	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, JULY 1967 EDITION.
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11	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, JULY 1967 EDITION.
12	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA STANDARD PLANS AND SPECIFICATIONS, JULY 1967 EDITION.

COASTAL COMMISSION	
EXHIBIT # 4	
PAGE 11 OF 42	











LEGEND:

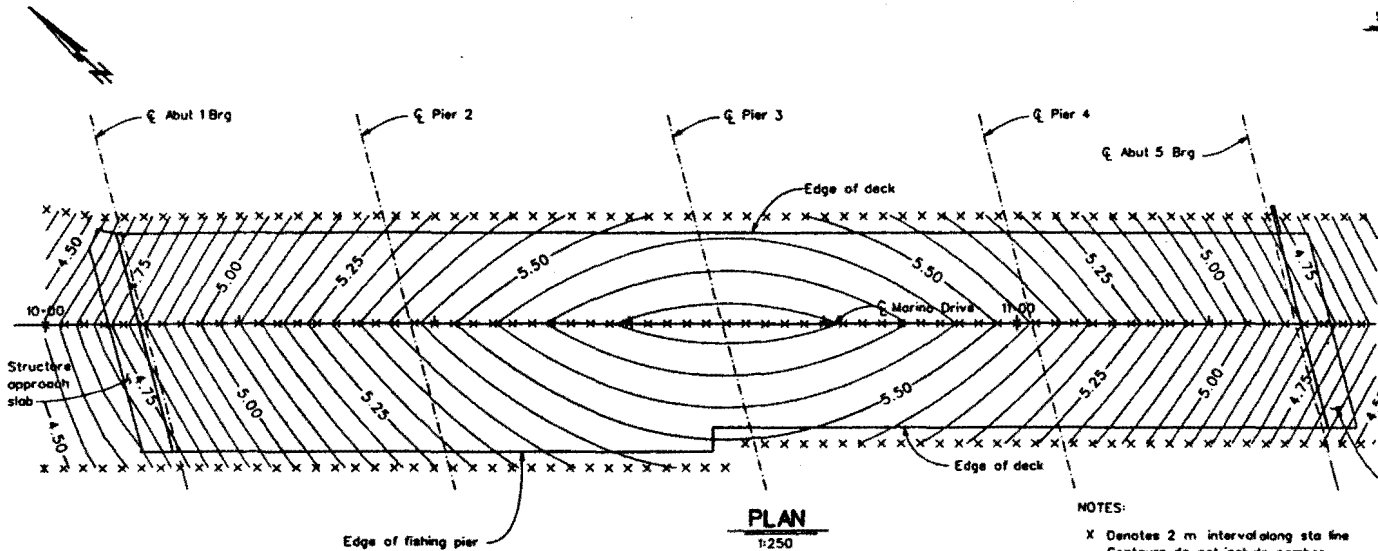
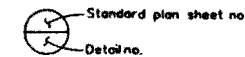
⑤ 300 mm Water line by others

 	<b>PUBLIC WORKS DEPARTMENT</b>	<b>PROJECT</b> MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER									
	<b>REVISIONS</b> <table border="1"> <tr> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	DATE	BY	DESCRIPTION							<b>FILE</b> GENERAL PLAN No. 2
DATE	BY	DESCRIPTION									
 <b>J. MULLER INTERNATIONAL</b> Prepared Under the Supervision of: _____	<b>AS BUILT</b> F.O.B. 2004 REV. _____	<b>DIRECTOR OF PUBLIC WORKS</b> SEE SIGN STATE Recommended _____	<b>DRAWING NO</b> S-2								
<b>PLAN REF</b> _____	<b>DESIGNED BY</b> _____	<b>CHECKED BY</b> _____	<b>DATE</b> _____								
<b>DATE</b> _____	<b>BY</b> _____	<b>DATE</b> _____	<b>DATE</b> _____								

COASTAL COMMISSION  
EXHIBIT # 4  
PAGE 13 OF 42

# STANDARD PLANS DATED JULY, 1997

Sheet No.	Title
A10A	Abbreviations
A10B	Symbols
A62C	Limits of Payment for Excavation and Backfill Bridge
B0-1	Bridge Details
B0-3	Bridge Details
B0-5	Bridge Details
B0-13	Bridge Details
B7-1	Box Girder Details
B7-10	Utility Opening Box Girder
B8-5	Cast-In-Place Prestressed Girder Details
B11-51	Tubular Hand Railing
B11-54	Concrete Barrier Type 26
ES-1A	Signal, Lighting And Electrical Systems Symbols And Abbreviations
ES-1B	Signal, Lighting And Electrical Systems Symbols And Abbreviations
ES-7A	Signal, Lighting And Electrical Systems Electrical Details Structure Installations
ES-7B	Signal, Lighting And Electrical Systems Electrical Details Structure Installations
ES-7C	Signal, Lighting And Electrical Systems Electrical Details Structure Installations
ES-7D	Signal, Lighting And Electrical Systems Electrical Details Structure Installations



## NOTES:

- X Denotes 2 m interval along sta line
- Contours do not include camber.
- Contour interval is 0.05 m

## INDEX TO BRIDGE PLANS

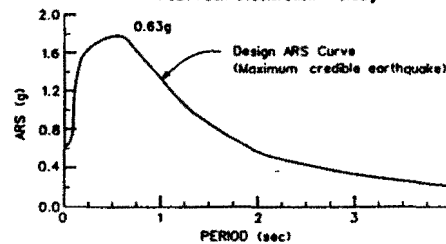
Sheet	Description
S-1	GENERAL PLAN NO. 1
S-2	GENERAL PLAN NO. 2
S-3	DECK CONTOURS
S-4	FOUNDATION PLAN
S-5	ABUTMENT 1 LAYOUT
S-6	ABUTMENT 1 DETAILS NO. 1
S-7	ABUTMENT 1 DETAILS NO. 2
S-8	ABUTMENT 5 LAYOUT
S-9	ABUTMENT 5 DETAILS NO. 1
S-10	ABUTMENT 5 DETAILS NO. 2
S-11	PIER LAYOUT
S-12	PIER DETAILS
S-13	COLUMN & PILE DETAILS
S-14	TYPICAL SECTION
S-15	GIRDER LAYOUT
S-16	GIRDER DETAILS
S-17	GIRDER REINFORCEMENT
S-18	FISHING PIER LAYOUT
S-19	FISHING PIER DETAILS NO. 1
S-20	FISHING PIER DETAILS NO. 2
S-21	MISCELLANEOUS DETAILS NO. 1 (BARRIER LIGHTING)
S-22	DECK DRAINAGE DETAILS
S-23	JOINT SEAL ASSEMBLY
S-24	(MAXIMUM MOVEMENT RATING - 100 MM)
S-25	SIDEWALK COVER PLATE
S-26	STRUCTURE APPROACH TYPE EQ(3)
S-27	STRUCTURE APPROACH DRAINAGE DETAILS
S-28	EXISTING BRIDGE REMOVAL
S-29	UTILITY LINE DETAILS
S-30	RIVER SIGNS DETAILS
S-31	LOG OF TEST BORINGS NO. 1
S-32	LOG OF TEST BORINGS NO. 2

EXHIBIT # 4  
PAGE 14 OF 42

COASTAL COMMISSION

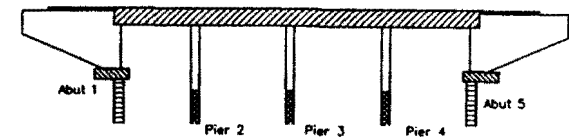
## GENERAL NOTES LOAD FACTOR DESIGN

- DESIGN: Bridge Design Specifications (1983 AASHTO with Interims and Revisions by CALTRANS)
- DEAD LOAD: Includes 1675 Pa for future wearing surface.
- LIVE LOADING: HS20-44 and alternative and permit design load.
- SEISMIC LOADING: Site Specific ARS as follows:  
Depth of alluvium is greater than 45 m  
Peak rock acceleration = 0.63g



- REINFORCED CONCRETE:  $f_y = 420$  MPa  
 $f_c = 25$  MPa  
 $n = 8$   
TRANSVERSE DECK SLABS (WORKING STRESS DESIGN)  
 $f_s = 140$  MPa  
 $f_c = 8.3$  MPa  
 $n = 10$
- PRESTRESSED CONCRETE: For "Prestressing Notes", see "Girder Details" sheet.

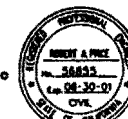
All dimensions are shown in meters, except as noted



- Structural Concrete, Bridge
- Structural Concrete, Bridge Footing
- Structural Concrete, Bridge (35 MPa at 28 days)
- Structural Concrete, Approach Slab
- Cast-In-Steel-Shell Concrete Pile (25 MPa at 28 days)
- 600 mm CIDH Concrete Pile

## CONCRETE STRENGTH AND TYPE LIMITS

No Scale



J. MULLER INTERNATIONAL  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: DECK CONTOURS	
DATE BY	AS BUILT	APPROVED	PROJECT NO. 676
FIELD	BOOK	RECOMMENDED	DRAWING NO. S-3
PLAN	REF	DATE BY	SHEET 3 OF 31

## HYDROLOGIC SUMMARY

DRAINAGE AREA: 800 square km

FREQUENCY (Years)

DISCHARGE (Cubic Meter per second)

WATER SURFACE (Elevation at bridge)

**OVERTOPPING  
FLOOD**

FLOOD OF  
RECORD

DESIGN FLOOD

---

50

1250

2.27

## SE FLOOD

100

1700

2.77

## > DESIGN

N/A

N/A

50

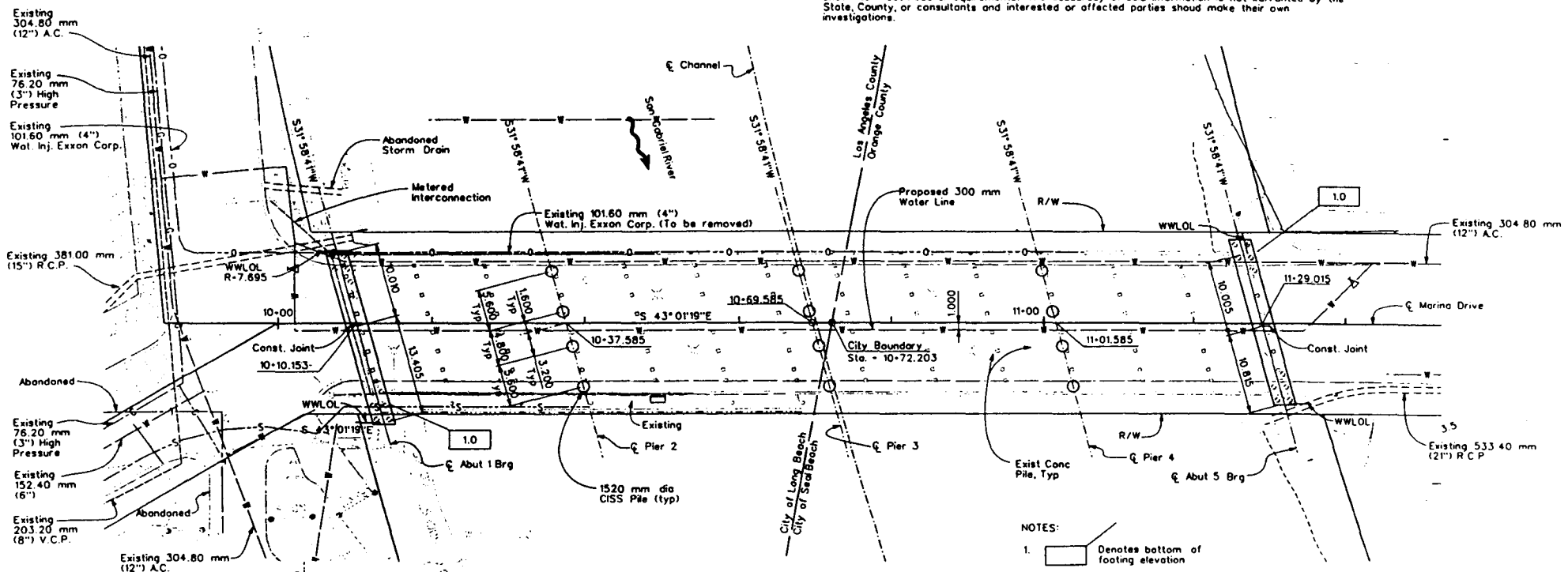
N/A

N/A

Flood plain data are based upon information available when the plans were prepared and are shown to meet Federal requirements. The accuracy of said information is not warranted by the State, County, or consultants and interested or affected parties should make their own investigations.

**BENCH MARK:**

OCS BM T-280-R75, at inter  
Marino Dr/First St - NW curb return  
OCS Elev: 2.844 m  
Sta 12+90.948, 19.467 m Rt



### PILE DATA - CIDH CONCRETE PILE

Location	Pile Type	Design Loading	Nominal Resistance		Cut-off Elevations	Design Tip	Specified Tip Elevation
			Compression	Tension			
Abut 1	610 CIDH	N/A	900 kN	0	1.15	-13.8	-13.8
Pier 2	CISS	N/A	9400 kN	2600 kN	-4.00	-28.8	-28.8
Pier 3	1524x25.4	N/A	8250 kN	2400 kN	-3.00	-25	-25
Pier 4	1524x25.4	N/A	8200 kN	2200 kN	-2.00	-25.0	-25.0
Abut 5	610 CIDH	N/A	950 kN	0	1.15	-13.8	-13.8

Design tip elevations are controlled by the following demands:

- 5) Scour potential to Elev -10 @ Pier 2, Elev -8 @ Pier 3 and Elev -6.7 @ Pier 4

## FOUNDATION PLAN


1:250

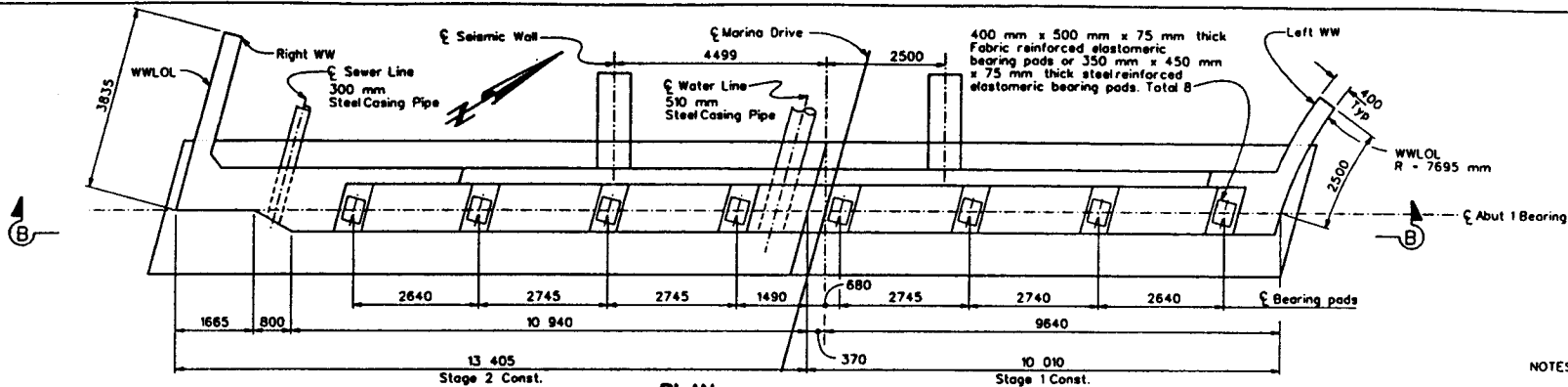
EXHIBIT # 4  
PAGE 15 OF 42

# COASTAL COMMISSION

All dimensions are shown in meters, except as noted



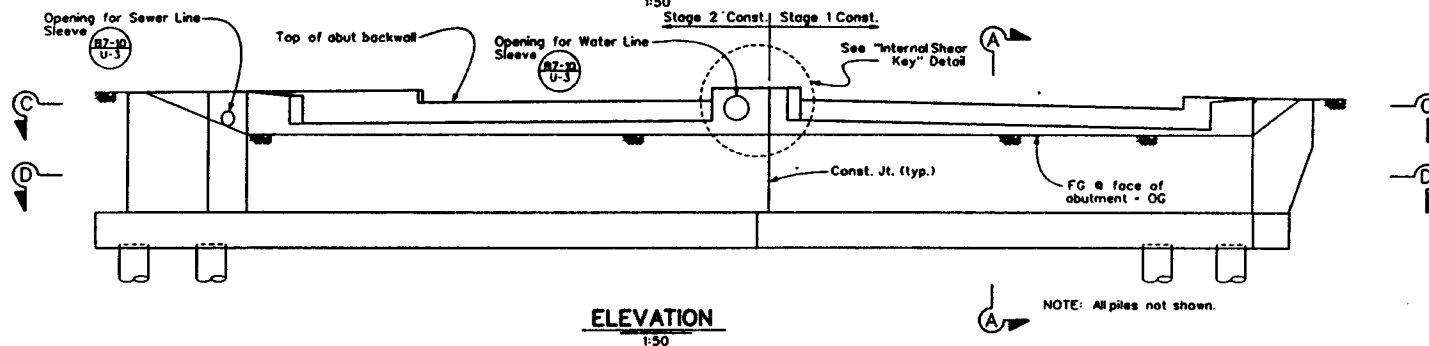
<b>PUBLIC WORKS DEPARTMENT</b>	<b>PROJECT:</b> <b>MARINA DRIVE BRIDGE</b> <b>OVER SAN GABRIEL RIVER</b>											
	<b>REVISIONS</b> <table border="1"> <tr><td>DATE</td><td>BY</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>		DATE	BY								
DATE	BY											
<b>AS BUILT</b> FIELD BOOK REF	<b>TITLE:</b> <b>FOUNDATION PLAN</b> ADDRESS DIVISION OF PUBLIC WORKS REC. DIV. DATE Recommended	<b>PROJECT NO</b> <b>678</b> <b>DRAWING NO</b> <b>S-4</b>										
PLAN REF	DESIGNED BY: _____ DRAWN BY: _____ CHECKED BY: _____ Y.M. HALL	<b>SHEET 4 OF 31</b>										



PLAN

NOTES:

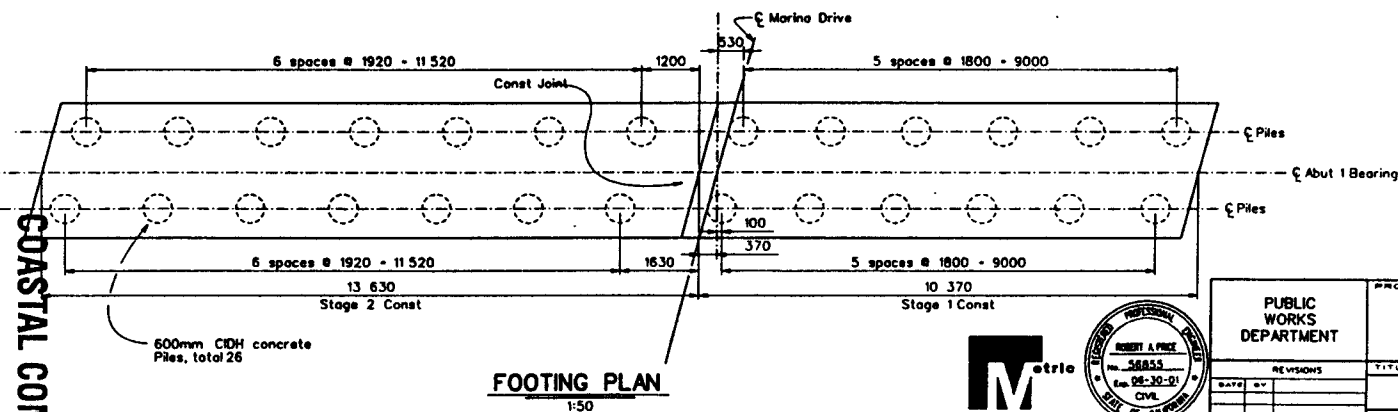
- For "Section A-A" see "Abutment 5 Layout" sheet
- For Section "B-B" see "Abutment 1 Details No. 2" sheet
- For Sections "C-C" & "D-D" see "Abutment 1 Details No. 1" sheet
- For "Internal Shear Key" detail see "Abutment 1 Details No. 2" sheet
- Contractor shall verify all controlling field dimensions before ordering or fabricating any material
- For Seismic Wall, see "Abutment 5 Details No. 2" sheet



ELEVATION

LEGEND:

- denotes conc pile



FOOTING PLAN

All dimensions are shown in millimeters, except as noted

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: ABUTMENT 1 LAYOUT	
DATE	BY	APPROVED	PROJECT NO. 676
		ENGINEER OF PUBLIC WORKS	DRAWING NO. S-5
FILED	DATE	RECOMMENDED	SHEET 5 OF 31
PLAN	REV	DESIGNED BY	DRAWN BY
		CHECKED BY	DATE

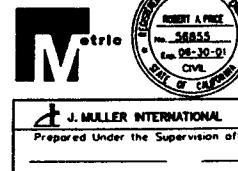
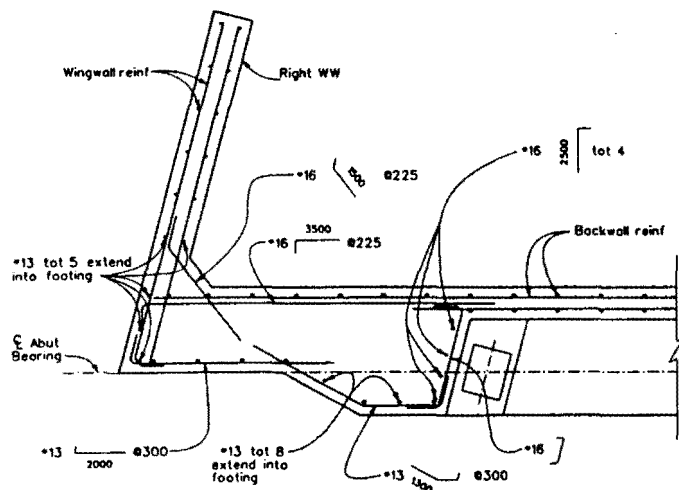
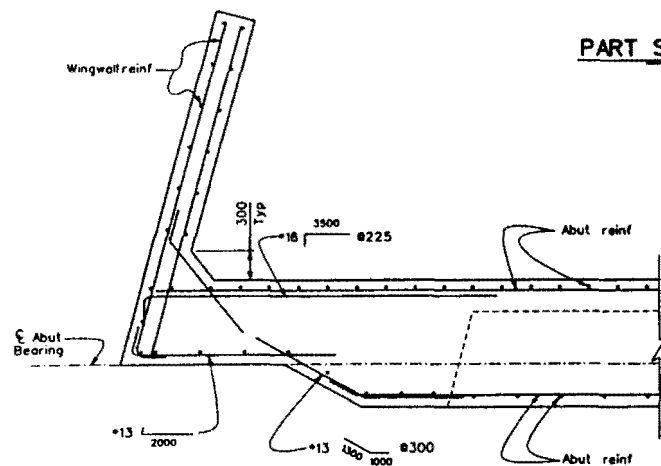


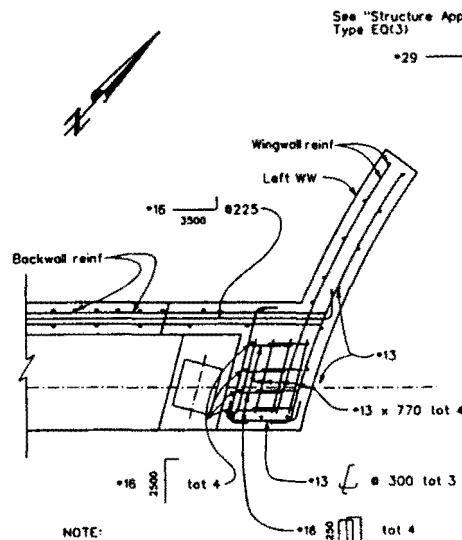
EXHIBIT # 4  
PAGE 16 OF 42  
COASTAL COMMISSION



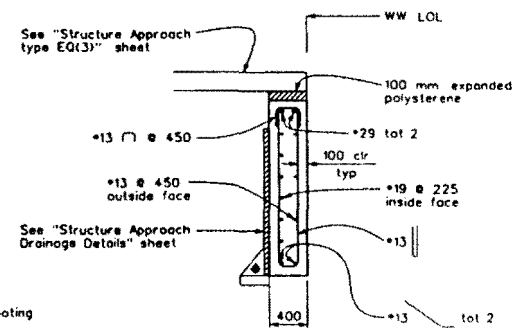
**PART SECTION C-C**  
1:25



**PART SECTION D-D**  
1:25



**WINGWALL ELEVATION**  
1:25

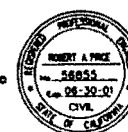


**SECTION E-E**  
1:25

NOTE:  
For Detail not shown  
See "Part Section C-C"

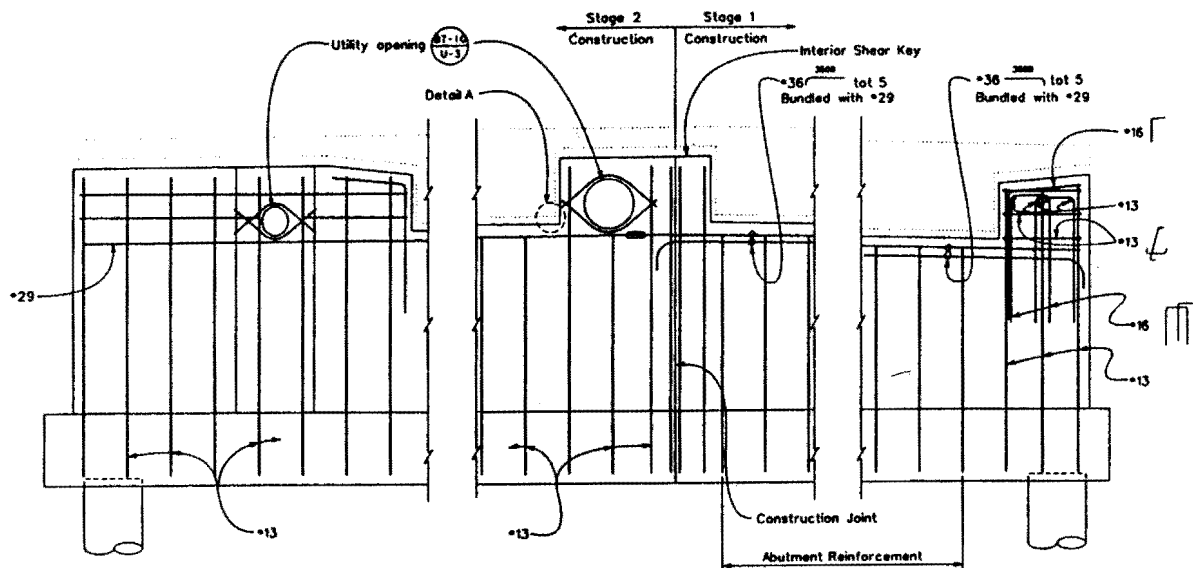
All dimensions are shown in millimeters, except as noted

COASTAL COMMISSION  
EXHIBIT # 4  
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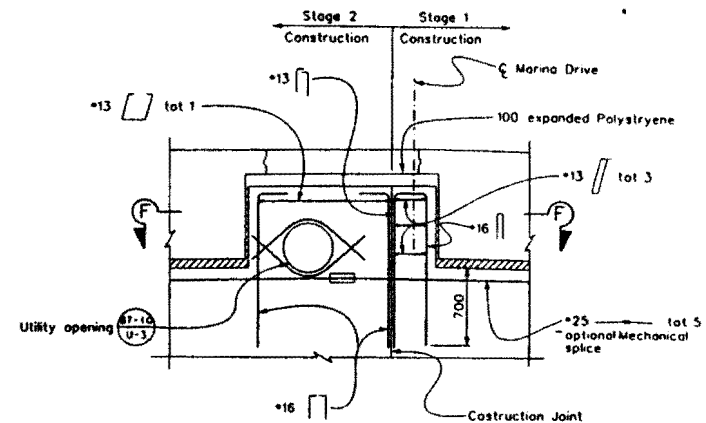
**J. MULLER INTERNATIONAL**  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT				MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER			
REVISIONS				ABUTMENT 1 DETAILS No. 1			
DATE	BY	CHKD	APP'D	DATE	BY	CHKD	APP'D
AS BUILT				PROJECT NO. 676			
FIELD CORR. REQ.				DRAWING NO. S-6			
PLAN REF.				SHEET 6 OF 31			

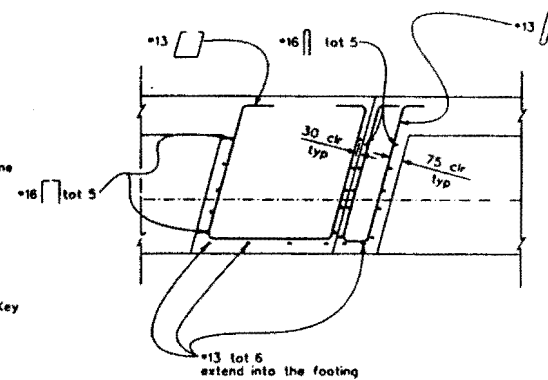


**PART SECTION B-B**  
1:25

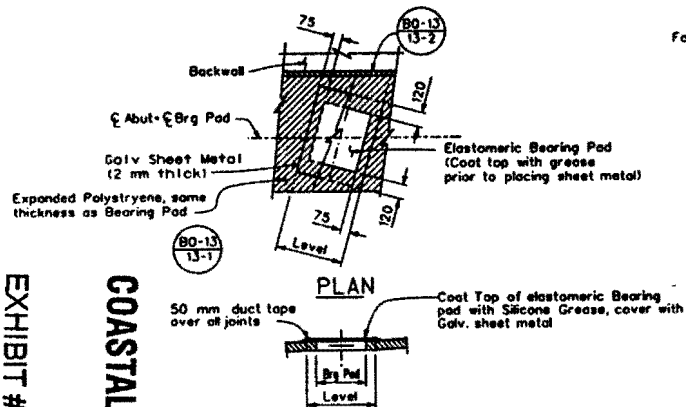
NOTE  
For Details not shown  
See Interior Shear Key



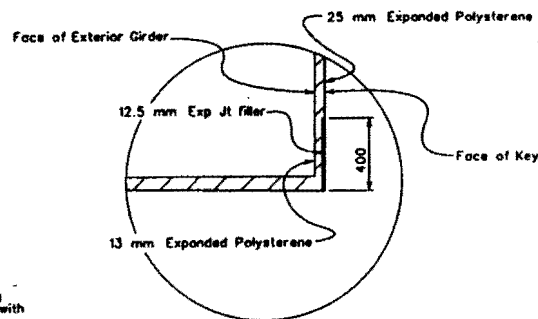
**INTERIOR SHEAR KEY**  
1:20



**SECTION F-F**  
1:20



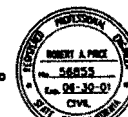
**BEARING PAD DETAILS**  
1:20  
Details typical at all bearing pads



**DETAIL A**  
NO SCALE

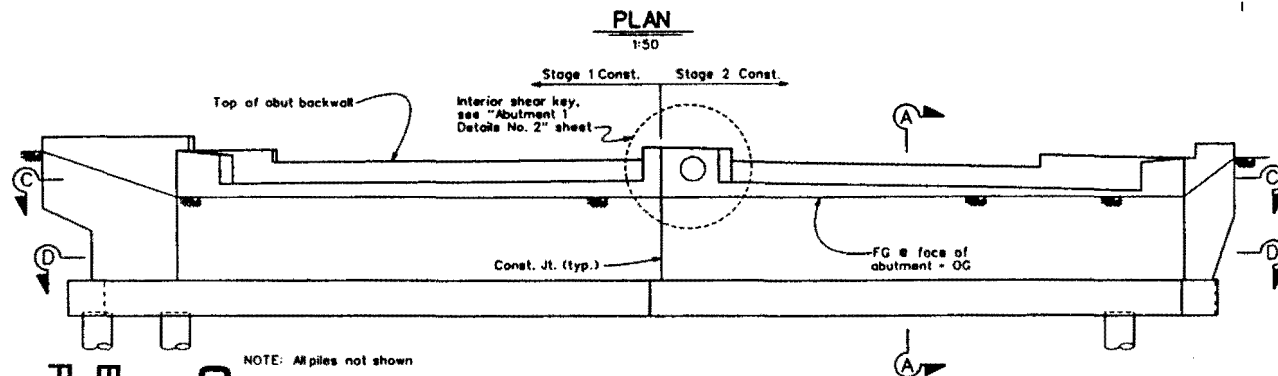
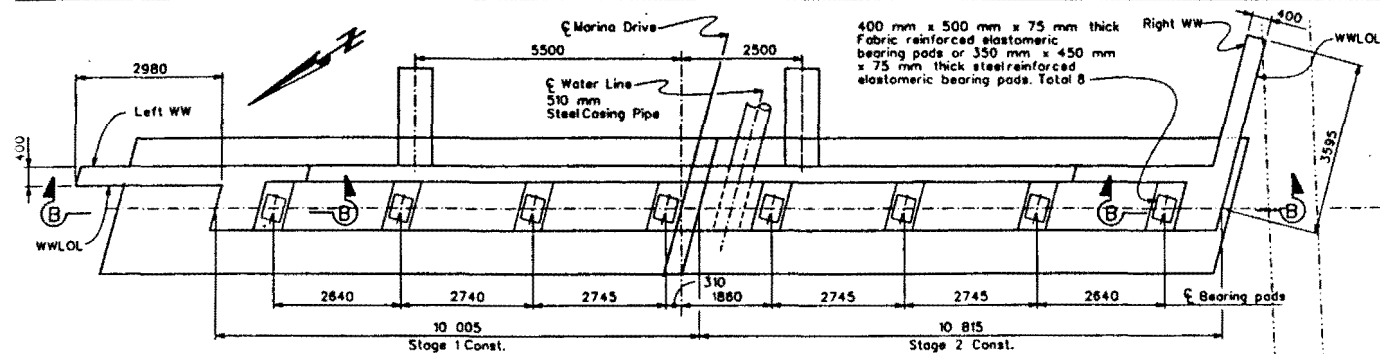
All dimensions are shown in millimeters, except as noted

COASTAL COMMISSION  
EXHIBIT # 4  
PAGE 18 OF 42



**J. MULLER INTERNATIONAL**  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: ABUTMENT 1 DETAILS No. 2	
DATE BY		Approved	PROJECT NO 676
AS BUILT		DESIGNED BY	DRAWING NO S-7
FIELD		Reviewed by	
PLAN		Checked by	
		DATE	
		SHEET 7 OF 31	



NOTE: All piles not shown

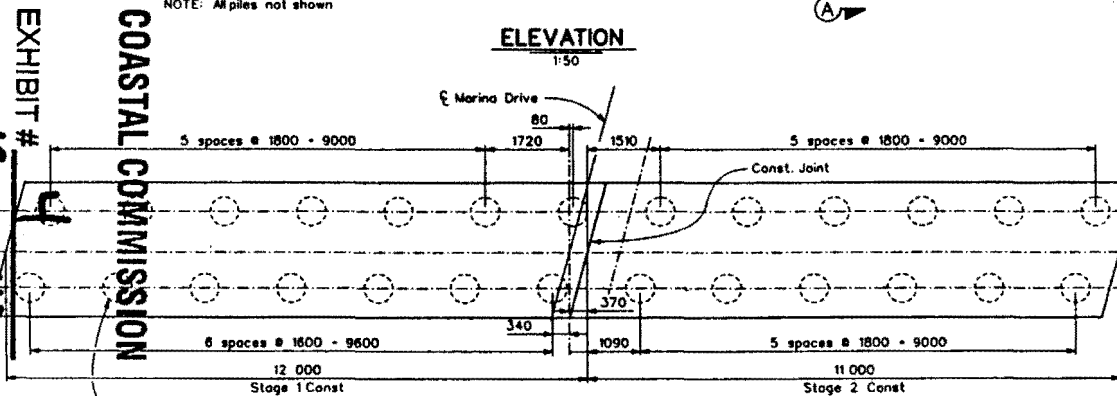


EXHIBIT #  
PAGE 19 OF 42  
COASTAL COMMISSION

NOTES:

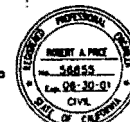
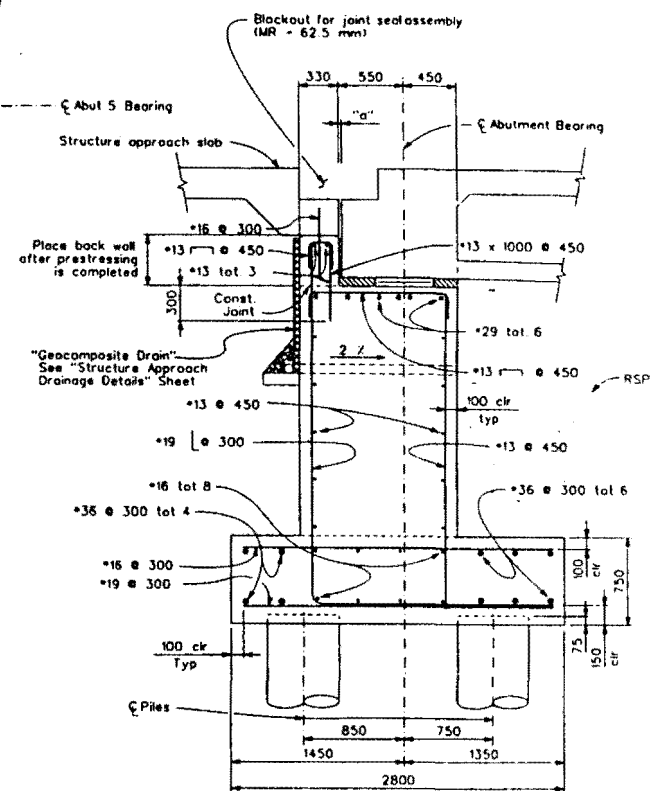
For Seismic Wall and Section "B-B" see  
"Abutment 5 Details No. 2" sheet  
For Sections "C-C" & "D-D" see  
"Abutment 5 Details No. 1" sheet

Contractor shall verify all controlling  
field dimensions before ordering or  
fabricating any material

LEGEND:

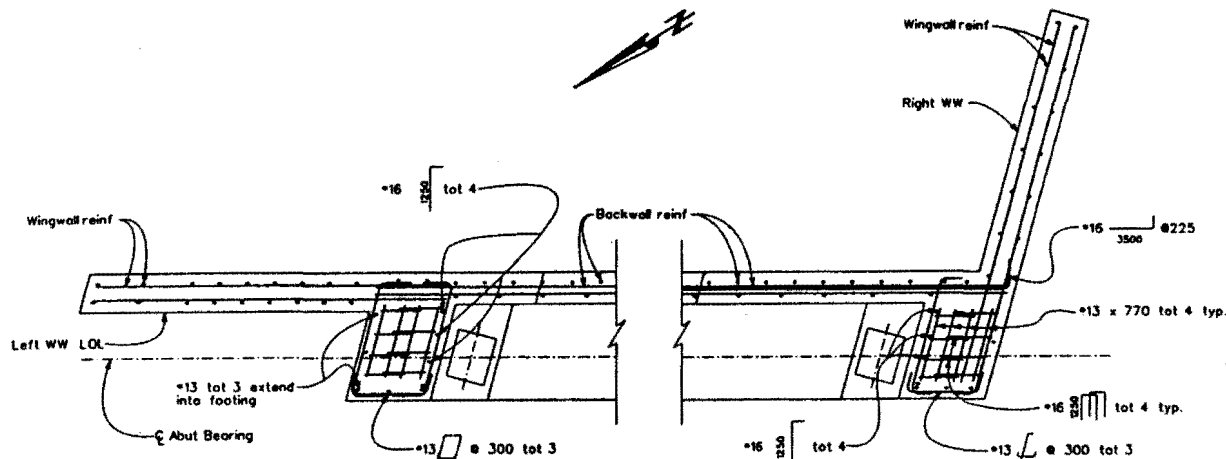
○ denotes conc pile

All dimensions are shown in millimeters, except as noted



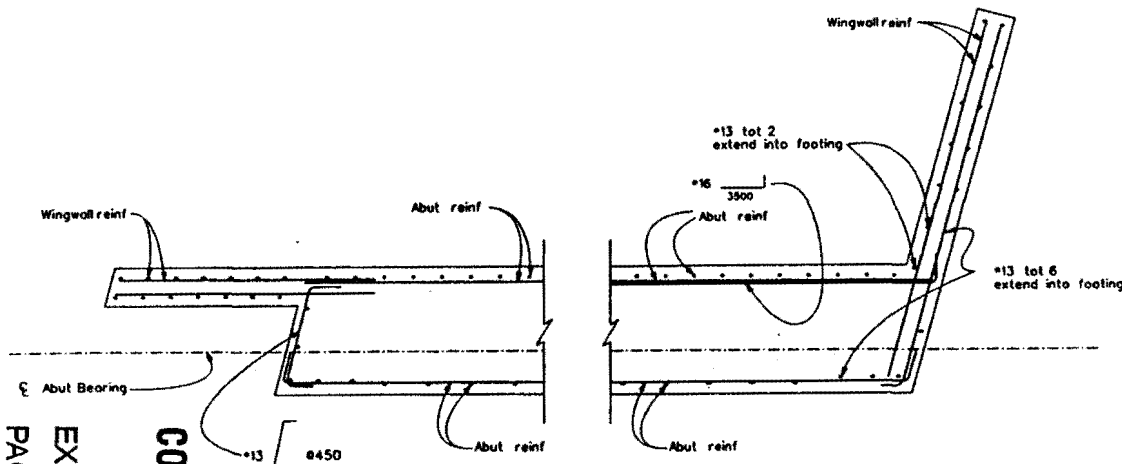
J. MULLER INTERNATIONAL  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: ABUTMENT 5 LAYOUT	
DATE BY		PROJECT NO. 878	
APPROVED BY		DRAWING NO. S-8	
DATE		SHEET 8 OF 31	



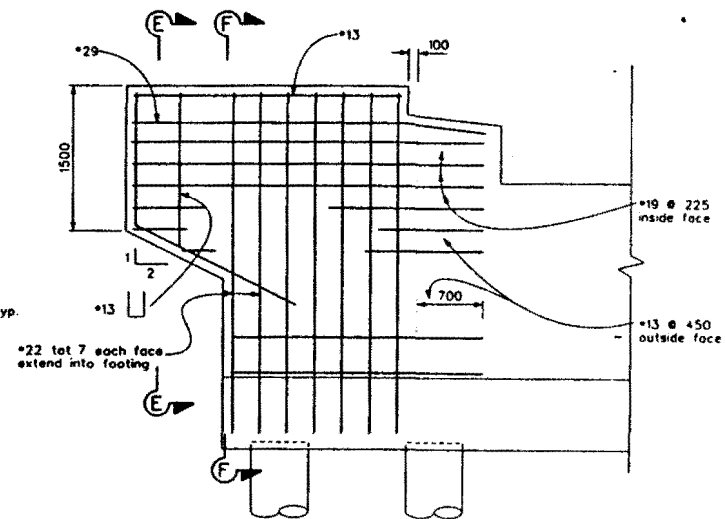
NOTE:  
For Right Wingwall see  
"Abutment 1 Details No. 1" sheet  
For Details not Shown, see  
part "Section D-D"

**PART SECTION C-C**  
1:25

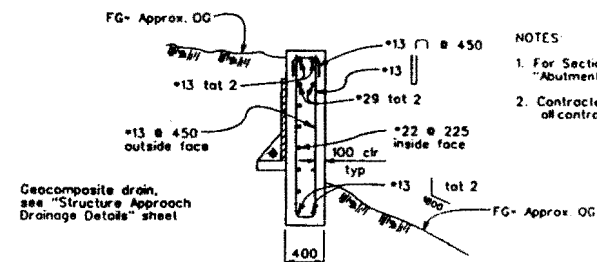


**PART SECTION D-D**  
1:25

NOTE:  
For Detail not shown, see  
part "Section C-C"



**LEFT WINGWALL ELEVATION**  
1:25



**SECTION E-E**  
1:25

NOTES  
1. For Section F-F see sheet  
"Abutment 5 Details No. 2"  
2. Contractor shall verify  
all controlling

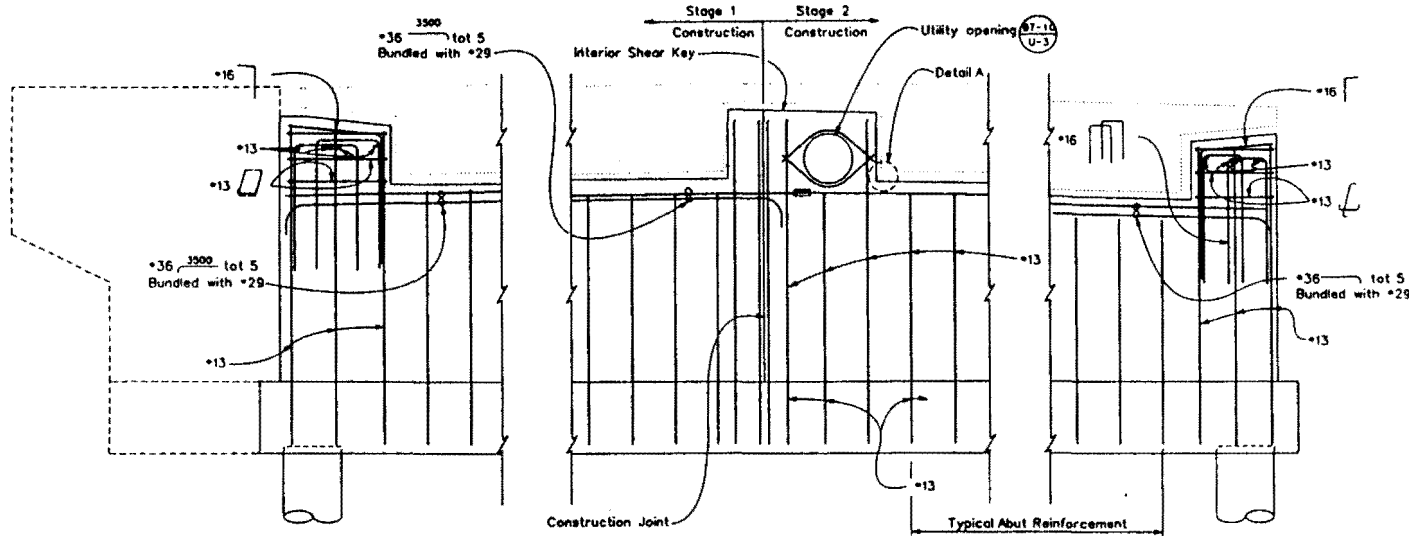
Geocomposite drain,  
see "Structure Approach  
Drainage Details" sheet

COASTAL COMMISSION  
EXHIBIT # 4  
PAGE 20 OF 42

		PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
		REVISIONS		TITLE: ABUTMENT 5 DETAILS No. 1	
DATE BY		APPROVED		PROJECT NO. 676	
FIELD BOOK REF		DESIGNED BY		DRAWING NO. S-9	
PLANNED		CHECKED BY		SHEET 9 OF 31	
J. MULLER INTERNATIONAL Prepared Under the Supervision of		APPROVED BY		DATE	

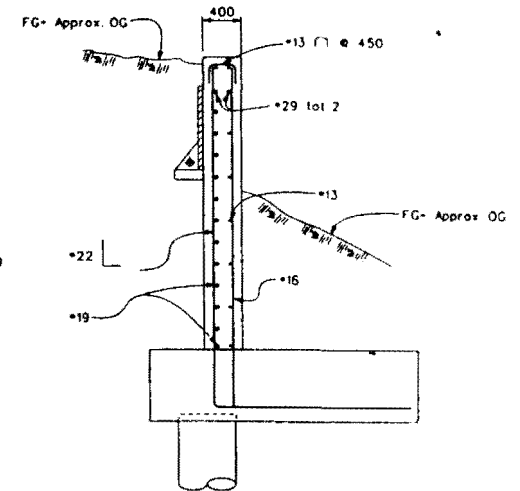
All dimensions are shown in millimeters, except as noted





**PART SECTION B-B**  
1:25

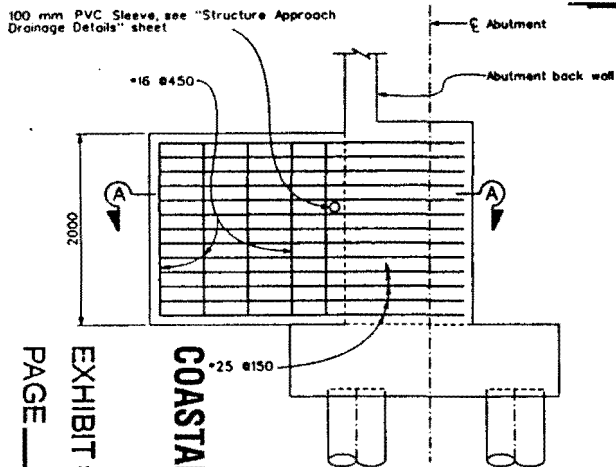
NOTE  
For Details not shown  
See Interior Shear Key



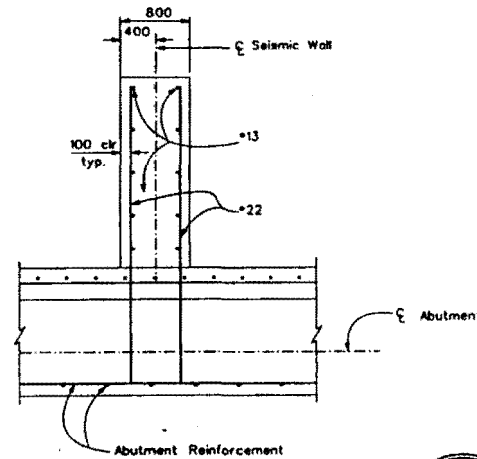
**SECTION F-F**  
1:25

NOTES:

1. For Detail A & Interior Shear Key see sheet "Abutment 1 Details No. 2"
2. Contractor shall verify all controlling



**SEISMIC WALL**  
1:25



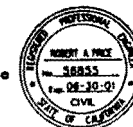
**SECTION A-A**  
1:25

EXHIBIT # **4**  
PAGE **21** OF **42**  
**COASTAL COMMISSION**

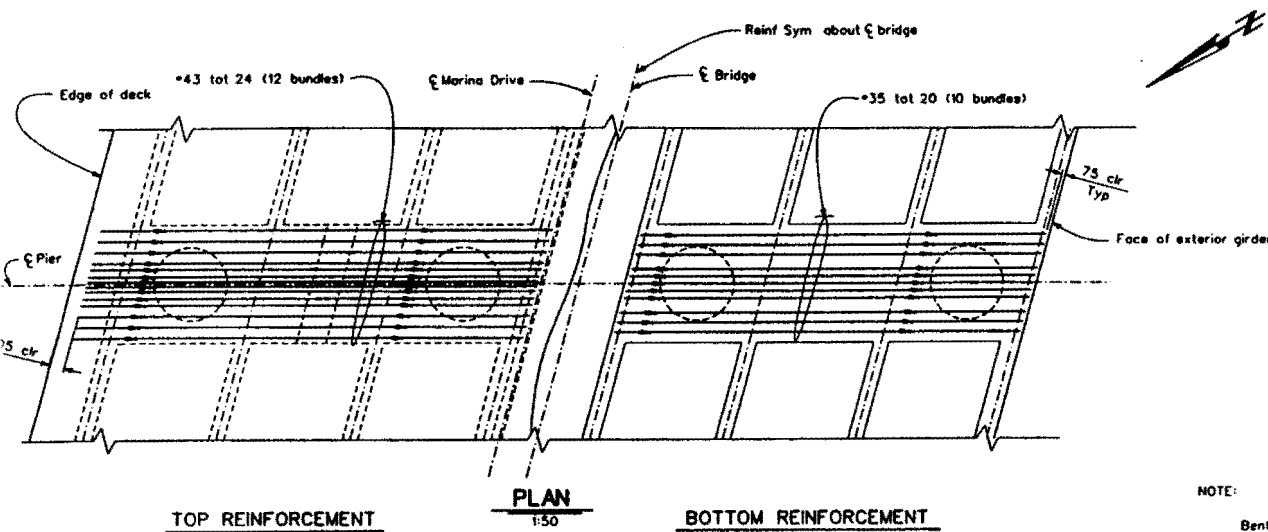
All dimensions are shown in millimeters, except as noted



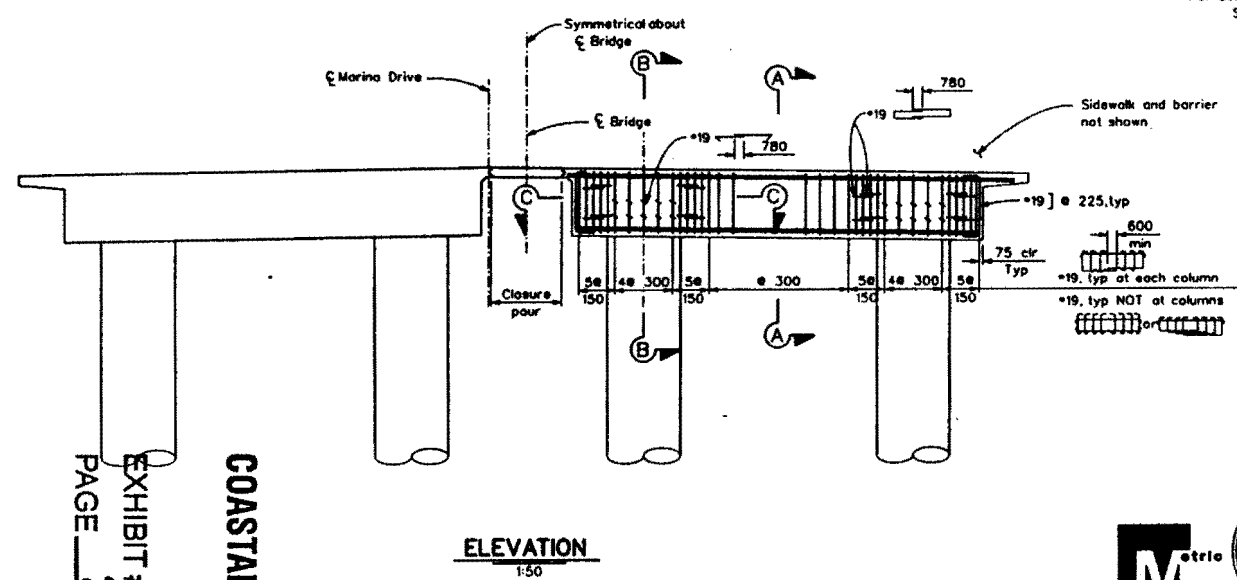
**J. MULLER INTERNATIONAL**  
Prepared Under the Supervision of:



PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		FILE	
DATE BY	AS BUILT	APPROVED	PROJECT NO. 676
FILE	REP	DIRECTOR OF HIGHWAYS	DRAWING NO. S-10
FILE	REP	DESIGNED BY	SHEET 10 OF 31



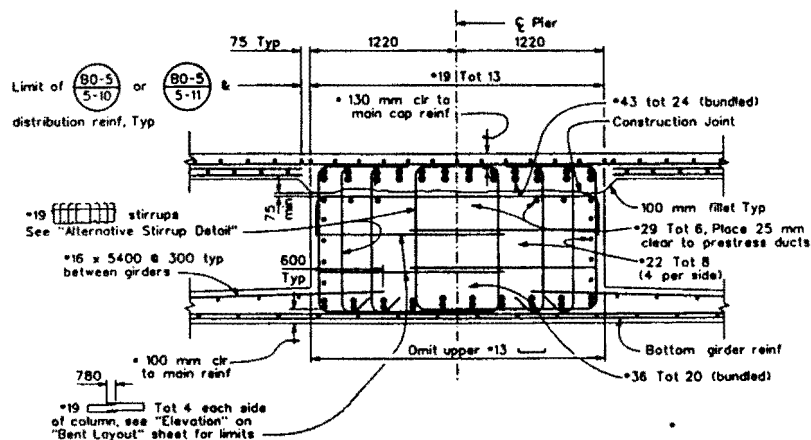
NOTE:  
 Bent 3 shown, others similar  
 Top & bottom girder reinf not shown  
 — indicates bundled bars  
 For Section A-A, Section B-B and  
 Section C-C see "Pier Details" sheet



COASTAL COMMISSION  
 EXHIBIT # 4  
 PAGE 22 OF 42

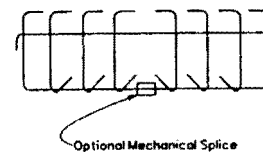
All dimensions are shown in millimeters, except as noted

 <b>J. MULLER INTERNATIONAL</b> Prepared Under the Supervision of:	PUBLIC WORKS DEPARTMENT REVISIONS DATE BY AS BUILT FIELD BOOK REF PLAN REF	PROJECT: <b>MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER</b> TITLE: <b>PIER LAYOUT</b> APPROVED DIRECTOR OF PUBLIC WORKS RECOMMENDED ENGINEER DATE SHEET 11 OF 31	 PROJECT NO <b>676</b> DRAWING NO <b>S-11</b>
	PROJECT NO <b>676</b> DRAWING NO <b>S-11</b> SHEET 11 OF 31		

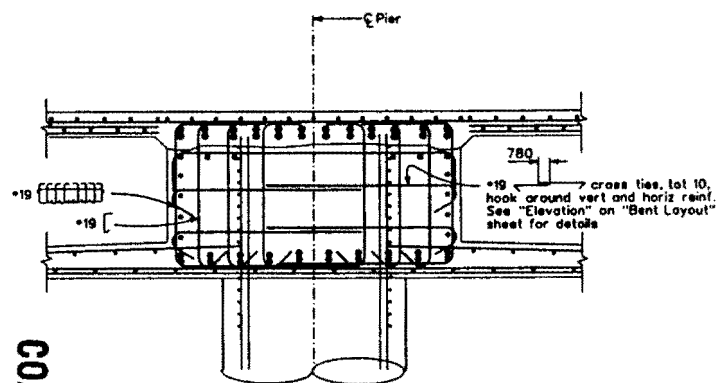


**SECTION A-A**  
1:20

Note:  
Clearance to Main Cap Reinforcement  
No Lap splices allowed in Main Cap Reinforcement.



**ALTERNATIVE STIRRUP DETAIL**  
NO SCALE



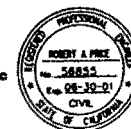
**SECTION B-B**  
1:20

Note: For Details not shown see Section "A-A"

COASTAL COMMISSION

EXHIBIT # 4

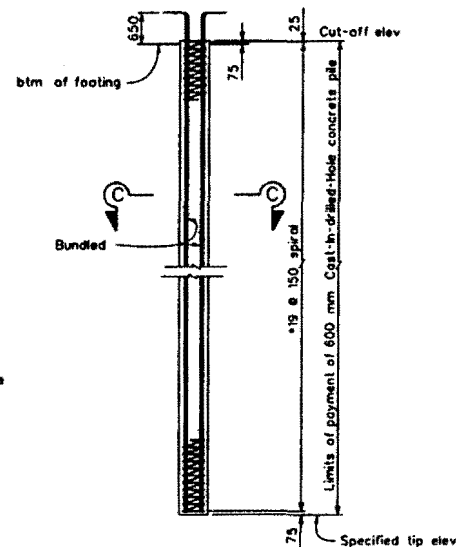
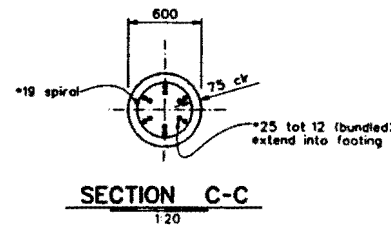
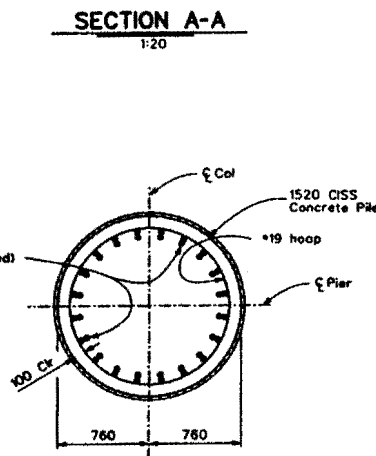
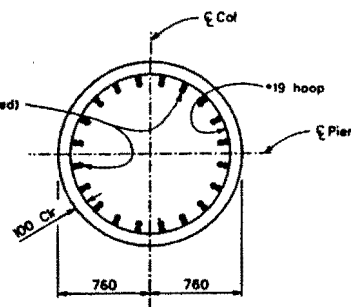
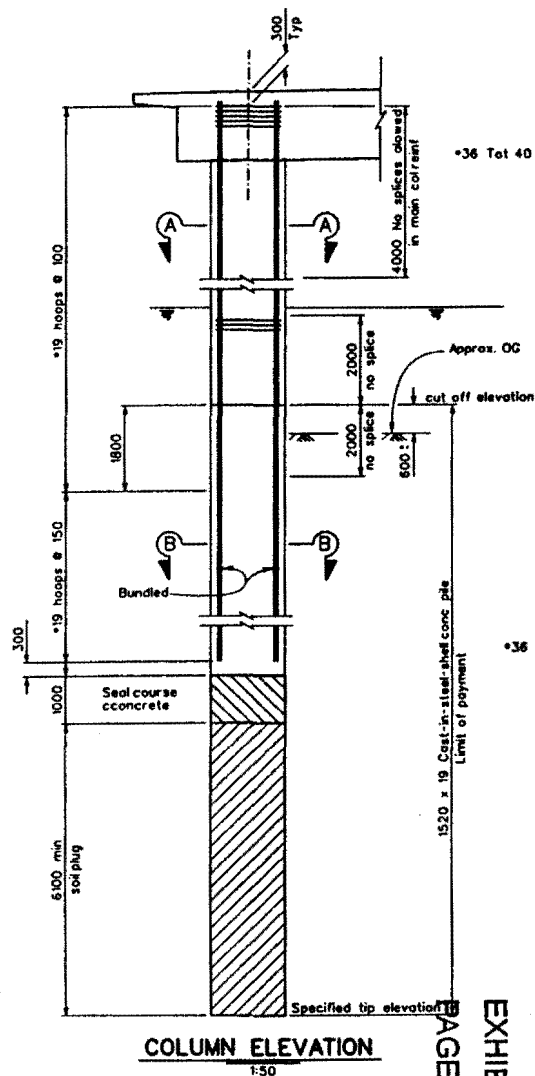
PAGE 23 OF 42



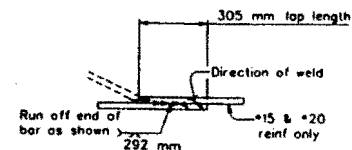
**J. MULLER INTERNATIONAL**  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: PIER DETAILS	
DATE BY	REVISIONS	APPROVED	PROJECT NO. 676
	AS BUILT	REVIEWED BY	DRAWING NO. S-12
FIELD	SPM	RECOMMENDED	
PLAN	REV	DESIGNED BY	CHECKED BY
		DRAWN BY	SCALE
		SHEET 12 OF 31	

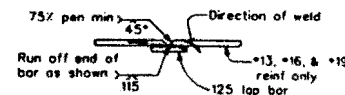
All dimensions are shown in millimeters, except as noted



- NOTES:
- 600 mm CIDH conc pile
  - Hooks on reinf extending into ftg shall be rotated as necessary to provide 100 mm min clr to edge of ftg
  - For spiral splice and anchor details, see "Pier Details" sheet
  - Concrete strength  $f_c = 25 \text{ Mpa}$  @ 28 days

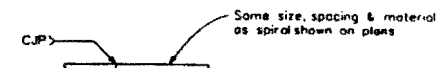


NOTES:  
Flare weld to be made in direction shown.



- NOTES:
- Butt weld to be made first.
  - Butt weld to be made in flat or horizontal position.
  - Lap bar to be centered on splice.
  - Flare weld to be made in direction shown.
  - Lap bar equal size to spiral bar.

VEE GROOVE WELDED SPICE



Individual hoops, made continuous with 100% penetration welds, may be substituted for spirals.

BUTT WELDED CONTINUOUS HOOP

BAR SPIRAL SPICE & SPIRAL ANCHOR AND HOPE DETAIL

No Scale

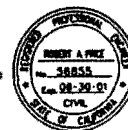
EXHIBIT # 4  
PAGE 24 OF 42

COASTAL COMMISSION

All dimensions are shown in millimeters, except as noted



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Prepared Under the Supervision of:



PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: COLUMN & PILE DETAILS	
DATE	BY	APPROVED	PROJECT NO. 676
		DIRECTOR OF PUBLIC WORKS	DRAWING NO. S-13
		RECOMMENDED	
		DESIGNED BY	
		DRAWN BY	
		CHECKED BY	
		DATE	



SHEET 13 OF 31

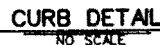
**Alternative 1:**

**Alternative 2:**

When Falsework Release Alternative 2 is used, camber values are 0.75 times those shown.

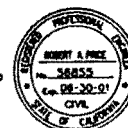


### TYPICAL SECTION AT SPANS




**PARTIAL SECTION**

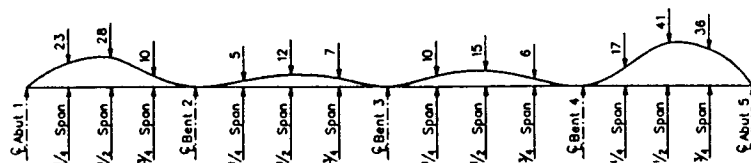
All dimensions are shown in millimeters, except as noted



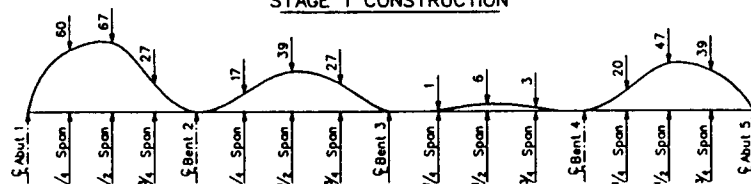
 J. MULLER INTERNATIONAL  
Prepared Under the Supervision

PUBLIC WORKS DEPARTMENT	PROJECT											
	MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER											
REVISIONS	TITLE											
DATE BY	TYPICAL SECTION											
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AS BUILT	DIRECTOR OF PUBLIC WORKS REC. CIV. DIV.	DRAWING NO. S-14										
FILE ROOM REP.	Recommendation											
PLAN REF.	DESIGNED BY DATE CHECKED BY DATE	SHEET 14 OF 3										





STAGE 1 CONSTRUCTION

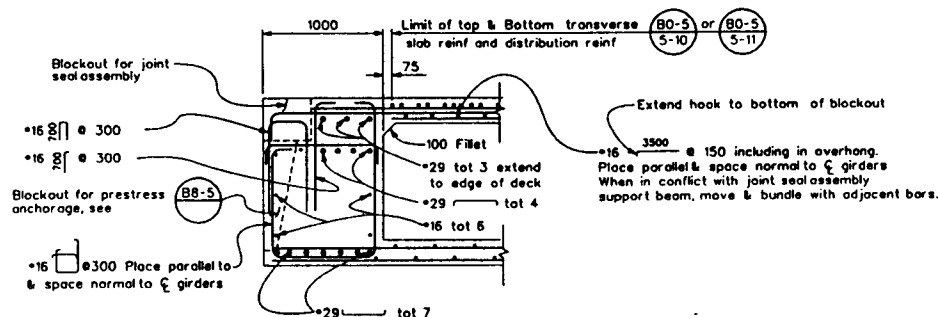


STAGE 2 CONSTRUCTION

### CAMBER DIAGRAM

No Scale

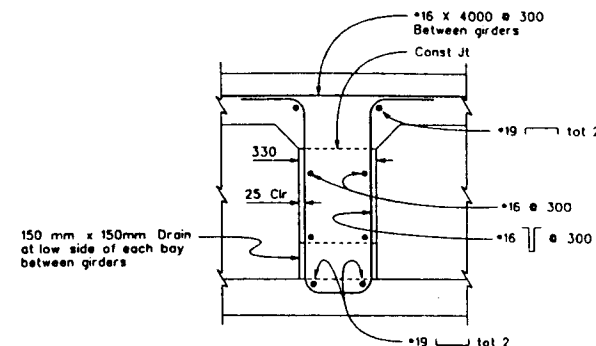
Note: Does not include allowance for falsework settlement.



### ABUTMENT END DIAPHRAGM

1:20

place to clear 2" below joint seal assembly. When in conflict with joint seal assembly support beam, move & bundle with adjacent bars.



### INTERMEDIATE DIAPHRAGM

1:10

### PRESTRESSING NOTES

1860 MPa Low Relaxation Strand:

	Left Stage 1	Right Stage 2	
	Girder 1	Girders 2,3&4	
P <sub>jack</sub>	17 500 kN	5900 kN	13 500 kN
Anchor Set	10 mm	10 mm	10 mm
Total Number of Girders	4	1	3

Distribution of prestress force (P<sub>jack</sub>) between girders 2 to 8 shall not exceed the ratio of 3:2. Maximum final force variation between girders shall not exceed 3200 kN.

Concrete: f'<sub>c</sub> = 35 MPa @ 28 days

f'<sub>ci</sub> = 25 MPa @ time of stressing

Contractor shall submit elongation calculations based on initial stress at

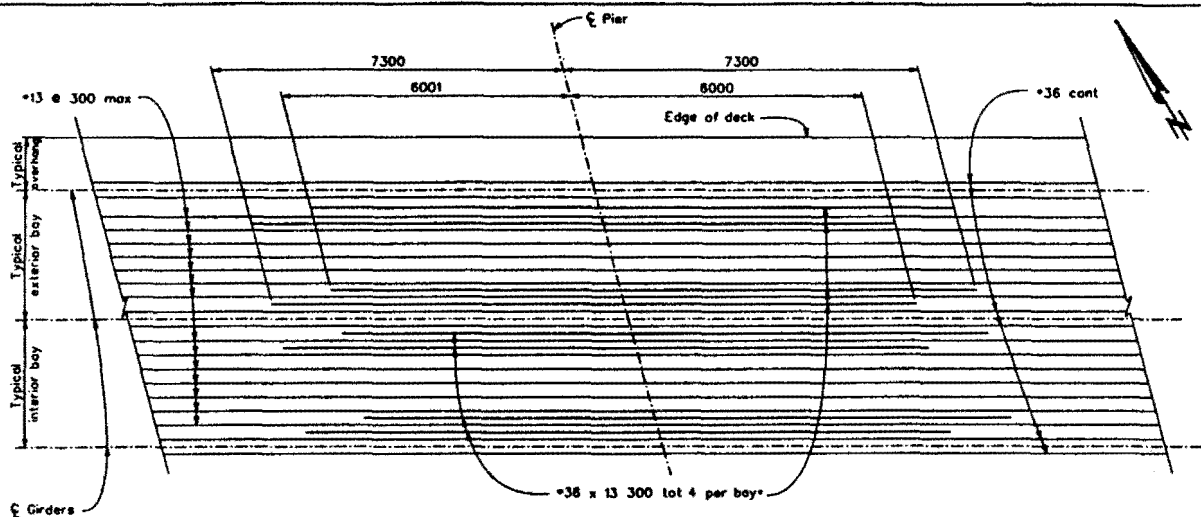
ε = 0.882 times jacking stress.

Stressing shall be performed from both ends.

Design is based on μ=0.15 and K=0.0002

All dimensions are shown in millimeters, except as noted

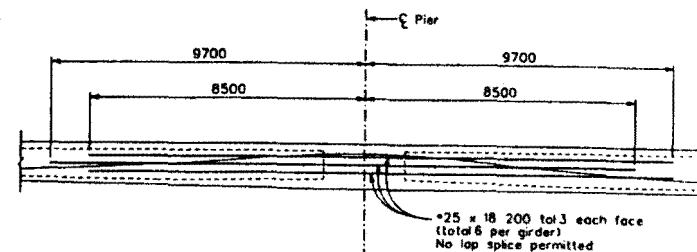
		PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
		REVISIONS		TITLE: GIRDER DETAILS	
DATE BY		DATE BY		PROJECT NO. 676	
AS BUILT		DATE BY		DRAWING NO. S-16	
DATE BY		DATE BY		SHEET 16 OF 31	



### TOP GIRDER REINFORCEMENT

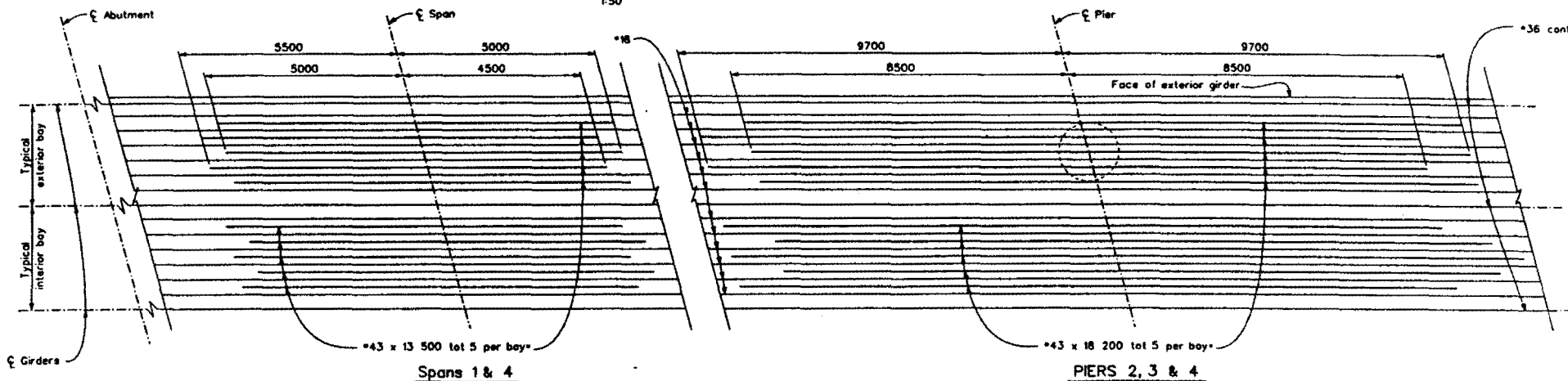
1:50

Note: Pier 2 shown, Piers 3 & 4 similar  
• No lap splice allowed



### ADDITIONAL STEM REINFORCEMENT

1:75



### BOTTOM GIRDER REINFORCEMENT

1:50

Note: • No lap splice allowed

PIERS 2, 3 & 4

EXHIBIT # 4  
PAGE 25 OF 40

COASTAL COMMISSION



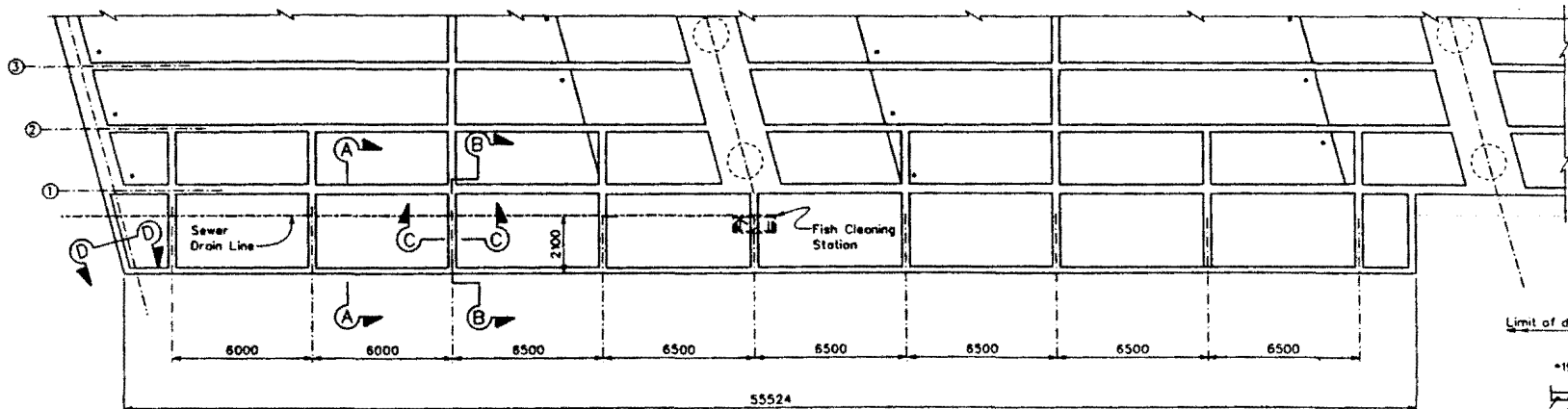
Prepared Under the Supervision of:



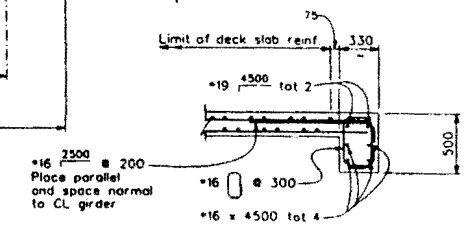
PUBLIC WORKS DEPARTMENT	PROJECT:	MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER
	TITLE:	GIRDER REINFORCEMENT
REVISIONS	APPROVED	PROJECT NO. 676
DATE BY	DESIGNED BY PUBLIC WORKS DEPT. REC. NEW ELY	DRAWING NO. S-17
AS BUILT	RECOMMENDED	SHEET 17 OF 31
FIELD BOOK REF.	DESIGNED BY	
PLAN REF.	CHECKED BY	

All dimensions are shown in millimeters, except as noted

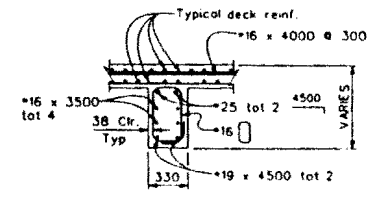




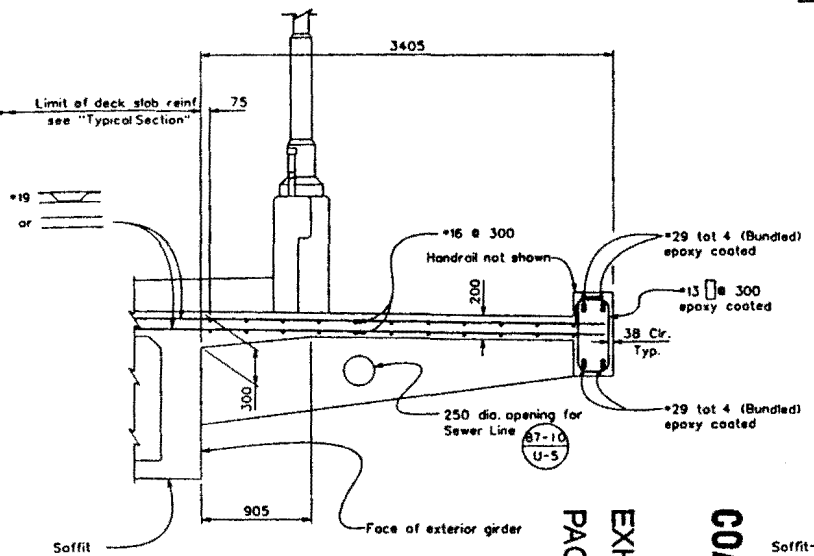
PLAN  
1:100



SECTION D-D  
1:20

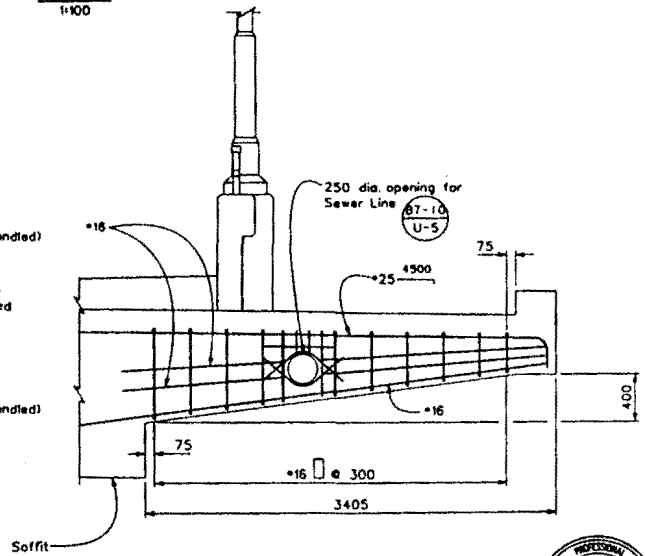


SECTION C-C  
1:20



SECTION A-A  
1:20

Notes:  
For details not shown, see "Typical Sections" sheet.



SECTION B-B  
1:20

All dimensions are shown in millimeters, except as noted

EXHIBIT # 4  
PAGE 21 OF 42

COASTAL COMMISSION

<p><b>J. MILLER INTERNATIONAL</b> Prepared Under the Supervision of:</p>		<b>PUBLIC WORKS DEPARTMENT</b>		<b>PROJECT</b> MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
		<b>REVISIONS</b>		<b>TITLE</b>	
		DATE BY AS BUILT		APPROVED SUPERVISOR OFFICE - CIVIL	
		FIELD CHECK REP PLAN REP		PROJECT NO. 676 DRAWING NO. S-18 SHEET 18 OF 31	



SINK DETAIL





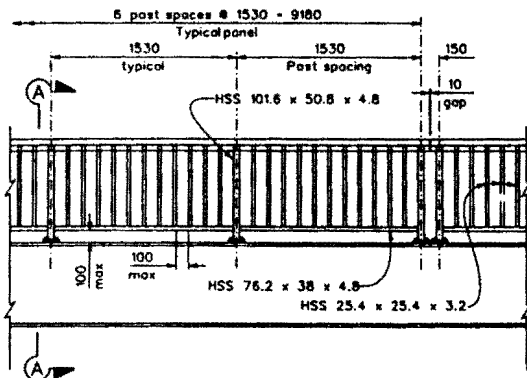
 	<b>PUBLIC WORKS DEPARTMENT</b>	<b>PROJECT:</b> <b>MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER</b>																																		
	<b>REVISIONS</b> <table border="1"> <tr><td>DATE</td><td>BY</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	DATE	BY																			<b>TITLE:</b> <b>FISHING PIER DETAILS No. 1</b>	<b>PROJECT NO</b> <b>676</b>													
DATE	BY																																			
 <b>J. MULLER INTERNATIONAL</b> Prepared Under the Supervision of: _____	<b>AS BUILT</b> <table border="1"> <tr><td>FIELD</td><td>BOOK</td><td>REF</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	FIELD	BOOK	REF																												<table border="1"> <tr> <td><b>DRAWING NO</b></td> <td><b>DATE</b></td> </tr> <tr> <td><b>S-18</b></td> <td><b>SEP 19 OF 3</b></td> </tr> </table>	<b>DRAWING NO</b>	<b>DATE</b>	<b>S-18</b>	<b>SEP 19 OF 3</b>
FIELD	BOOK	REF																																		
<b>DRAWING NO</b>	<b>DATE</b>																																			
<b>S-18</b>	<b>SEP 19 OF 3</b>																																			

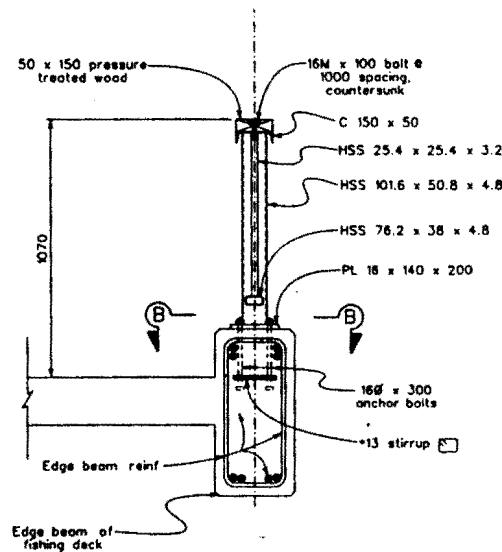
EXHIBIT # 4  
PAGE 30 OF 42

# COASTAL COMMISSIO



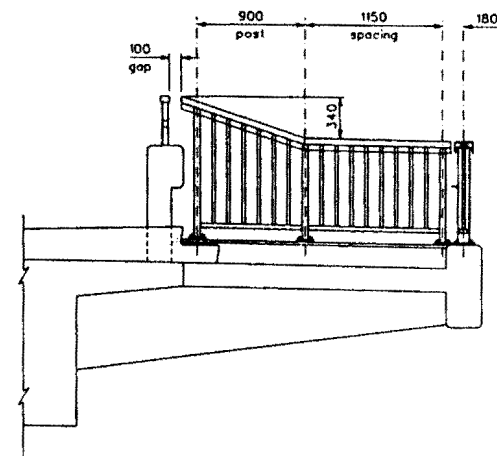
PANEL ELEVATION

1:20



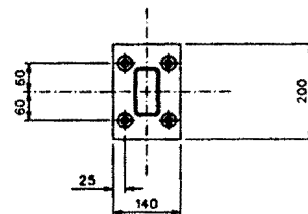
SECTION A-A

1:10



PANEL ELEVATION

1:20



SECTION B-B

1:5

All dimensions are shown in millimeters, except as noted

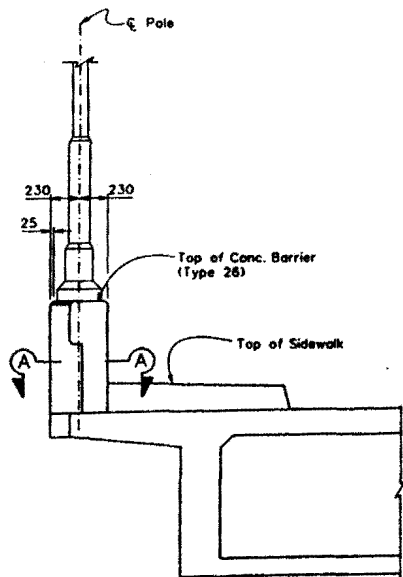
COASTAL COMMISSION  
EXHIBIT # 4  
PAGE 31 OF 42



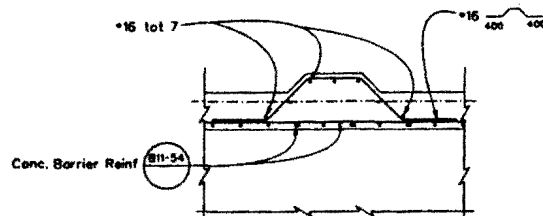
J. MULLER INTERNATIONAL  
Prepared Under the Supervision of:



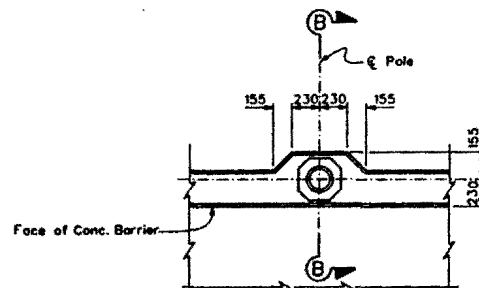
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TITLE: FISHING PIER DETAILS No. 2		PROJECT NO. 676	
APPROVED: [Signature]		DRAWING NO. S-20	
REVISIONS:		SHEET 20 OF 31	
DATE	BY	APPROVED	RECOMMENDED
DATE	BY	APPROVED	RECOMMENDED



ELEVATION



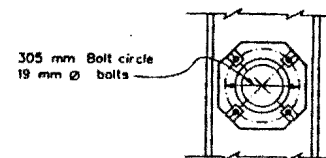
SECTION A-A  
1:20



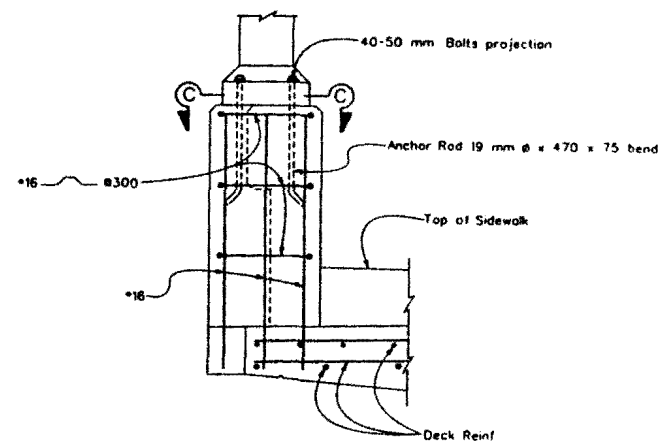
PLAN

BRIDGE LIGHT BASE (CLASSIC)

1:20



SECTION C-C  
1:10



SECTION B-B  
1:10

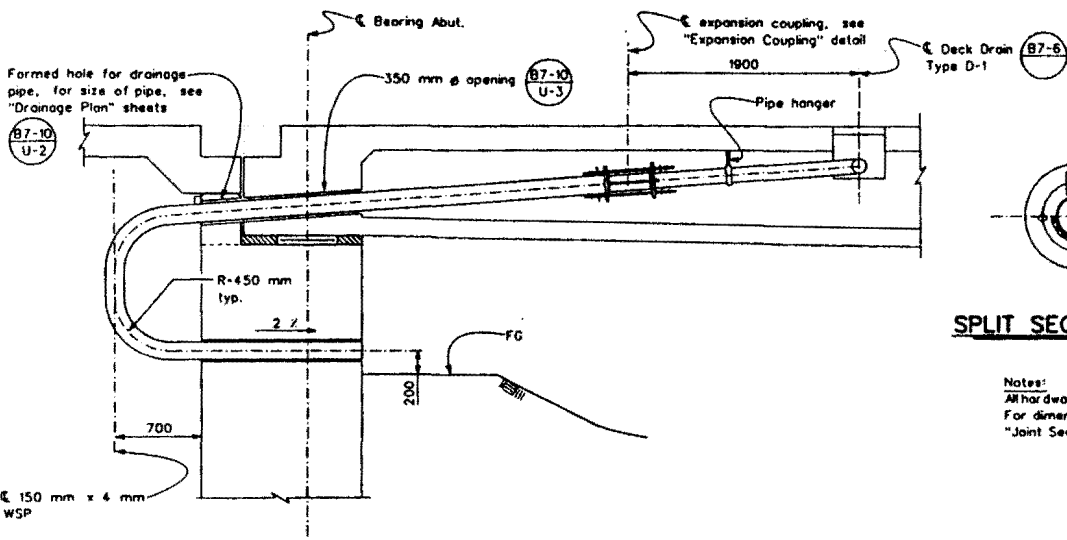
COASTAL COMMISSION  
EXHIBIT # 4  
PAGE 32 OF 43

All dimensions are shown in millimeters, except as noted



**J. MULLER INTERNATIONAL**  
Prepared Under the Supervision of:

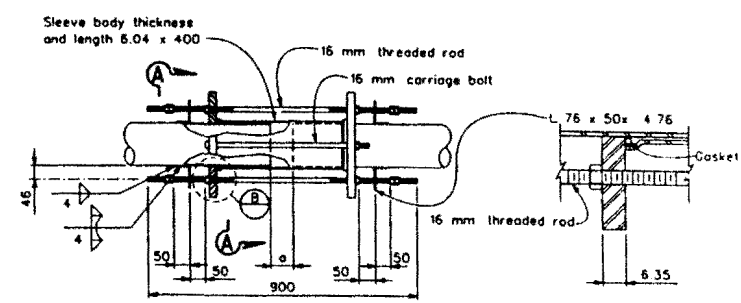
PUBLIC WORKS DEPARTMENT		PROJECT MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: MISCELLANEOUS DETAILS No. 1 (BARRIER LIGHTING)	
DATE	BY	APPROVED	PROJECT NO. 676
FILE	DESIGN	DESIGNED BY	DRAWING NO. S-21
PLAN	REF	PROJECT BY	SHEET 21 OF 31



**DECK DRAIN PIPE AT ABUTMENT**  
F20

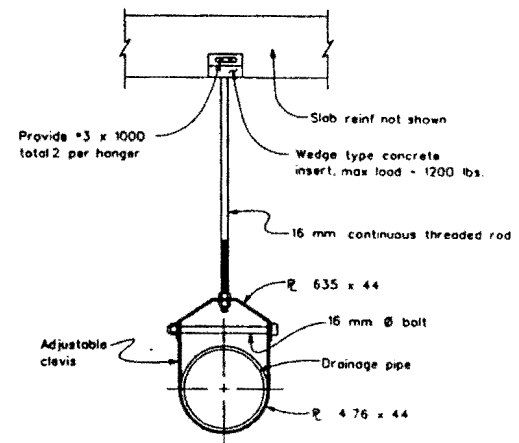
**SPLIT SECTION A-A**

Notes:  
All hardware to be galvanized.  
For dimension "a" see  
"Joint Seal Assembly sheet"

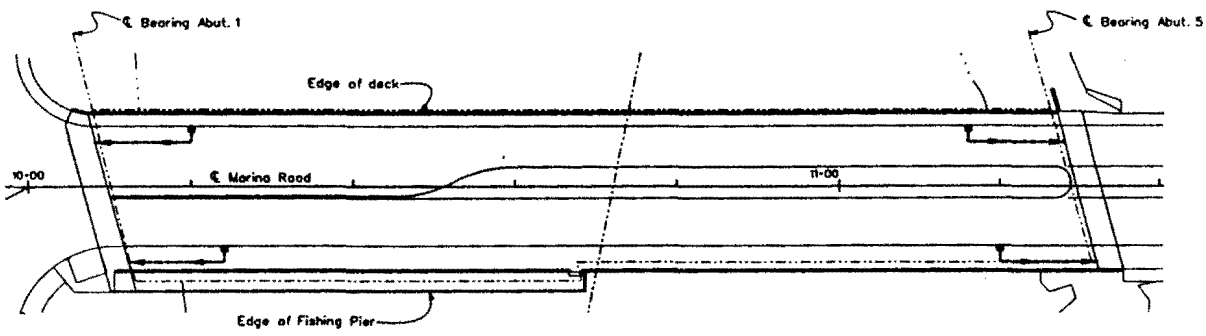


**EXPANSION COUPLING**  
No Scale

**DETAIL B**



**DRAINAGE PIPE SUPPORT**  
No Scale



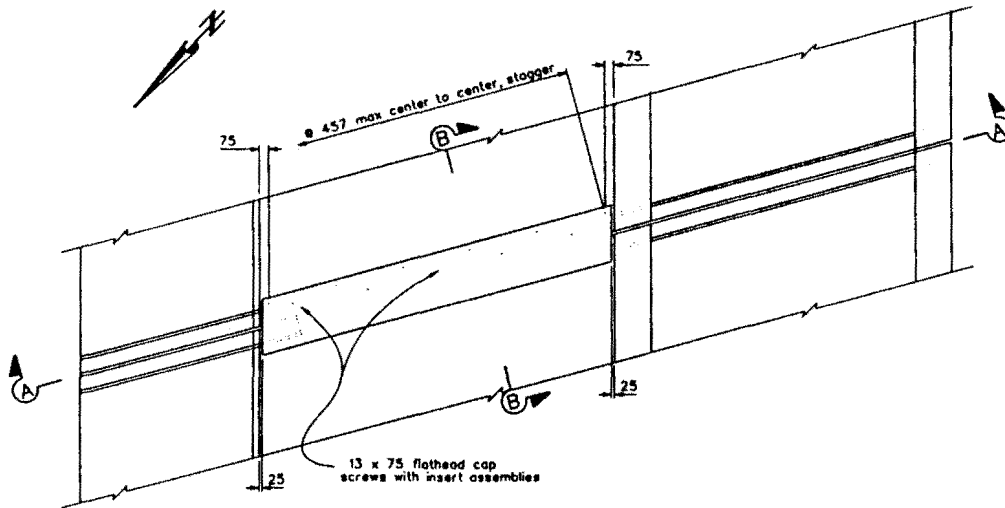
Notes:  
All piping to be 150 mm x 4 mm WSP  
with 450 mm min radius bends.  
Denotes Deck Drain Type D location  
For details not shown, see "ETC - Deck Drain  
Type D" sheet  
Denotes direction of flow  
Minimize to use drain with haunched overhang, see  
"ETC - Deck Drain Type D" sheet.

COASTAL COMMISSION  
EXHIBIT # 4  
PAGE 33 OF 42

All dimensions are shown in millimeters, except as noted

 <b>J. MILLER INTERNATIONAL</b> Prepared Under the Supervision of:		<b>PUBLIC WORKS DEPARTMENT</b>		<b>MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER</b>	
		<b>REVISIONS</b>		<b>DECK DRAINAGE DETAILS</b>	
DATE: 07/11/07 BY: [Signature] CHECKED: [Signature] APPROVED: [Signature]		AS BUILT FIELD BOOK REF: [Blank] PLAN REF: [Blank]		PROJECT NO: 676 DRAWING NO: S-22 SHEET 22 OF 31	

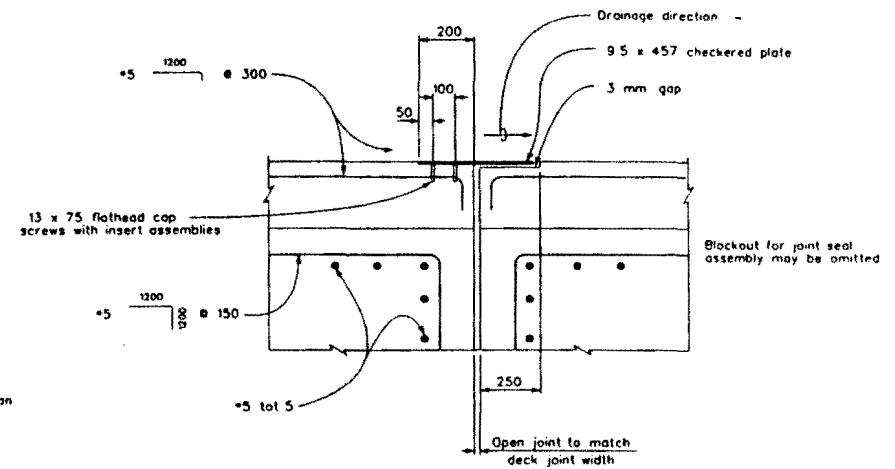




### PART PLAN

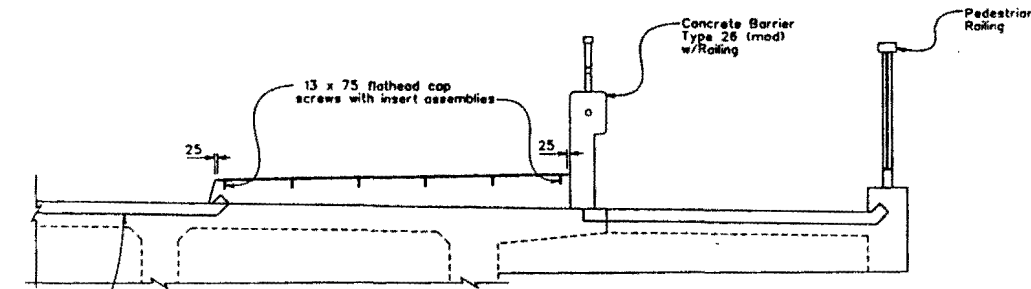
1:20

Note:  
Adjust bolt spacing to avoid conflicts with utilities.  
Right sidewalk shown, left sidewalk similar



### SECTION B-B

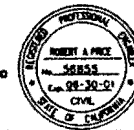
NO SCALE



### SECTION A-A

1:20

All dimensions are shown in millimeters, except as noted



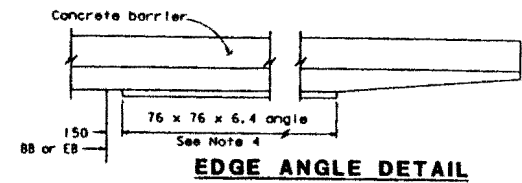
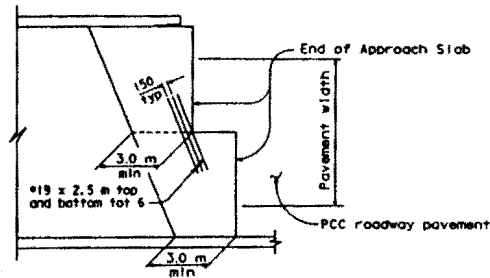
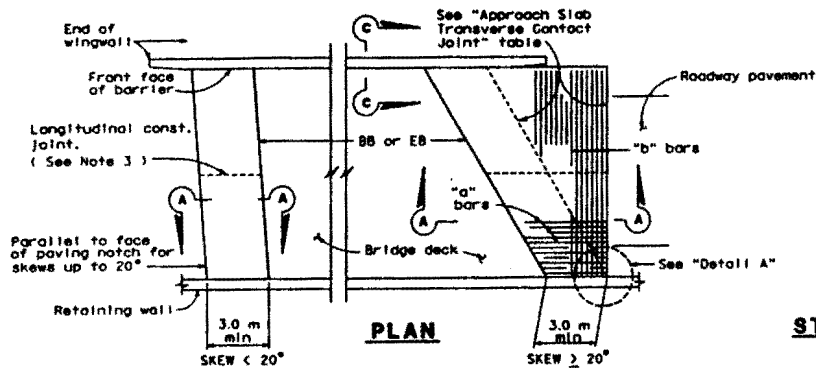
J. MULLER INTERNATIONAL  
Prepared Under the Supervision of

PUBLIC WORKS DEPARTMENT		PROJECT MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: SIDEWALK COVER PLATE	
DATE	BY	APPROVED	PROJECT NO. 676
AS BUILT		DESIGNED BY: R. PRICE	DRAWING NO. S-24
FILED	DATE	RECOMMENDED	
PLAN	REV	DATE	
SHEET 24 OF 31			

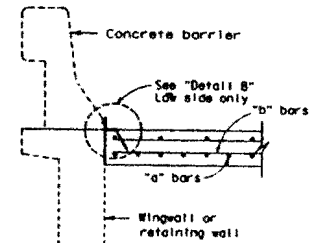
COASTAL COMMISSION

EXHIBIT #

PAGE 35 OF 42

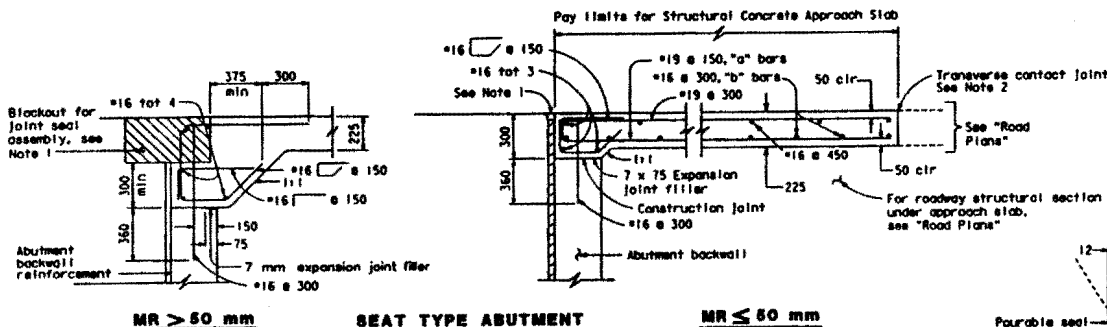


### STRUCTURE APPROACH - END STAGGER DETAIL



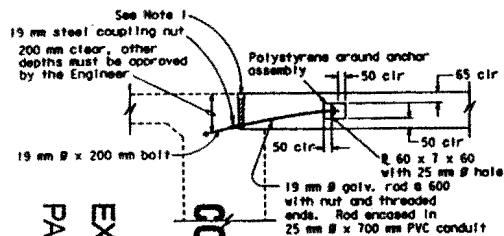
### SECTION C-C

APPROACH SLAB TRANSVERSE CONTACT JOINT		
STRUCTURE SKEW	AC APPROACH PAVEMENT	PCC APPROACH PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P.H. use (Detail A)	Stagger lines 7.2 m to 10.8 m apart
> 45°	Parallel to face of P.H. use (Detail A)	Stagger at each lane line

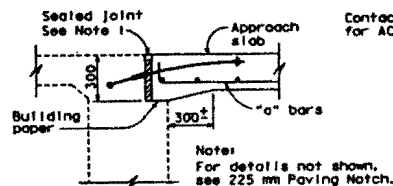


### SEAT TYPE ABUTMENT SECTION A-A

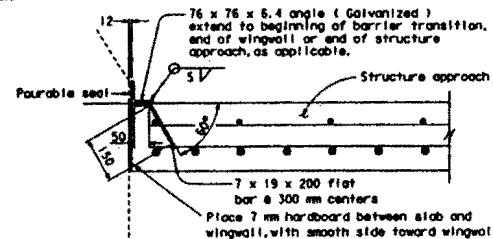
Note: Seat Type Abutment shown, for Diaphragm Type Abutment, see "Abutment Tie Details".



### DIAPHRAGM TYPE ABUTMENT ABUTMENT TIE DETAILS



### 300 mm PAVING NOTCH



### DETAIL B

### DETAIL A

### NOTES:

- For details not noted or shown, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
- For transverse contact joint with new PCC paving, refer to Standard Plan A35-A.
- Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
- End angle at beginning of barrier transition, end of wingwall or end of structure approach, as applicable.
- At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along roadway.
- For drainage details, see Structure Plans.

All dimensions are shown in millimeters, except as noted

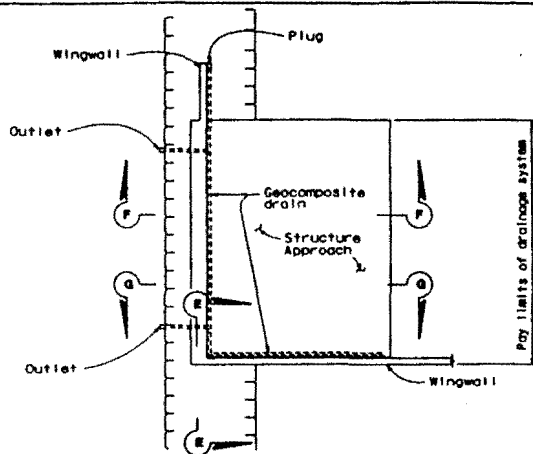


J. MULLER INTERNATIONAL  
Prepared Under the Supervision of:

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVIEWS		TITLE: STRUCTURE APPROACH TYPE EQ(3)	
DATE	BY	PROJECT NO.	678
DATE	BY	DRAWING NO.	S-25
DATE	BY	SHEET	25 OF 31

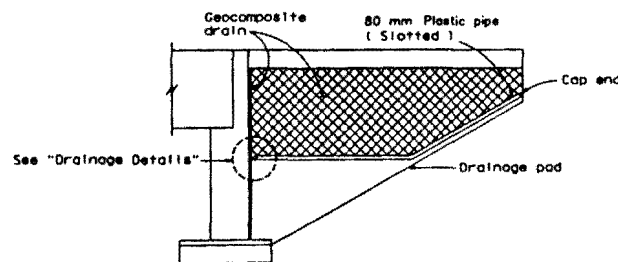
EXHIBIT # 4  
PAGE 36 OF 42  
COASTAL COMMISSION



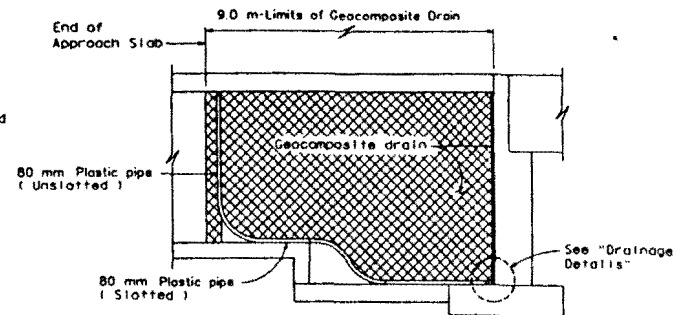


**TYPICAL PLAN**

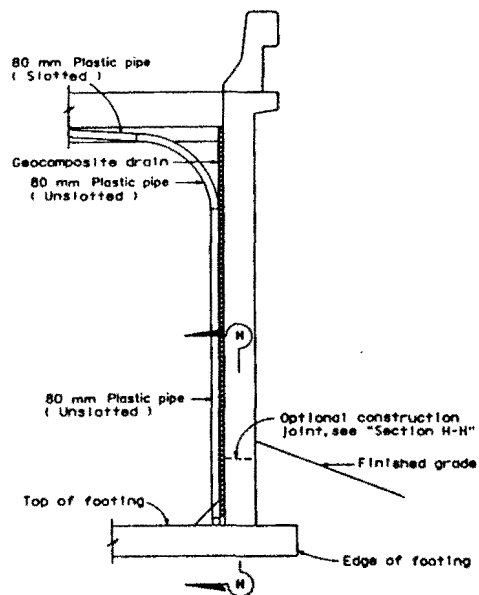
\* For pipe layout at staggered end, see "Detail B".  
Abut 5 shown, Abut 1 similar



**CANTILEVER WINGWALL  
SECTION F-F**

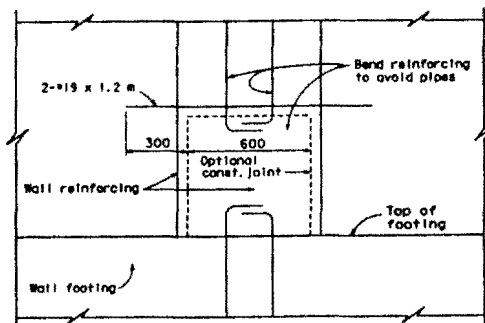


**RETAINING WALL WINGWALL  
SECTION G-G**

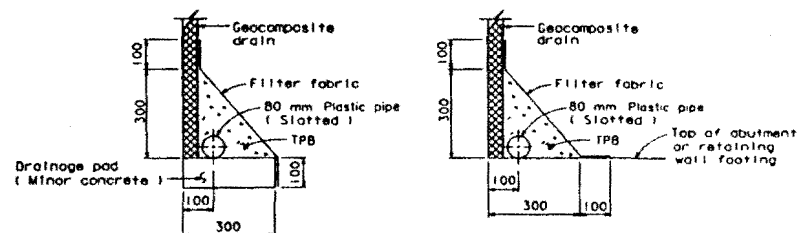


**SECTION E-E**

NOTE: Bends and junctions in 80 mm plastic pipe are 750 mm radius min.



**SECTION H-H**



**WITHOUT FOOTING**

**WITH FOOTING**

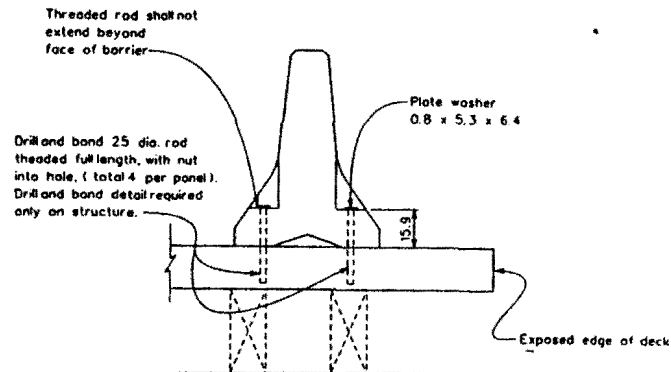
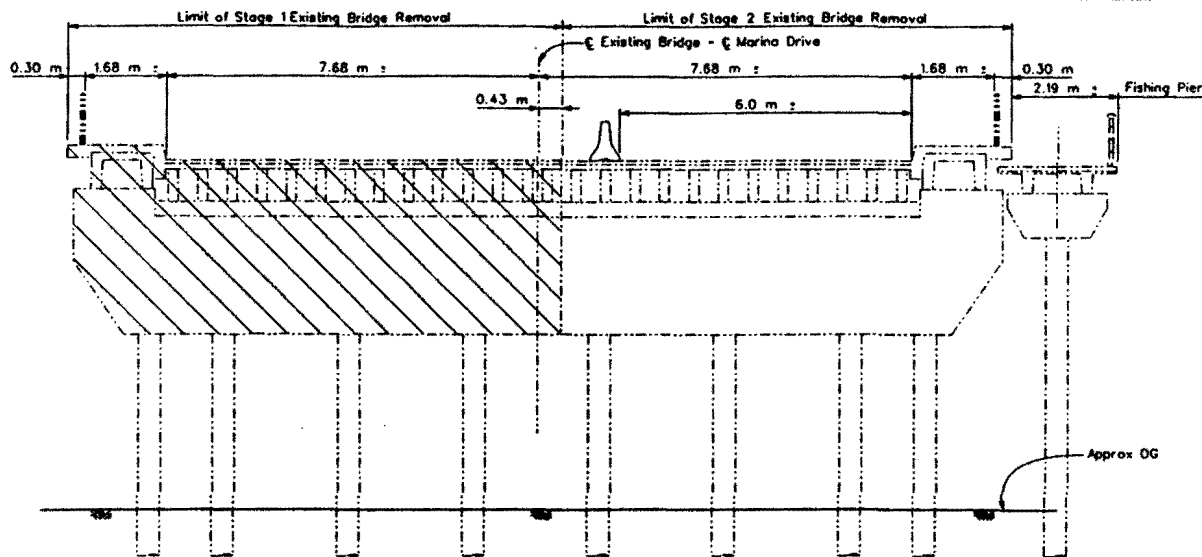
**DRAINAGE DETAILS**

EXHIBIT # 4  
PAGE 32 OF 40

COASTAL COMMISSION

Dimensions are shown in millimeters, except as noted

 	<b>PUBLIC WORKS DEPARTMENT</b>		<b>PROJECT</b> MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
	<b>REVISIONS</b> DATE BY AS BUILT FILED 08-08-01 DATE BY		<b>TITLE:</b> STRUCTURE APPROACH DRAINAGE DETAILS	
<b>APPROVED</b> J. MULLER INTERNATIONAL Prepared Under the Supervision of:		<b>APPROVED</b> PROJECT NO. 676 DRAWING NO. S-26		<b>DATE</b> 8-8-01
		<b>SHEET</b> 26 OF 31		

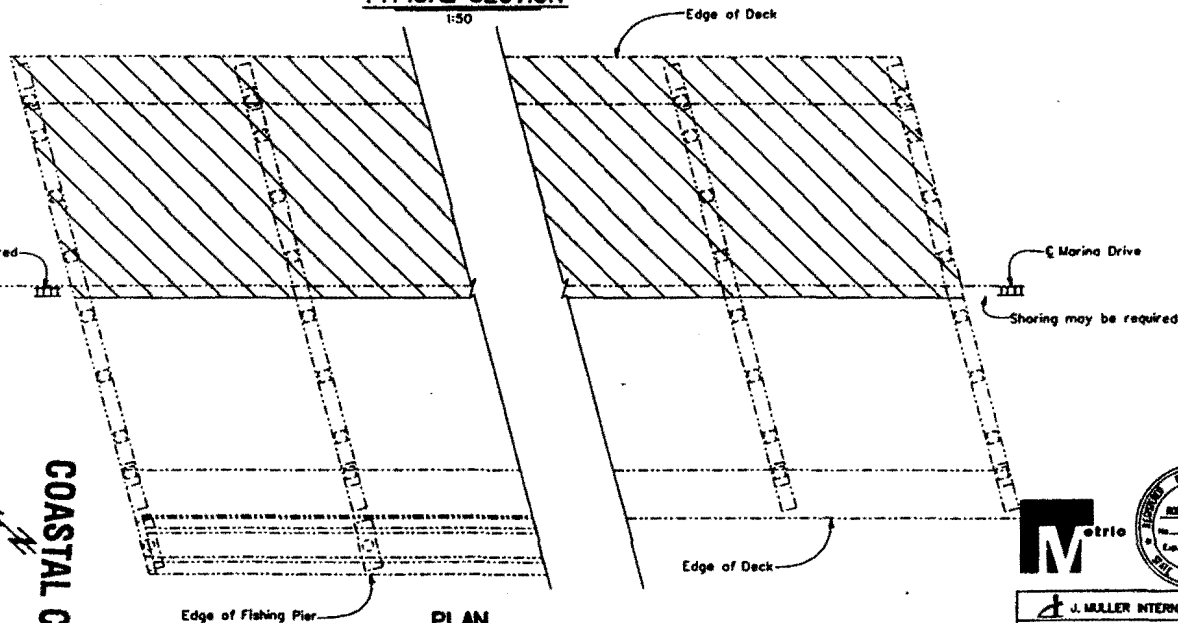


### TYPE K RAILING ATTACHMENT DETAILS

1:10

### TYPICAL SECTION

1:50



PLAN  
1:100

All dimensions are shown in millimeters, except as noted

#### Notes:

For additional STAGE 1 and STAGE 2 information, see "GENERAL PLAN" sheet

Cut line to follow girder laps as practical as possible

Contractor to shore exterior girders as approved by the Engineer.

The contractor shall verify all controlling field dimensions before ordering or fabricating any material

Existing Structure shown thus

- Denotes Limits of Existing Bridge Removal- STAGE 1
- Denotes Limits of Existing Bridge Removal- STAGE 2

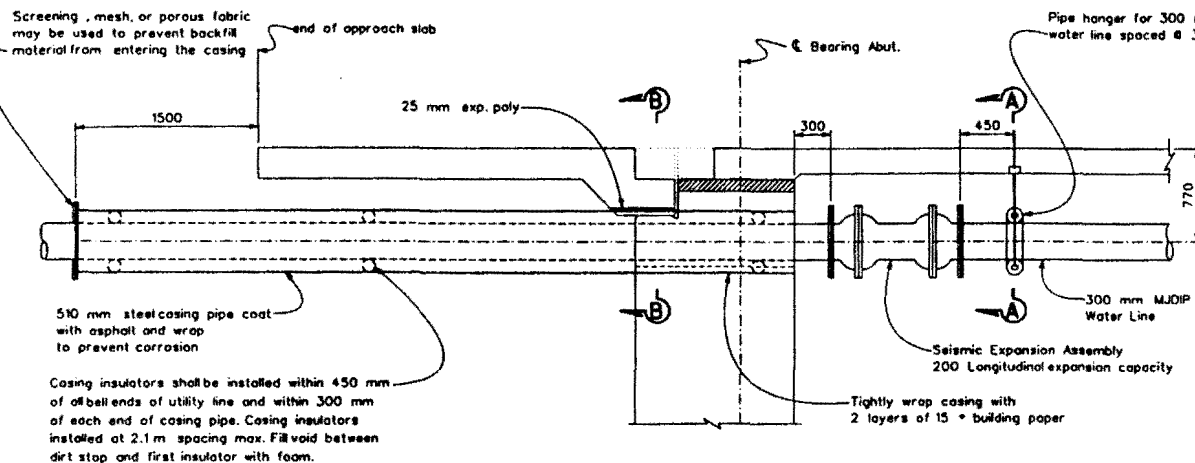
PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		TITLE: EXISTING BRIDGE REMOVAL	
DATE	BY	APPROVED	PROJECT NO. 676
		AS BUILT	DRAWING NO. S-27
FILED	DATE	RECOMMENDED	DATE
J. MULLER INTERNATIONAL		SHEET 27 OF 31	
Prepared Under the Supervision of			



COASTAL COMMISSION

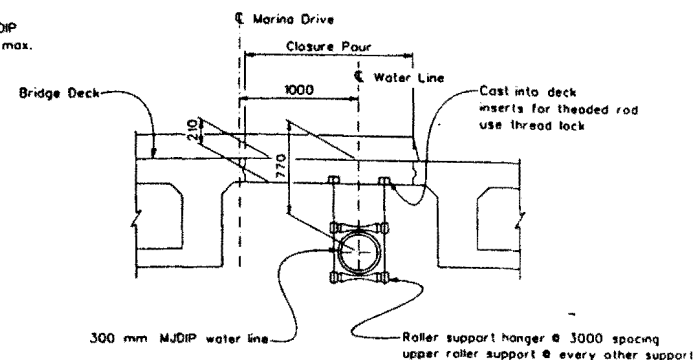
EXHIBIT # 4

PAGE 38 OF 43



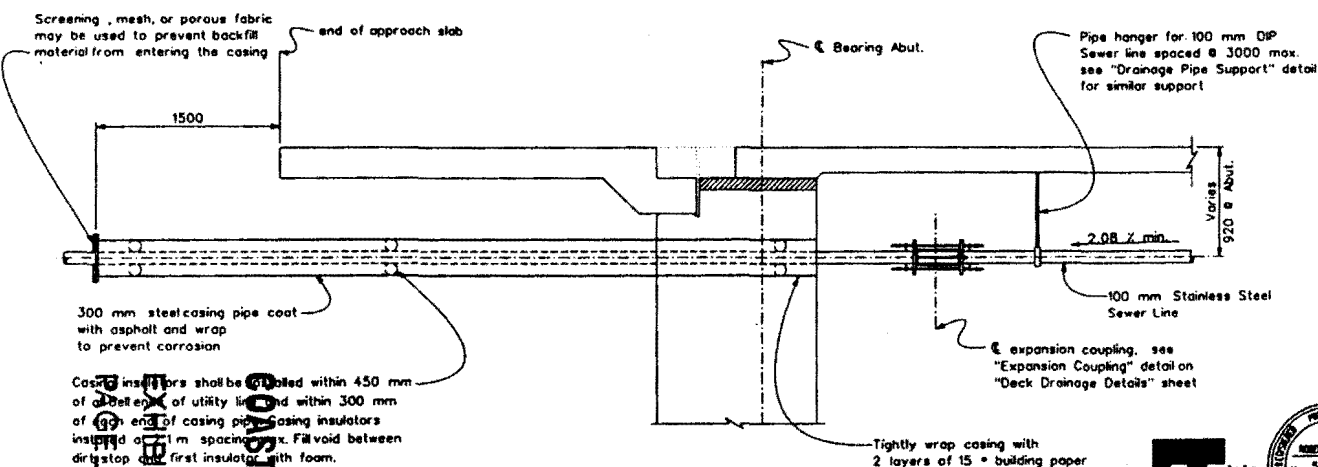
### CASING INSTALLATION AT ABUTMENT 1 AND 5 FOR WATER LINE

1:20



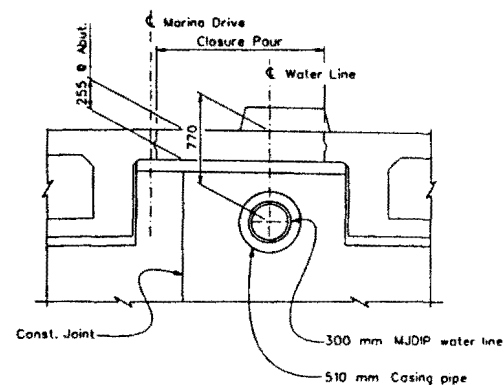
### SECTION A-A

1:20



### SEWER CONNECTION FOR CLEANING STATION

1:20

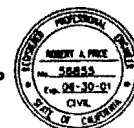


### SECTION B-B

1:20



J. MULLER INTERNATIONAL  
Prepared Under the Supervision of:



PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
REVISIONS		FILE	
DATE	BY	AS BUILT	
DATE	BY	RECOMMENDED	
DATE	BY	DATE	
PROJECT NO. 676		DRAWING NO. S-28	
SHEET 28 OF 31			

All dimensions are shown in millimeters, except as noted

CIVIL COMMISSION

SHEET # 39 OF 42

**SPEED LIMIT**  
**5 MPH**  
 LBMC 16-12.151

**DANGER**  
 SHALLOW WATER SUBMERGED  
 ROCKS AND OBSTRUCTIONS  
 ENTIRE RIVER  
 UNSAFE FOR BOATING,  
 WATER SKIING AND SWIMMING  
 LOS ANGELES COUNTY DEPT. OF PUBLIC WORKS




COASTAL COMMISSION

EXHIBIT #

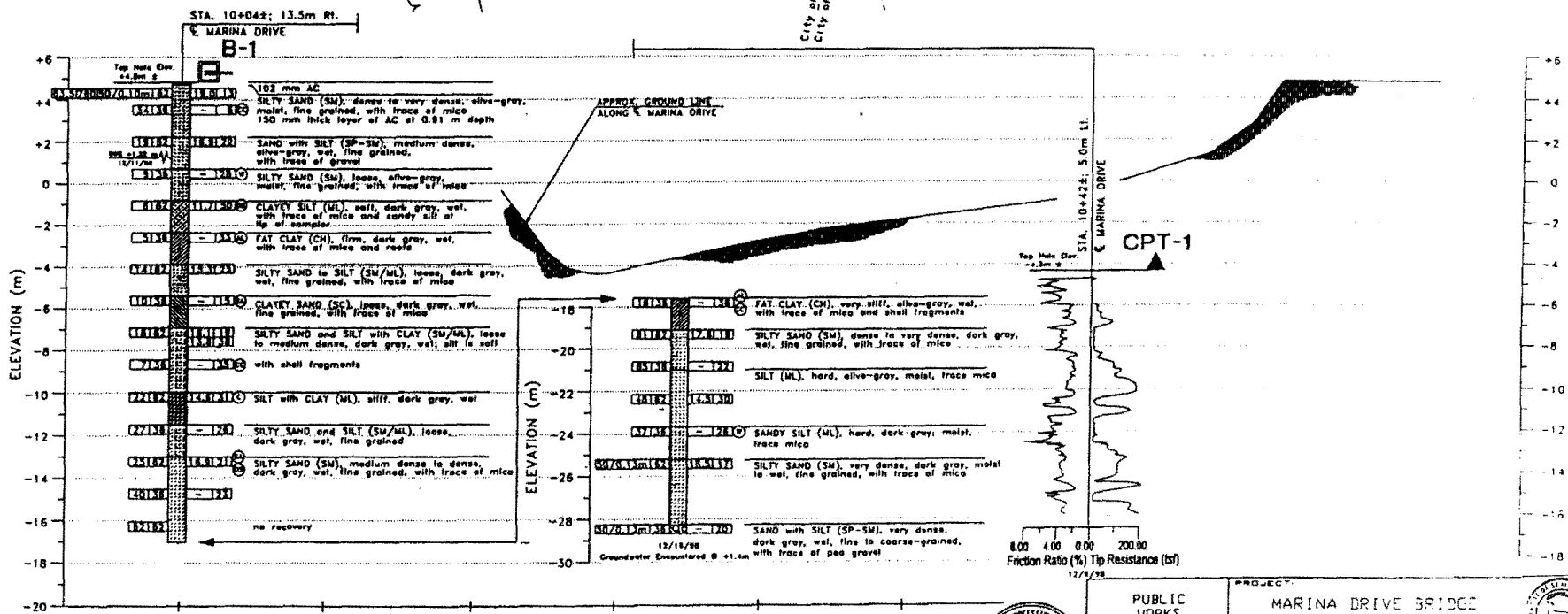
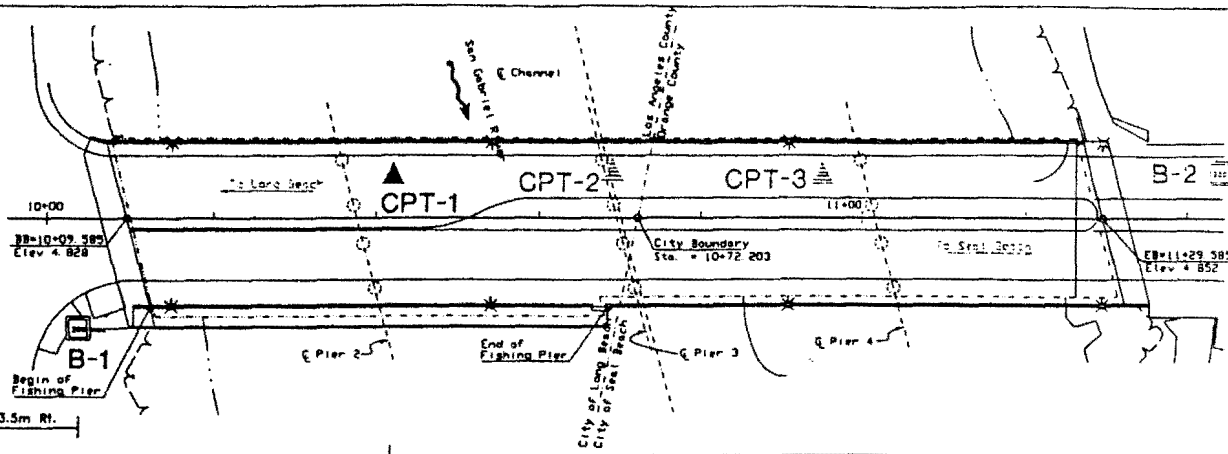
4

PAGE 40 OF 40

All dimensions are shown in millimeters, except as noted

 	<b>PUBLIC WORKS DEPARTMENT</b>	<b>PROJECT:</b> MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
	<b>REVISIONS</b> DATE BY AS BUILT P.O.B. DATE REP PLAN REP	<b>TITLE:</b> RIVER SIGNS DETAILS	PROJECT NO 678 DRAWING NO S-29 SHEET 29 OF 31
<b>J. MULLER INTERNATIONAL</b> Prepared Under the Supervision of:		APPROVED BY PUBLIC ENGINEER SEE THE STATE RECOMMENDATION DESIGNED BY DRAWN BY CHECKED BY	

# PLAN SCALE 1:300



MARINA DRIVE

COASTAL COMMISSION

PROFILE  
VERTICAL 1 : 100  
HORIZONTAL 1 : 300

EXHIBIT # 4  
PAGE 41 OF 42



Prepared Under the Supervision of:

PUBLIC  
WORKS  
DEPARTMENT

MARINA DRIVE BRIDGE  
OVER SAN GABRIEL RIVER

REVISIONS	DATE	BY	APP. BY
AS BUILT			
FIELD COR. REP.			
PLAN COR.			

LOG OF TEST BORINGS NO. 1

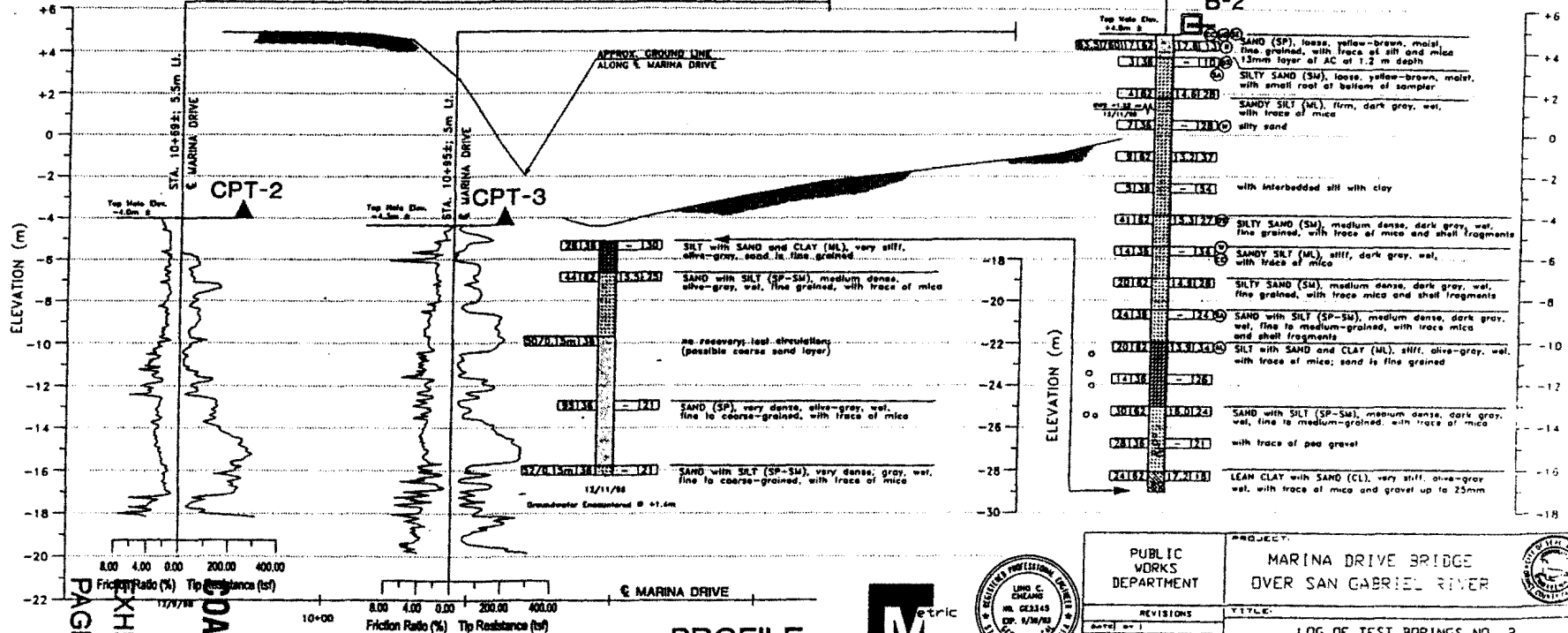
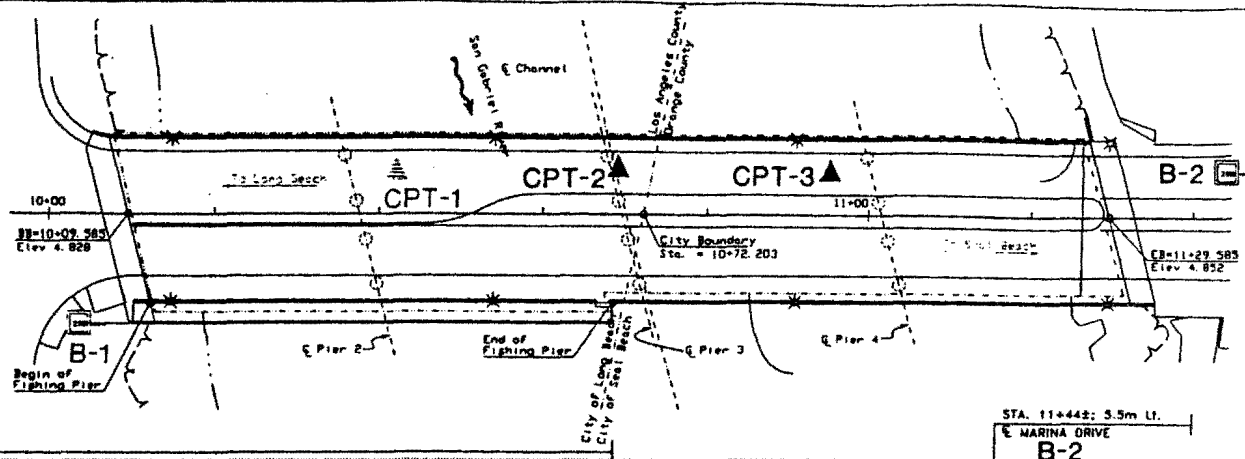
PROJECT NO. 676

DRAWING NO. 6-30

SHEET 30 OF 31

All dimensions are shown in meters, except as noted

# PLAN SCALE 1:300



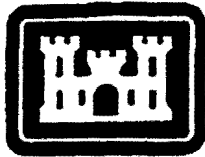
**PROFILE**  
VERTICAL 1 : 100  
HORIZONTAL 1 : 300

PUBLIC WORKS DEPARTMENT		PROJECT: MARINA DRIVE BRIDGE OVER SAN GABRIEL RIVER	
LOG OF TEST BORINGS NO. 2		PROJECT NO. 676	
DRAWING NO. 5-31		SHEET 31 OF 31	
REVISIONS		TITLE	
DATE NO. 1		APPROVED	
AS BUILT		STATIONED BY	
FIELD NO. 1		REASON FOR	
PLAN NO. 1		REASON FOR	
DATE NO. 1		REASON FOR	
DATE NO. 1		REASON FOR	

EXHIBIT # 4  
PAGE 42 OF 43

COASTAL COMMISSIO

All dimensions are shown in meters, except as noted



**US Army Corps  
of Engineers®**

LOS ANGELES DISTRICT

# PRE-CONSTRUCTION NOTIFICATION

**RECEIVED**

AUG 30 2000

CALIFORNIA  
COASTAL COMMISSION

FOR NO. 199916566-VAW

**RECEIVED**

AUG 21 2000

CALIFORNIA  
COASTAL COMMISSION

U.S. Army Corps of Engineers  
Los Angeles District, CESPL-CO-R  
P.O. Box 532711  
Los Angeles, CA 90053-2325

**Contact:**  
Name: Vicki A. White  
Phone: (213) 452-3414  
FAX: (213) 452-4196  
Email: vwhite@spl.usace.army.mil

DATE PCN INITIATED: August 21, 2000

AGENCY	FAX Number	Attn:
[ ] CCC - San Francisco	(415) 904-5400	James Raives
[ ] CCC - Long Beach	(562) 590-5084	Steve Rynas
[ ] CDFG	(858) 467-4299	Bill Tippets
[ ] CRWQCB, Santa Ana	(909) 781-6288	Kelly Schmoker
[ ] NMFS	(562) 980-4092	Robert Hoffman
[ ] U.S. Coast Guard, Long Beach	(562) 980-4427	Lt. R. Collier
[ ] U.S. Coast Guard, D-11	(510) 437-5836	Mike Carlson
[ ] U.S. EPA, W-3-3	(415) 744-1078	Rebecca Tuden
[ ] SHPO (FYI Only)	(916) 653-9824	Cherilyn Widell
[ ] U.S. FWS, Carlsbad	(760) 431-9618	Jim Bartel

5-00-321

In accordance with regulations published at 33 CFR Part 330, information regarding a proposed discharge under Nationwide Permit Number(s) NW03, NW25 and NW33 has been forwarded to you with this fax or under separate cover. Please review the PCN materials and notify the above referenced contact on or before August 25, 2000 if you intend to provide substantive, site-specific comments to the District. These comments must be received on or before September 5, 2000 to be considered by the District Engineer in his decision on this notification.

PLEASE REFER TO CASE NUMBER PCN-199916566-VAW IN YOUR RESPONSE.

~~27~~ pages to follow

COASTAL COMMISSION

5-00-321

EXHIBIT # 5

PAGE 1 OF 6

**APPLICANT NAME:** City of Seal Beach

**AGENT NAME:** Michael Brandman Associates  
Attn: Michael Houlihan  
15901 Red Hill Avenue, Suite 200  
Tustin, California 92780  
Tel. No. (714) 258-8100

**WATERWAY NAME:** San Gabriel River

**LOCATION:** The project site is located in the San Gabriel River, approximately 0.4 miles upstream from the Pacific Ocean, in the Cities of Seal Beach and Long Beach, Orange and Los Angeles Counties, California.

**BRIEF DESCRIPTION OF PROPOSED WORK:** The proposed work involves the demolition and replacement of the Marine Drive Bridge that spans the San Gabriel River connecting the Cities of Seal Beach and Long Beach, in Orange and Los Angeles Counties, California. The purpose of the proposed project is to replace the existing seismically deficient structure with an improved bridge crossing that meets current seismic safety standards and would not jeopardize public safety.

Existing Conditions: The existing bridge structure is approximately 63 feet wide by 390 feet long. The structure includes a wooden deck and 14 support bents, each with eight individual, 1.5-foot diameter reinforced concrete pilings. The existing bridge structure spans the river on a vertical curve. The lowest points of the bridge are at the bridge ends where the soffit elevation is at 12.14 feet above mean sea level (MSL). The highest point of the bridge is at the middle of the bridge where the soffit elevation is at 14.4 feet above MSL. The bridge abutments each extend approximately 100 feet along the channel side slopes and consist of a combination of AC pavement, concrete, rock rip rap protection, and soil. There is a 1,456 sq. ft. fishing pier (8 feet wide by 182 feet long) attached to Marine Drive Bridge. The fishing pier includes a concrete deck with seven bents, each with a 1.3-foot diameter concrete pile.

Proposed Work: The proposed work would involve the demolition and reconstruction of the Marine Drive Bridge (and the attached fishing pier). All existing bridge and fishing pier piles, including a total of 119 pilings, would be removed and replaced with 12 larger piles. Although the proposed piles would be larger in size, they would result in a slight decrease (0.001 acre) of permanent impact within jurisdictional waters of the U.S. The existing abutments, which consist of AC pavement, concrete, riprap, and soil, would be replaced; however, no net change in fill material and/or permanent impacts to jurisdictional waters of the U.S. would occur. As a result, the proposed work would result in no net increase in permanent impacts to jurisdictional waters of the U.S.

The proposed work would result in temporary impacts during the demolition and reconstruction of the bridge. Construction activities would occur in two phases. Phase I would involve the construction of a temporary trestle adjacent to the southern portion of the existing bridge structure. Once the southern portion of the new bridge is completed, the southern trestle would be dismantled and, as Phase 2, a second trestle would be constructed on the northern side of the existing bridge to build the northern portion of the new bridge. Subsequent to the construction of the northern portion of the new bridge, the northern trestle would be dismantled. Each trestle structure would be approximately 25 feet wide by 349 feet long, and supported by 18 bents, each with 4 piles of 1.5 feet in diameter. Therefore, the temporary impacts of the two trestles together are calculated as (2 trestles) x (18 bents) x (4 piles) x (3.14) x (0.82 foot radius) x (0.82 foot radius) = 304 sq. feet (0.007 acre).



The proposed work may also include the use of cofferdams. Cofferdams would result in temporary impacts to the San Gabriel River. The area of disturbance by each cofferdam is not known at this time; however, the cumulative area of disturbance would be all areas under the existing bridge, fishing pier, and the two trestle as well as the area that would be disturbed from the removal of the bridge abutments. This cumulative area of disturbance by the cofferdams is estimated to be approximately 393.7 feet long by 164 feet wide, or 64,567 sq. ft. (1.48 acres).

The staging area for construction activities would include one 150-foot by 150-foot area at the southeast corner of Marina Drive and First Street.

Construction Schedule: The construction period is expected to be approximately 24 to 32 months. Construction of the replacement bridge would occur in two phases. Phase I involves the construction of a temporary trestle adjacent to the southern portion of the existing bridge structure and Phase 2 involves the construction of a temporary trestle adjacent to the northern portion of the existing bridge. Only one trestle would be constructed and in place at one time. The Cities of Seal Beach and Long Beach have agreed to replace the bridge in two phases to allow automobile and pedestrian traffic access to be maintained. In-water construction activities would be limited to non-flood periods so that potential floodwater does not affect construction activities. As a result, no work would occur within the river below the 100-year flood level during the period between October 15 and April 15. Construction activities above the 100-year flood level would occur at any time of the year.

**AREA OF WATERS (including wetlands) IN ACRE(S) SUBJECT TO LOSS AS A RESULT OF PROPOSED WORK:** A total of 1.487 acre of temporary impacts to jurisdictional waters of the U.S.

**ADDITIONAL INFORMATION:** The ACOE has made a preliminary determination that the proposed project would comply with the terms and conditions of Nationwide Permit (NWP) No. 3 for the replacement of the abutments, NWP 25 for the structural discharge associated with the pilings, and NWP 33 for temporary construction, access and dewatering activities. In addition, the proposed project would be subject to Section 10 of the Rivers and Harbors Act of 1899.

Endangered Species: Based on a December 15, 1998 letter from the U.S. Fish and Wildlife Service, the project area may provide suitable foraging habitat for two federally-listed endangered species, the California least tern (*Sterna antillarum browni*) and brown pelican (*Pelecanus occidentalis*). A Biological Assessment was prepared by the applicant and submitted to the U.S. Fish and Wildlife Service. Based on a July 17, 2000 telephone conversation with Kevin Clark of the U.S. Fish and Wildlife Service, the ACOE has determined that the proposed project would not affect the California least tern or brown pelican provided the mitigation measures outlined in the *Marine Drive Bridge Biological Assessment* (dated April 2000) are implemented. With this notice, the ACOE requests concurrence from the U.S. Fish and Wildlife Service that the proposed project would not affect the California least tern or brown pelican with implementation of the aforementioned mitigation measures.

Essential Fish Habitat: The proposed work would result in a net loss of approximately 655.6 square meters of benthic habitat associated with the bridge/fishing pier pilings. The project site is located within an area designated by the National Marine Fisheries Service (NMFS) as Essential Fish Habitat (EFH) for the Coastal Pelagics and Groundfish Management Plans. On June 20, 2000, the ACOE made a preliminary determination that the proposed project may adversely affect EFH. Due to the limited extent of the proposed impacts, ACOE preliminarily determined that the proposed activity would not have a substantial adverse impact on EFH or Federally managed fisheries in California waters, and requested concurrence from the NMFS. On July 26, 2000, NMFS indicated that they would not object to the proposed project provided the EFH Conservation Recommendations identified in their letter (dated

July 26, 2000) are included as elements of the project. On August 18, 2000, the ACOE agreed to incorporate special conditions into the Section 404 permit that specifically address the EFH Conservation Recommendations.

**Eelgrass:** The project site is not expected to contain any eelgrass habitat. According to the NMFS (Bob Hoffman), the project site experiences elevated water temperatures (due to discharges from a nearby power plant), poor visibility, and significant flooding and scour, which are not conducive to supporting eelgrass.

**Historic Properties:** A records search and pedestrian survey was conducted by the applicant. The *Archaeological and Historic Survey Assessment for the Marine Drive Bridge Project, Cities of Seal Beach and Long Beach*, dated March 2, 2000, concluded that construction of the Marine Drive Bridge, improvements to Marine Drive between 1<sup>st</sup> Street and North Marina Drive, and use of the staging area site would not result in impacts to known cultural resources.

**Proposed Special Conditions:**

See attached list of mitigation measures.

SECTION 6  
MITIGATION MEASURES

The following actions, when implemented, will serve to reduce construction and long-term impacts on the marine life of the San Gabriel River to less than significant levels.

1. Construction activities will be limited to the non-flood season which will vary from year to year depending on the weather. Generally, the time frame is April through October.
2. Soil, silt or other organic or earthen materials will not be placed where such materials could pass into the surface water of the San Gabriel River.
3. Construction vehicles operating within the banks of the San Gabriel River will be inspected daily to ensure there are no leaking fluids. If there are leaking fluids, the construction vehicles shall be serviced outside of the river banks.
4. Activities shall not cause turbidity increases in surface waters to exceed: (a) 20 percent if background turbidity is between 0 and 50 NTU; (b) 10 NTU if background turbidity is between 50 and 100 NTU; and, (c) 10 percent if background turbidity is greater than 100 NTU. Monitoring of turbidity downstream of construction operations will be conducted daily during construction activities that may cause turbidity. If activities exceed the above criteria, construction activities associated with causing turbidity will be discontinued until the above criteria is met.
5. Construction activities will not cause visible oil, grease, or foam in the work area or downstream.
6. All areas disturbed by project activities shall be protected from washout or erosion.
7. A floating boom will be placed downstream of the proposed construction activities and across the San Gabriel River to capture floating debris during construction operations.
8. Silt curtains will be placed within the River so that all effluent from dewatering activities will pass through the silt curtains.
9. The use of cofferdams will not affect the San Gabriel River channel's capability to convey a 100-year flood event.
10. If coffer dams are not used, silt curtains will be placed around all work areas within the River channel.
11. All floatable debris and trash generated by construction activity within the project area will be disposed of at the end of each day.
12. All construction debris will be retrieved from the seafloor.
13. A post-construction channel bottom survey will be conducted using appropriate survey techniques to identify submerged objects to ensure that all construction debris has been removed from the seafloor.

The project's effect on benthic habitat and piling habitat is not considered significant; however, the

Marina Drive Bridge Biological Assessment

following measure will reduce impacts to these habitats.

14. Offsetting losses to piling habitat by using dismantled piling and bridge concrete structures for artificial reef enhancement projects (mitigation measure suggested by Mr. Bob Hoffman, National Marine Fisheries Service). This mitigation must be approved and coordinated through the California Department of Fish and Game.

**COASTAL COMMISSION**

EXHIBIT # 5  
PAGE 6 OF 6

## DEPARTMENT OF FISH AND GAME

Marine Region  
Southern Operations  
330 Golden Shore, Suite 50  
Long Beach, California 90802  
(562) 590-5171

RECEIVED  
OCT 20 2000

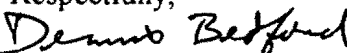


CALIFORNIA  
COASTAL COMMISSION  
October 13, 2000

Mr. Carl Schwing  
California Coastal Commission  
200 Oceangate, Suite 1000  
Long Beach, CA 90802

Dear Mr. Schwing,

I have had discussions with Mr. Ron Brust of Zimmerman Engineering concerning the possible use of concrete materials from bridge demolition project in the City of Seal Beach (Application Number 5-00-321) for augmentation to our Bolsa Chica Artificial Reef. Although I have not yet examined the concrete from this project, its description leads me to believe it may be suitable for use in reef construction. I would ask that the Coastal Commission and the City of Seal Beach remain open to this potential option. For your reference I have enclosed a copy of the material specifications which we normally supply to potential donors of reef material.

Respectfully,  
  
Dennis Bedford  
Marine Biologist, Coordinator  
CDFG Artificial Reef Program

cc: Ron Brust, Zimmerman Engineering

COASTAL COMMISSION

5-00-321

EXHIBIT # 6a

PAGE 1 OF 9

# **MATERIAL SPECIFICATION GUIDELINES AND NOTIFICATION PROCEDURE FOR AUGMENTATION OF ARTIFICIAL REEFS WITH SURPLUS MATERIALS**

The California Department of Fish and Game (CDFG) coordinates the state program for research and construction of artificial reefs off the coast of California. Department biologists have been involved in the planning and construction of artificial reefs off the coastline of southern California since the late 1950's. Some of the more recent reefs, in Ventura, Orange and San Diego Counties are permitted for future expansion through the use of surplus materials of opportunity. Cities, counties, public agencies and private organizations or businesses are invited to submit proposals to CDFG for use of certain categories of materials, in the construction of artificial reefs.

## **Acceptable Materials**

Materials suitable for construction of artificial reefs must meet the following criteria:

- (1) The material must be persistent. It must be hard, but may not be so brittle that collisions with other similar materials, or boat anchors would tend to shatter it. It must remain largely intact after years of submersion in sea water.
- (2) The material must have a specific gravity at least twice that of sea water. The material must be dense enough to remain in position during strong winter storms, even in water depths as shallow as 30 feet.
- (3) The material must not contain toxic substances. Petroleum products, including tires are not acceptable as reef material.

Materials should promote the following attributes: (a) Complexity - Materials used should maximize the structural complexity, to promote species diversity and sheltering of juveniles. (b) Rugosity - The material should provide a hard and slightly to very rough surface for the attachment of invertebrates and algae.

Commonly used materials include, quarried rock and high density concrete rubble. **COASTAL COMMISSION** materials may be considered on a case by case basis.

## **Preparation of Surplus Concrete Materials**

EXHIBIT # 69  
PAGE 2 OF 3

**SIZE:** Ideally, concrete slabs should be broken into chunks; 2 feet minimum diameter; 4-6 feet optimum size. Concrete pilings should be broken into lengths, ranging from 2-10 feet. Other sizes may be considered on a case by case basis.

**REBAR:** Reinforced concrete is allowable, but when material is used for reef construction in

sites attractive to sport divers, no rebar should protrude more than 3 inches.

### Procedure

Placement of material at any reef site requires prior written approval from the California Department of Fish and Game. Specific off-loading sites and actual configuration of material placement will be determined by CDFG, in writing and will be strictly adhered to.

NOTIFICATION: The principal party to the agreement (City, Port District, Private Organizations, etc.) must notify CDFG a minimum of one full month prior to moving any material to the specified site.

The barge contractor must notify the U.S. Coast Guard two weeks prior to moving any material to the reef site, so that the USCG can include this activity in their Aids to Navigation and Notice to Mariners. Los Angeles area: (562) 499-5410; San Diego area: (619) 557-5877.

The notice to USCG must include:

- (1) Location of work site
- (2) Size and type of equipment that will be performing the work.
- (3) Name and radio call sign for working vessels on project.
- (4) Telephone numbers for on site contact with project engineers.
- (5) Schedule for completing the project.

### PLACEMENT OF MATERIALS:

The contractor must arrange for CDFG inspection of loaded barge materials, immediately prior to movement of any barge to the reef site.

CDFG shall place temporary buoys at the off loading site. The barge loads of material must not be allowed to drift off site during material augmentation.

### Liability

The principal party, and/or its barge contractor assume sole liability for personal injury or property damage as a result of material handling or vessel operation, until such time as the material rests on the bottom in the "designated site". At that time the material becomes the property of the Department of Fish and Game. At that time the donor and/or contractor are released from any further liability associated with the reef material.

Prepared by:  
Dennis W. Bedford

**COASTAL COMMISSION**

EXHIBIT # 69  
PAGE 3 OF 4

**DEPARTMENT OF FISH AND GAME**

MARINE REGION  
411 BURGESS DRIVE  
MENLO PARK, CA 94025  
(650) 688-6340



September 29, 1999

**Ms. Jennifer Christensen  
Michael Brandman Associates  
15901 Red Hill Avenue, Suite 200  
Tustin, California 92790**

**Dear Ms. Christensen,**

Department of Fish and Game (Department) personnel have reviewed the information for the Marina Drive Bridge Project, City of Long Beach, Los Angeles County and City of Seal Bridge, Orange County, California. The proposed project will replace the existing 60-year old Marina Drive Bridge that spans the San Gabriel River and connects Long Beach to Seal Beach. Portions of Marina Drive between First Street and North Marina Drive will be improved to provide consistency with new bridge schematics. Replacement of the existing bridge will result in a loss of 137 square feet of soft bottom habitat due to larger concrete pilings.

The project description lists several actions designed to reduce impacts from construction. These include:

- Not placing materials such as soil, silt, other organic or earthen materials where they could enter waters of the San Gabriel River.
- Checking construction vehicles for leaking fluids.
- Monitoring construction activities for turbidity (if turbidity exceeds set criteria, activities will be discontinued).
- Passing effluent from de-watering activities through silt curtains. Silt curtains may also be placed around work areas if coffer dams are not utilized.
- Placing a floating boom downstream from construction activities and across the river to catch construction debris and removal of any debris on a daily basis.
- Protecting work areas from erosion.
- Retrieval of any construction debris from the seafloor (a post construction survey will be conducted to ensure that all debris has been removed from the seafloor).

**COASTAL COMMISSION**

EXHIBIT # 66  
PAGE 1 OF 2

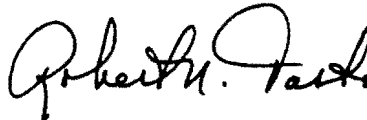


In addition to the above mentioned measures, the project proponents have suggested utilizing the dismantled concrete structures from the old bridge to create artificial reef habitat to offset losses to benthic habitat from placement of larger pilings. This idea is acceptable to the Department, but will require additional discussion and coordination.

It is the Department's view that the proposed project would not have a significant impact to existing marine resources or their habitats. Therefore, the Department does not object to the adoption of the proposed project, provided the described action measures are implemented and the concept of artificial reef habitat is further discussed.

It should be noted that the Department may require a Streambed/Lake Alteration Agreement for the proposed project. A Streambed/Lake Alteration Notification and Agreement packet can be obtained by calling the Department's Long Beach Office at (562) 590-5880, or by writing the Department at 330 Golden Shore, Suite 50, Long Beach, California 90802. For all other concerns, please contact Ms. Marilyn Fluharty, Environmental Specialist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, telephone (858) 467-4231.

Sincerely,



Robert N. Tasto, Supervisor  
Project Review and Water Quality Program  
Marine Region

cc: Ms. Marilyn Fluharty  
Department of Fish and Game  
San Diego, California 92123

COASTAL COMMISSION

EXHIBIT # 6b  
PAGE 2 OF 2



# California Regional Water Quality Control Board

## Santa Ana Region

Winston H. Hickox  
Secretary for  
Environmental  
Protection

Internet Address: <http://www.swrcb.ca.gov>  
3737 Main Street, Suite 500, Riverside, California 92501-3339  
Phone (909) 782-4130 FAX (909) 781-6288

Attachment 3



Gray Davis  
Governor

August 14, 2000

Mr. Doug Dancs  
City of Seal Beach  
211 Eighth Street  
Seal Beach, CA 90740



### WATER QUALITY CERTIFICATION FOR THE PROPOSED MARINA DRIVE BRIDGE PROJECT, CITY OF SEAL BEACH, ORANGE COUNTY (NO ACOE REFERENCE NUMBER)

Dear Mr. Dancs:

On June 16, 2000, we received a transmittal dated June 15, 2000 from Michael Brandman Associates, for the above-referenced project. We received all requested materials for a complete application as of June 16, 2000.

This letter responds to your request for certification, pursuant to Clean Water Act Section 401, that the proposed project described below will not violate State water quality standards:

1. Project description: The proposed project includes replacement of Marina Drive Bridge and additional improvements. The proposed bridge is approximately 20.11 meters wide and 120 meters long. The structure includes a cast-in-place, post tensioned concrete box girder superstructure and three seismically reinforced concrete bents each with four individual, 1.51 meter diameter reinforced concrete pilings. There will be a fishing pier overhang on the south side of the pier. This extended deck area will be 2.5 meters wide and 55.9 meters in length. Cofferdams or gravel bags will be used to divert flow in the San Gabriel River during construction in the river channel without significantly interfering with normal water flow within the channel.
2. Receiving water: San Gabriel River
3. Fill area: 0.026 acre of temporary impact to stream bed  
0.094 acre of permanent impact to stream bed  
No wetlands will be impacted.

COASTAL COMMISSION

50-321

EXHIBIT # 7

PAGE 1 OF 3

California Environmental Protection Agency

4. Dredge volume: N/A
5. Federal permit: Nationwide Permit #13,14,25 and 33 from the U.S. Army Corps of Engineers
6. Compensatory mitigation: The site will be restored to its pre-construction vegetation and topography

There is sparse vegetation in the project area. The applicant is required to control potential pollutant discharges associated with construction phase activities by implementing appropriate best management practices at the site.

The City of Seal Beach has applied to the U.S. Army Corps of Engineers for Coverage under Nationwide permits in compliance with Section 404 of the Clean Water Act. The City of Seal Beach has applied to the California Department of Fish and Game for a Streambed Alteration Agreement.

A Notice of Exemption was issued by the County of Orange on May 25, 2000.

The project's description indicates that stream diversion or dewatering may be necessary during construction. Discharges associated with dewatering activities will require appropriate discharge permit coverage. If the discharges are to surface waters it is likely that they would be authorized under the Boards' National Pollution Discharge Elimination System (NPDES) Permit No. CAG998001, General Waste Discharge Requirements For Discharges To Surface Water Which Pose An Insignificant (De Minimus) Threat To Water Quality. An application is enclosed for you to fill out and send back to our office at least 60 days prior to initiating any such discharges.

Resolution No. 96-09 (copy enclosed) provides that waste discharge requirements for certain types of discharges are waived provided that criteria and conditions specified in the Resolution are met. Provided that the criteria and conditions for Minor Stream Channel Alterations specified on page 3 of Attachment "A" to the Resolution, and the general conditions specified on page 4 are met, waste discharge requirements for the dredge and fill portion of the project are waived. Pursuant to California Code of Regulations Section 3857, we will take no further action on your application for water quality certification.

Pursuant to California Water Code, Section 1058, and pursuant to California Code of Regulations, Title 23 (23 CCR) §3860, the following shall also apply:

- (a) Every certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant

**COASTAL COMMISSION**

California Environmental Protection Agency

EXHIBIT # 7  
PAGE 2 OF 3

to Section 13330 of the Water Code and Article 6 (commencing with Section 3867) of Chapter 28. Certification of 23 CCR.

- (b) Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to Subsection 3855(b) of Chapter 28 of 23 CCR and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- (c) Certification is conditioned upon total payment of any fee required under Chapter 28 of 23 CCR and owed by the applicant.

If the above stated conditions are changed, any of the criteria or conditions as previously described are not met, or new information becomes available that indicates a water quality problem, we may formulate additional Waste Discharge Requirements. Should there be any questions, please contact Wanda Smith at (909) 782-4468 or Kelly Schmoker at (909) 782-4990.

Please notify the Santa Ana Regional Board before construction on this project begins.

Sincerely,

  
GERARD J. THIBEAULT  
Executive Officer

**COASTAL COMMISSION**

Enclosure

cc (with enclosure):

Michael Brandman Associates – Michael Houlihan

EXHIBIT # 7  
PAGE 3 OF 3

cc (w/out enclosure):

U.S. Environmental Protection Agency, Region 9 – Alexix Strauss  
U.S. Army Corps of Engineers, Los Angeles District, Regulatory Branch –  
Robert Smith  
U.S. Fish and Wildlife Service, Carlsbad - Michelle Shaughnessy  
U.S. Fish and Wildlife Service, Carlsbad - Scott Eliason  
California Department of Fish and Game, Long Beach - Dee Sudduth

# ATTACHMENT A

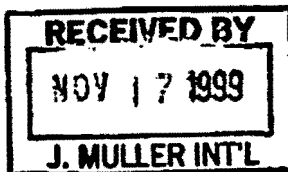
STATE OF CALIFORNIA

GRAY DAVIS, Governor

CALIFORNIA STATE LANDS COMMISSION  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825-8202



PAUL D. THAYER, Executive Officer  
(916) 574-1800 FAX (916) 574-1810  
California Relay Service From TDD Phone 1-800-735-2922  
from Voice Phone 1-800-735-2929



Contact Phone: (916) 574-1892  
Contact FAX: (916) 574-1925

November 15, 1999

File Ref: SD 99-10-04.1  
G 05-03

Mr. Robert A. Price, P.E.  
J. Muller International  
655 University Avenue, #255  
Sacramento, CA 95825

Dear Mr. Price:

SUBJECT: Marina Drive Bridge, San Gabriel River Replacement Project, JMI 98024

Staff of the California State Lands Commission (CSLC) has reviewed the information you submitted concerning the subject project. Based on this review, we offer the following comments.

The bridge is located within lands the State patented as Tideland Location 137. With regard to that portion of the bridge within the County of Los Angeles, any sovereign interests of the State have been legislatively granted to the City of Long Beach pursuant to Chapter 102, Statutes of 1925, as amended. Therefore, you should contact the City of Long Beach, as trustee, concerning any permit requirements they have. The extent of sovereign and public trust easement claims of the State at this location within the County of Orange have not been resolved. Therefore, with regard to that portion of the bridge within the County of Orange, we will not require the issuance of a lease at this time. Based on the nature of the project, staff of the CSLC believes that the project will not pose a significant interference with any public trust needs at this location.

This conclusion is without prejudice to any future assertion of state ownership or public rights, should circumstances change, or should additional information come to our attention.

If you have any questions concerning the jurisdiction of the CSLC, please contact Alan Scott, Public Land Manager, at (916) 574-1861.

Sincerely,

Robert L. Lynch, Chief  
Division of Land Management

COASTAL COMMISSION

EXHIBIT # 8  
PAGE 1 OF 1

cc: Alan Scott



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802-4213

JUL 26 2000 F/SW04:KAJ

**RECEIVED**  
South Coast Region

JUN 15 2001

CALIFORNIA  
COASTAL COMMISSION

Mark Durham  
U.S. Army Corps of Engineers, Los Angeles District  
Regulatory Branch  
P.O. Box 532711  
Los Angeles, California 90053-2325

Dear Mr. Durham:

The National Marine Fisheries Service (NMFS) has reviewed the Army Corps of Engineers (ACOE) letter and Essential Fish Habitat (EFH) Assessment regarding the Cities of Seal Beach and Long Beach project to replace the Marina Drive Bridge over the San Gabriel River between Los Angeles and Orange Counties, California. The project is located within an area designated as Essential Fish Habitat (EFH) for the Coastal Pelagics Management Plans as defined in the 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (MSFMCA).

Based on our review of the EFH Assessment, NMFS believes that the proposed activity may adversely impact EFH. Specifically, bridge replacement would result in temporary degradation of water quality, temporary disturbance to soft bottom habitats, and a permanent loss of 655.6 square meters of vertical relief utilized by numerous marine fish species. In order to avoid, minimize and/or mitigate for those adverse effects, NMFS has the following EFH Conservation Recommendations (as defined in section 305(b)(4)(A) of the MSFMCA) for the ACOE project:

**EFH Conservation Recommendations**

1. The Cities of Long Beach and Seal Beach shall implement Best Management Practices (BMP) to minimize turbidity plumes and possible contaminants released into the water column during bridge demolition and pile replacement.
2. The Cities of Long Beach and Seal Beach shall monitor turbidity downstream of construction operations. Monitoring will be conducted daily during any construction activities that may cause turbidity. If turbidity levels exceed the standards set by the Santa Ana Regional Water Quality Control Board,

**COASTAL COMMISSION**  
**5-00-331**

EXHIBIT # 9  
PAGE 1 OF 2



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construction activities associated with causing turbidity will be discontinued until the standards are met.

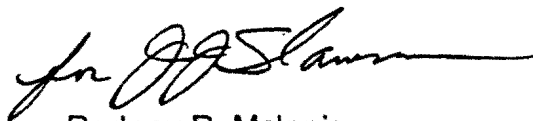
3. The Cities of Long Beach and Seal Beach shall remove all construction debris from the seafloor. All trash and debris generated by the construction activity shall be contained and disposed of at a proper upland site.
4. To offset the loss of vertical relief, the Cities of Long Beach and Seal Beach shall pursue the use of dismantled piling and bridge concrete for artificial reef enhancement projects managed by the California Department of Fish and Game.

NMFS would not object to the proposed activities if above EFH Conservation Recommendations are included as elements of the project. This determination is provided in accordance with the Fish and Wildlife Coordination Act and PL 94-265 - MSFCMA.

Please be advised that regulations (50 CFR Sections 600.920(j)) to implement the EFH provisions require your office to provide a written response to this letter within 30 days of its receipt and at least 10 days prior to final approval of the action. A preliminary response is acceptable if final action cannot be completed within 30 days. Your final response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the activity. If your response is inconsistent with the proposed mitigation measures, you must provide an explanation of the reasons for modifying or not implementing them.

We appreciate the opportunity to review this action. Korie Johnson is the NMFS contact for this project. Please call her at (562) 980-4199 with any questions.

Sincerely,



Rodney R. McInnis  
Acting Regional Administrator

**COASTAL COMMISSION**

EXHIBIT # 9  
PAGE 2 OF 2

STATE OF CALIFORNIA-THE RESOURCES AGENCY

GRAY DAVIS, Governor

**DEPARTMENT OF FISH AND GAME**

South Coast Region  
4949 Viewridge Avenue  
San Diego, California 92123  
(858) 467-4201  
FAX (858) 467-4235



March 23, 2001

City of Seal Beach  
Attn: Steve Badum  
211 8<sup>th</sup> Street  
Seal Beach, CA 90740

Dear Mr. Badum:

Enclosed is Streambed Alteration Agreement #5-140-00 that authorizes work on the Marina Drive Bridge Replacement project impacting San Gabriel River in Los Angeles County. This action is authorized under Section 1600 of the Fish and Game Code and has been approved by the California Department of Fish and Game. Pursuant to the requirements of the California Environmental Quality Act (CEQA), the Department filed a Notice of Exemption (NOE) on the project on 3/23/01. Under CEQA regulations, the project has a 35-day statute of limitations on court challenges of the Department's approval under CEQA.

The Department believes that the project fully meets the requirements of the Fish and Game Code and CEQA. However, if court challenges on the NOE are received during the 35-day period, then an additional review or even modification of the project may be required. If no comments are received during the 35-day period, then any subsequent comments need not be responded to. This information is provided to you so that if you choose to undertake the project prior to the close of the 35-day period, you do so with the knowledge that additional actions may be required based on the results of any court challenges that are filed during that period.

Please contact Don Chadwick at (858) 467-4276 if you have any questions regarding the Streambed Alteration Agreement.

Sincerely,

A handwritten signature in dark ink, appearing to read "C.F. Raysbrook".  
C.F. Raysbrook  
Regional Manager

Enclosure

cc: Don Chadwick

COASTAL COMMISSION  
5-00-321

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**CALIFORNIA DEPARTMENT OF FISH AND GAME**

4949 Viewridge Avenue  
San Diego, California 92123

Notification No. 5-140-00

October 27, 2000

Page 1 of 4**AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION**

THIS AGREEMENT, entered into between the State of California, Department of Fish and Game, hereinafter called the Department, and Mr. Steve Badum of City of Seal Beach, 211 8<sup>th</sup> Street, Seal Beach, CA 90740; (562)-431-2527, State of California, hereinafter called the Operator, is as follows:

WHEREAS, pursuant to Section 1801 of California Fish and Game Code, the Operator, on the 17<sup>th</sup> day of May, 2000, notified the Department that they intend to divert or obstruct the natural flow of, or change the bed, channel, or bank of, or use material from the streambed(s) of, the following water(s): San Gabriel River, tributary to Pacific Ocean, Los Angeles County, California; Thomas Guide 826 D 3; Section: 10/11, Range: 12W, Township: 15S; USGS Map: Seal Beach.

WHEREAS, the Department (represented by Stephanie Seapin on June 8, 2000) has determined that such construction may substantially adversely affect those existing fish and wildlife resources within the San Gabriel River, tributary to Pacific Ocean, specifically identified as follows: Fishes: California halibut, Northern anchovy, Pacific sardine, Pacific mackerel, Jack mackerel, flat fish, rays; Benthic invertebrates: Amphibians/ Reptiles: Green turtle, Hawksbill sea turtle; Birds: great blue heron, great egret, northern harrier, sharp-shinned hawk, Cooper's hawk, red-tailed hawk, killdeer, gulls, terns, pigeons, doves, owls, lesser nighthawk, swifts, Anna's hummingbird, Say's phoebe, swallows, jays, crows, wrens, American robin, northern mockingbird, mallard, California least tern, Brown pelican, red-tailed hawk, red-shouldered hawk, American kestrel, burrowing owl, sparrows, warblers, hummingbirds, and chats; Mammals: coyote, raccoon, California sea lion, bottlenose dolphin, California gray whale, California myotis, Western small-footed myotis, Long-eared myotis, Fringed myotis, Long-legged myotis, Yuma myotis, Townsend's big-eared bat, Big brown bat, Pallid bat, Mexican free-tailed bat, California ground squirrel, and mice; Riparian vegetation which provides habitat for those species: ruderal vegetation, landscape vegetation; and all other fish and wildlife resources, including that riparian vegetation which provides habitat for such species, in the area.

THEREFORE, the Department hereby proposes measures to protect fish and wildlife resources during the Operator's work. The Operator hereby agrees to accept the following measures/conditions as part of the proposed work.

If the Operator's work changes from that stated in the notification specified above, this Agreement is no longer valid and a new notification shall be submitted to the Department of Fish and Game. Failure to comply with the provisions of this Agreement and with other pertinent code sections, including but not limited to Fish and Game Code Sections 5650, 5652, 5937, and 5948, may result in prosecution.

Nothing in this Agreement authorizes the Operator to trespass on any land or property, nor does it relieve the Operator of responsibility for compliance with applicable federal, state, or local laws or ordinances. A consummated Agreement does not constitute Department of Fish and Game endorsement of the proposed operation, or assure the Department's concurrence with permits required from other agencies.

These Conditions become effective the date of Department's signature and terminates January 31, 2004 for project construction only. This Agreement shall remain in effect for that time necessary to satisfy the terms/conditions (including mitigation) of this Agreement. Any provisions of the

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STREAMBED ALTERATION CONDITIONS FOR NOTIFICATION NUMBER: 5-140-00

agreement may be amended at any time provided such amendment is agreed to in writing by both parties. Mutually approved amendments become part of the original agreement and are subject to all previously negotiated provisions.

1. The following provisions constitute the limit of activities agreed to and resolved by this Agreement. The signing of this Agreement does not imply that the Operator is precluded from doing other activities at the site. However, activities not specifically agreed to and resolved by this Agreement shall be subject to separate notification pursuant to Fish and Game Code Sections 1600 et seq.
2. The Operator proposes to alter the riverbed by replacing the existing Marina Drive Bridge. The proposed project will be in two-phases. The first phase will include demolition and replacement of the southern portion of the bridge and implementation of the street improvements on the south side of Marina Drive between the bridge and First Street and at the Marina Dr./North Marina Dr. intersection. During demolition and construction activities on the south side of the bridge, a temporary platform 25-foot wide by 394-feet long that includes 12 to 18 steel bents, each with four individual 1.6-foot by 1.6-foot support piles will be constructed on the south side of the existing bridge for operating construction equipment, the second phase of this project includes the same activities, but will be done on the north side of the bridge. The bridge replacement and street improvements will take approximately 24-32 months. Completion of the first phase is expected to take approximately 12 months and completion of the second phase is expected to take approximately 12-20 months. In addition, cofferdams will be used to remove the existing 102-reinforced concrete piles (0.005 acre of riverbed) from the river bottom under both phases, this would temporarily impact 1.49 acres of river and proposed 12-piers would permanently impact 0.005 acre of riverbed. The proposed project will permanently impact 0.13 acre of river due to the placements of piers.
3. The agreed work includes activities associated with No. 2 above. The project area is located in the San Gabriel River, tributary to Pacific Ocean in Los Angeles County. Specific work areas and mitigation measures are described on/in the plans and documents submitted by the Operator, and including the "Draft Natural Environmental Study Marina Drive Bridge," Prepared by: MBA, dated April 2000 and "Assessment of Bat Habitat at the Marina Drive Bridge," Surveyor: Stephanie Remington, dated August 25, 2000, shall be implemented as proposed unless directed differently by this agreement.
4. The Operator shall not impact more than 1.62 acres of river; trestle piles: 0.005 acre, abutment: 0.124 acre of permanent impact, and piles: 0.007 acre, cofferdams: 1.480 acres of temporary impact.
5. No work shall occur from October 1 to March 31, to avoid impacts to winter roosting bats. However, the Operator may work during this time if: 1) monitoring ensures no bats are in the hinges, and then; 2) either fill hinges with expandable foam or seal hinges with visquine to prevent bats from entering and; 3) monitor the hinges to ensure that the foam or visquine are properly in-place and; 4) install four bat-abodes on a bridge with the same structure and aspect within a one mile radius of the project.
6. Any equipment operated within or adjacent to the stream/lake shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.
7. Disturbance or removal of vegetation shall not exceed the limits approved by the Department. The disturbed portions of any stream channel shall be restored. Restoration shall include the revegetation of stripped or exposed areas with vegetation native to the area.
8. Installation of bridges, culverts, or other structures shall be such that water flow is not impaired. Bottoms of temporary culverts shall be placed at stream channel grade; bottoms of permanent culverts shall be placed at or below stream channel grade.

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**STREAMBED ALTERATION CONDITIONS FOR NOTIFICATION NUMBER: 5-140-00**

9. The Operator shall use temporary construction fencing to identify the agreed limits of disturbance within the stream.
10. Staging/storage areas for equipment and materials shall be located outside of the stream.
11. No equipment maintenance shall be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter these areas under any flow.
12. The operator shall not work in ponded or flowing areas. When work in a flowing stream is unavoidable, the entire stream flow shall be diverted around the work area by a barrier, temporary culvert, new channel, or other means approved by the Department. Channel bank or barrier construction shall be adequate to prevent seepage into or from the work area. Channel banks or barriers shall not be made of earth or other substances subject to erosion unless first enclosed by sheet piling, rip-rap, or other protective material. The enclosure and the supportive material shall be removed when the work is completed and removal shall normally proceed from downstream in an upstream direction.
13. Permanent structures shall be designed, constructed and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes but is not limited to the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream fish migration. If any aspect of the proposed project results in a long term reduction in fish movement, the Operator shall be responsible for all future activities and expenditures necessary (as determined by the Department) to secure passage of fish across the structure.
14. An adequate fish passage facility shall be incorporated into any barrier that obstructs fish passage.
15. Access to the work site shall be via existing roads and access ramps.
16. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. These materials, placed within or where they may enter a stream/lake, by Operator or any party working under contract, or with the permission of the Operator, shall be removed immediately.
17. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material (except for backfill) from any construction, or associated activity of whatever nature shall be allowed to enter into or placed where it may be washed by rainfall or runoff into, waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.
18. The Operator shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the operator to ensure compliance.
19. The clean-up of all spills shall begin immediately. The Department shall be notified immediately by the Operator of any spills and shall be consulted regarding clean-up procedures.

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**STREAMBED ALTERATION CONDITIONS FOR NOTIFICATION NUMBER: 5-140-00**

20. The Operator shall request an extension of this agreement prior to its termination. Extensions may be granted for up to 12 months from the date of termination of the agreement and are subject to Departmental approval. The extension request and fees shall be submitted to the Department's Region 5 Office Streambed Team at 4949 Viewridge Avenue, San Diego, California 92123. If the Operator fails to request the extension prior to the agreement's termination then the Operator shall submit a new notification with fees and required information to the Department. Any activities conducted under an expired agreement is a violation of Fish and Game Code Section 1600 et. seq. The Operator may request up to a maximum of 2 extensions of this agreement.

21. The Operator shall provide a copy of this Agreement to all contractors, subcontractors, and the Operator's project supervisors. Copies of the Agreement shall be readily available at work sites at all times during periods of active work and must be presented to any Department personnel, or personnel from another agency upon demand.

22. The Department reserves the right to enter the project site at any time to ensure compliance with terms/conditions of this Agreement.

23. The Operator shall notify the Department, in writing, at least five (5) days prior to initiation of construction (project) activities and at least five (5) days prior to completion of construction (project) activities. Notification shall be sent to the Department at 4949 Viewridge Avenue, San Diego, CA 92123, Attn: Streambed Team SAA # 5-140-00.

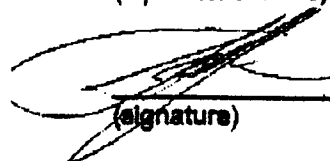
24. The Department reserves the right to suspend or cancel this Agreement for other reasons, including but not limited to the following:

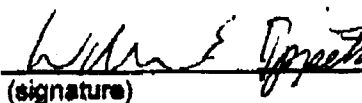
- a. The Department determines that the information provided by the Operator in support of the Notification/Agreement is incomplete or inaccurate;
- b. The Department obtains new information that was not known to it in preparing the terms and conditions of the Agreement;
- c. The project or project activities as described in the Notification/Agreement have changed;
- d. The conditions affecting fish and wildlife resources change or the Department determines that project activities will result in a substantial adverse effect on the environment.

**CONCURRENCE**

(Operator's name)

California Dept. of Fish and Game

  
(signature) 10/27/00  
(date)

  
(signature) 3/27/01  
(date)

STEPHANIE A. SEAPIN, DIRECTOR OF PUBLIC WORKS/CITY ENGINEER C.F. Raysbrook, Regional Manager  
Print Name and Title Name and Title

Streambed Alteration Agreement Prepared by: Terri Dickerson, Environmental Specialist III and  
Stephanie A. Seapin, Scientific Aide.

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**CALIFORNIA COASTAL COMMISSION**

45 FREMONT SUITE 2000  
SAN FRANCISCO, CA 94105-2210  
VOICE AND TDD (415) 904-5200  
FAX (415) 904-5400



June 29, 2001

Jeff Morales, Director  
California Department of Transportation  
P.O. Box 942873  
Sacramento, CA 94273-0001

Subject: Design of bridge rails in scenic coastal areas

Dear Mr. Morales:

I wrote to you in August 2000 to express the concern of the Coastal Commission about the use by the Department of Transportation of view-blocking rails on bridges in scenic coastal areas in California. Since that time, staff of your department has briefed the Coastal Commission on several alternative rail designs that are or might be available. I am writing now to offer the Commission's comments concerning alternatives, including rails that are available now as well as those that might be available in the future.

By way of background, the Coastal Commission has become increasingly concerned with the design of bridges and railings in scenic coastal areas in California. Whereas the safety and durability of bridge structures, including railings, have increased over the years, improvement of the visual characteristics of railings has not kept pace. In fact, today's sturdy bridge railings typically impede most of the view available to travelers on newly constructed bridges in California's coastal zone.

The Commission has been presented on numerous occasions in recent years with coastal permit applications for new or replaced coastal bridges or other facilities involving rails that offer little or no views of scenic areas to travelers. As a result, I appointed a subcommittee of the Commission to address this issue and provide recommendations to the full Commission. The subcommittee met on several occasions with members of your staff, including Richard Land of the Division of Engineering Services and others, to identify improved bridge rails that could be used now as well as a potential all-new rail for future use. The Commission has endorsed the subcommittee's recommendations, which are presented below.

**Alternative rails for interim use**

First, the Commission has reviewed the four rail designs (Type 80 and the so-called Alaska, Wyoming, and Minnesota rails) that have been crash-tested and approved for use in California. The Commission concluded that the Minnesota rail would not be useful in the coastal zone, due to the limited visibility it would provide for bridge users. Of the remaining three alternatives, the

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Alaska rail is superior overall, based on the relatively large openings between rails and supports that it offers.

The Wyoming rail provides slightly less see-through characteristics than the Alaska rail, although in some settings, the flat-plate supports used in the Wyoming rail may present advantages over the Alaska rail, which has thick I-beam supports and has a more "industrial" appearance. For instance, where public views of the bridge itself from a nearby view overlook are as important as the views from the bridge, the Wyoming rail may be useful, because the back of the Wyoming rail is somewhat more graceful than that of the Alaska rail. Finally, the Type 80 rail may be useful in settings where immediate views of the coast from the bridge are not a primary concern and where the rail's concrete elements can be used to good advantage from an aesthetic perspective in the particular setting. For instance, in contrast to the Alaska and Wyoming rails which are primarily galvanized steel, the concrete Type 80 rail can be stamped to create textural effects and stained a wood-tone or other color, in order to blend better with the immediate environment. The Subcommittee recognized that the Department of Transportation will consider additional treatment of the Alaska and Wyoming rails, such as earth tone paint, to enhance the rails' blending in with the surroundings.

In sum:

- ◆ The Alaska rail is likely to be most useful overall, because it presents the least visual obstruction for travelers on bridges;
- ◆ In settings where views from the bridge itself are not the primary objective, the Wyoming and Type 80 rails may be preferred;
- ◆ The Minnesota rail is not a preferred choice in the coastal zone.

### New rail design

The Commission reviewed the California Type ST-10 rail that was presented for discussion purposes. The ST-10 rail includes some of the better elements of the other rail alternatives, with the goal of presenting the relatively narrow rails and supports and relatively wide viewing windows. At the same time, the ST-10 rail, as a steel rail made up of standard components, has a relatively "industrial" appearance. The ST-10 may be useful for discussion purposes, but the Commission concluded that it is important to take this opportunity that is presented by the development of an all-new rail to address a wide range of factors, including some that are not addressed by the existing four "interim" rails.

Consequently, the Commission offers the following comments about the elements that should be addressed in the design of an all-new rail for use in scenic coastal areas:

- ◆ The most important factor is **visibility** for users of the bridge. The goal should be to develop a rail that is as close to "invisible" as possible.
- ◆ To that end, use of rail elements that are as thin as possible is important. An example is the possible use of plate supports, rather than I-beams or other blocky forms.

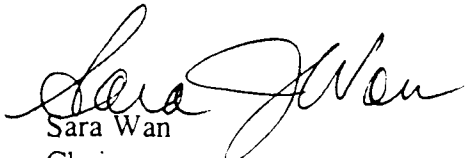
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- ◆ Use of color and texture is appropriate to make rails blend better with their surroundings. Although concrete can be more easily stamped and colored than steel, color and texture treatments for steel rails should also be explored.
- ◆ Curved and arched elements should be explored, in order to make the rail design as graceful and attractive as possible.
- ◆ Because of the loss of many historic and attractive bridges throughout California, a new rail design should seek to incorporate elements of historic bridges where consistent with modern safety standards. For instance, scale, materials, and other factors that evoke traditional bridge forms in California should be explored.
- ◆ A unified design for the rail is desirable, including whatever elements are necessary for pedestrian and bicycle safety, as opposed to simply tacking pedestrian or bicycle elements on top of vehicle rails. In settings where pedestrian and bicyclist safety elements are not necessary, a "pared-down" rail could then be used that simply meets vehicle safety requirements.
- ◆ A new rail should be developed as soon as possible, preferably in less than a year, in order to be available as an option for bridges that will come before the Coastal Commission for review and approval in coming months.

I would like to take this opportunity to commend the staff of the Department of Transportation for their cooperation on this issue. We appreciate your efforts to provide improved options for bridge rails in California's highly scenic coastal areas. Please do not hesitate to let me know if you have any questions.

Truly yours,

  
Sara Wan  
Chairperson

Cc: Coastal Commissioners  
Richard Land  
Stefan Galvez

**COASTAL COMMISSION**

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