

CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, Suite 1000
Beach, CA 90802-4302
590-5071

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Staff Report: 6/14/2001
Hearing Date: July 10, 2001
Commission Action:



Item Tu9a

RECORD PACKET COPY

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-00-473

APPLICANT: Los Angeles County Department of Public Works

AGENT: Sarah Scott

PROJECT LOCATION: Second Street Bridge connecting Belmont Shore to Naples Island, City of Long Beach, Los Angeles County.

PROJECT DESCRIPTION: Retrofit existing four-lane bridge by welding steel casings around the existing bridge supports in Alamitos Bay.

Bridge Area	33,500 square feet
Building Coverage	0 square feet
Pavement Coverage	33,500 square feet
Landscape Coverage	0 square feet
Parking Spaces	0
Plan Designation	Major Arterial (Second Street)
Ht above MLLW	15 feet (bridge deck)

LOCAL APPROVAL: City of Long Beach Approval in Concept.

SUBSTANTIVE FILE DOCUMENT: City of Long Beach Certified Local Coastal Program.

SUMMARY OF STAFF RECOMMENDATION

A coastal development permit is required from the Commission because the proposed project is located seaward of the mean high tide line on submerged lands within the Commission's area of original jurisdiction. Staff recommends that the Commission grant a permit for the proposed development with conditions relating to: the prevention of adverse impacts to marine resources of Alamitos Bay, compliance with the requirements of the resource agencies, protection of coastal access, local approval, and the applicant's assumption of the risks of the development. The applicant agrees with the recommendation.

STAFF NOTE:

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 an improvement to a bridge built on submerged lands. Therefore, a coastal development permit is required from the Commission for the proposed development because the project site is located within the Commission's area of original jurisdiction. 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. The proposed project does not conflict with any part of the City of Long Beach certified LCP.

STAFF RECOMMENDATION:

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 5-00-473 per the staff recommendation as set forth below."

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

I. Resolution: Approval with Conditions

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. 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. Protection of Marine Resources

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit a project staging and construction plan, subject to the review and approval of the Executive Director, that includes specific staging and construction measures sufficient to prevent the unpermitted deposition, spill or discharge of any liquid or solid into the waters of Alamitos Bay. At a minimum, the plan shall include the following provisions:

- 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 Alamitos Bay.
- b. Floating booms shall be placed across the Alamitos Bay channel (north and south of 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 Alamitos Bay. 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. No heavy machinery (except boats) will be allowed in the intertidal or subtidal zones at any time. Construction vehicles operating within the banks of the Alamitos Bay 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 Alamitos Bay. 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 at the end of each day, or as soon as possible.
- 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.

The permittee shall implement and carry out the project staging and construction plan during all construction and cleaning activities consistent with the plan approved by the Executive Director.

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, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service with respect to preservation and protection of water quality and marine environment. 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. Coastal Access

In order to reduce adverse impacts to public access and recreation during the summer peak beach use period, the applicant shall avoid closing any traffic lanes 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.

4. City Approval

Prior to the commencement of construction, the applicant shall obtain the approval of the City of Long Beach, pursuant to the requirements of the certified Local Coastal Program, for the portion of the proposed project located inland of the mean high tide line.

5. 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.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description

The Los Angeles County Department of Public Works proposes to retrofit an existing four-lane bridge in the City of Long Beach by welding steel casings around the 84 existing bridge supports and installing a new longitudinal restrainer system. The 334-foot long bridge spans a narrow channel of Alamitos Bay between the Belmont Shore section of Second Street and Naples Island (Exhibit #2). The project staging area and equipment storage is proposed to be located in a fenced 60'x 150' portion of the Marine Stadium parking lot (Exhibit #2, p.2).

All construction activity is proposed to occur on the portion of the bridge that exists above the mean lower low water elevation (MLLW 0.0'). The proposed work that would occur over the waters of Alamitos Bay is the placement of the steel casings around the existing bridge supports (between the bridge deck and the MLLW elevation only), widening of the existing horizontal beams on top of the bridge supports, and the placement of a proposed longitudinal restrainer system within the bridge deck (Exhibit #3, p.2). The proposed construction activity above coastal waters must obtain a coastal development permit from the Commission because it involves a risk of adverse environmental effects.

A sandy public beach exists on the south side of the bridge's west abutment, and the shoreline near the bridge's east abutment and on the north side of the west abutment is comprised of vertical seawalls with private boat docks (Exhibit #2, p.2). The majority of the proposed work will be performed from the bridge deck (Exhibit #3). The contractors would access the work area under the bridge using floating platforms. Neither the depth of the existing channel, nor the overhead clearance of the bridge structure above the water, would be altered by the proposed project. Less than five feet of overhead clearance exists during the highest tides (+7.5' MLLW), and about twelve feet of overhead clearance exists during low tides (0.0' MLLW)(Exhibit #3, p.2).

The proposed bridge retrofit project also includes the strengthening of the bridge by inserting a total of fourteen reinforced concrete piles in the east and west bridge abutments in order to anchor the new longitudinal restrainer system. All fourteen of the new piles are proposed to be placed within the existing roadbed on the east and west sides of the bridge, landward of the Alamitos Bay channel (Exhibit #3, p.2). Since none of the proposed new piles would be placed in or over the water, the bridge abutment work is located within the City's LCP jurisdiction and therefore must be reviewed and approved by the City of Long Beach.

The proposed project would be completed in two phases in order to keep at least two traffic lanes open (one lane each direction) during construction thus enabling the public to continue to use the bridge as it is being retrofitted. The proposed phasing is important as this section of Second Street is a vital coastal access corridor for coastal visitors as well as local residents and people commuting to and from Long Beach. The Transportation Element of the Long Beach General Plan designates this section of Second Street (where the bridge is) as a Scenic Route and Major Arterial.¹

B. Marine Resources

The Coastal Act contains policies that address development in or near coastal waters. The proposed project is located in and over the coastal waters of Alamitos Bay (Exhibit #2). The standard of review for development proposed in coastal waters is the Chapter 3 policies of the Coastal Act, including the following marine resource policies. Sections 30230 and 30231 of the Coastal Act require the protection of biological productivity, public recreation 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.

¹ Major Arterial is the classification below Freeway and Regional Corridor, and above Minor Arterial, collector street and local street.

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.

The proposed project involves the retrofit an existing four-lane bridge by welding steel casings around the 84 existing bridge supports. No new pilings or other types of fill are proposed as part of the project. The placement of the steel casings on the existing bridge supports is an allowable development (incidental public service) in Alamitos Bay pursuant to Section 30233(a)(5) of the Coastal Act. The steel casings would not extend below the mean lower low water elevation (Exhibit #4, p.2).

The top portions (above the MLLW elevation) of 84 existing bridge supports would be scraped and cleaned, then encased in new steel casings using two or four pieces of steel per support. The new steel casings would be welded together, although the applicant states that no welding would be done underwater (Exhibit #4). The contractors would access the work area under the bridge using floating platforms. After the steel casings are welded to the bridge supports, a layer of flame sprayed plastic would be applied to each bridge support to protect the steel from corrosion.

The site has not been surveyed for eelgrass. However, the National Marine Fisheries Service has found that eelgrass is not usually associated with subtidal areas situated directly adjacent to the Naples Island seawalls (like this site). No work or fill is proposed to occur on the sandy bottom of the channel.

The applicant states that all residue from the cleaning, welding and spraying of plastic will be contained and removed from the work area. Therefore, there are no anticipated negative impacts to marine resources or water quality. However, in order to ensure 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, the permit is conditioned to require the applicant to submit plans which incorporate specific construction methods within the proposed project to prevent such occurrences.

Therefore, Special Condition One requires the applicant, prior to the issuance of the permit, to submit a project staging and construction plan that includes specific staging and construction measures sufficient to prevent the unpermitted deposition, spill or discharge of any liquid or solid into the waters of Alamitos Bay. Only as conditioned will the proposed project ensure that marine resources and water quality be protected as required by Sections 30230 and 30231 of the Coastal Act.

Special Condition Two requires the permittee to comply with all permit requirements and mitigation measures of the California Department of Fish and Game, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service with respect to preservation and protection of water quality and marine environment. The special conditions of approval adequately address and mitigate any potential adverse impacts to the environment caused by the proposed project. Therefore, as conditioned, the proposed project is consistent with the marine resource policies of the Coastal Act.

C. Public Access and Recreation

One of the basic goals stated in the Coastal Act is to maximize 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.

The bridge subject to this application is part of the coastal transportation route that runs between the west (downtown) and east sides of Long Beach (Exhibits #1&2). Second Street, which connects to Pacific Coast Highway (State Route 1) one mile east of the bridge, is a very busy street used by commuters during the morning and evening rush hours. The Transportation Element of the Long Beach General Plan designates this section of Second Street (where the bridge is) as a Scenic Route and Major Arterial. Major Arterial is the classification below Freeway and Regional Corridor, and above Minor Arterial, collector street and local street. Therefore, the bridge provides an important public access route to the coast. The bridge also has two sidewalks (one on each side) which provide pedestrian access across the channel.

The proposed project would improve the safety of this important coastal access route by strengthening the pilings that support the bridge above the waters of Alamitos Bay. The failure of this bridge caused by damage to the supports would negatively affect public access to the coast and the transportation system in general. Therefore, the proposed retrofit would improve the public's ability to access the coast by providing a safer and stronger bridge that is more likely to withstand the test of time.

There will be, however, short-term impacts on public use of the bridge as the proposed retrofit project is being carried-out. 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 use the bridge as it is being retrofitted. Bicyclists will be required to walk their bikes across the bridge. Therefore, the proposed project phasing plan will ensure that vehicular, pedestrian and bicycle traffic across the bridge will not be interrupted.

The proposed phasing plan is important, as this section of Second Street is a vital coastal access corridor for coastal visitors as well as local residents and people commuting to and from Long Beach. Even with the proposed phasing plan, the work on the bridge is likely to cause congestion and delays at the bridge crossing. Congestion and delays at the bridge during the summer peak beach use period, especially on weekends, would negatively effect the public's ability to reach coastal destinations. The applicant asserts that the project would likely be scheduled in September and October in order to avoid both the summer peak beach use period and the rainy season.

In order to reduce adverse impacts to public access and recreation during the summer peak beach use period, the permit is conditioned to require the applicant to avoid closing any traffic lanes on all weekends and holidays from Memorial Day weekend until Labor Day. As conditioned, the proposed project will not have a substantial negative effect on the public's ability to access the coast while traveling on Second Street.

The proposed project will not negatively effect recreational boating or other uses of the waters of Alamitos Bay. Neither the depth of the existing channel, nor the overhead clearance of the bridge structure above the water, would be changed by the proposed project. Less than five feet of overhead clearance exists during the highest tides (+7.5' MLLW), and about twelve feet of overhead clearance exists during low tides (0.0' MLLW)(Exhibit #x). Although there could be a short delay as construction occurs, small boats will be allowed to pass beneath the low bridge during the entire construction phase. In addition, the proposed staging area in the Marine Stadium parking lot will not interfere with public access to the facility (Exhibit #2, p.2). Therefore, 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 will not add any new bulk or structures onto the bridge except for the steel casings which are proposed to be attached to the supports below the bridge. Therefore, the proposed project will not have any adverse impacts on public views.

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.

Developments located in or near the ocean have the potential for damage caused by wave energy, floods, seismic events, storms and erosion. The proposed project is located in Alamitos Bay and is susceptible to natural hazards. No development in the water can be guaranteed to be safe from hazard.

The Commission routinely imposes conditions for assumption of risk in areas at high risk from hazards. The condition ensures that the permittee understands and assumes the potential hazards associated with development in or near the water. Therefore, 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). Only as conditioned is the proposed project is consistent with Section 30253 of the Coastal Act.

F. Local Coastal Program

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 an improvement to a bridge built on submerged lands. Therefore, a coastal development permit is required from the Commission for the portion of the proposed development that is located within the Commission's area of original jurisdiction. 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. 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.

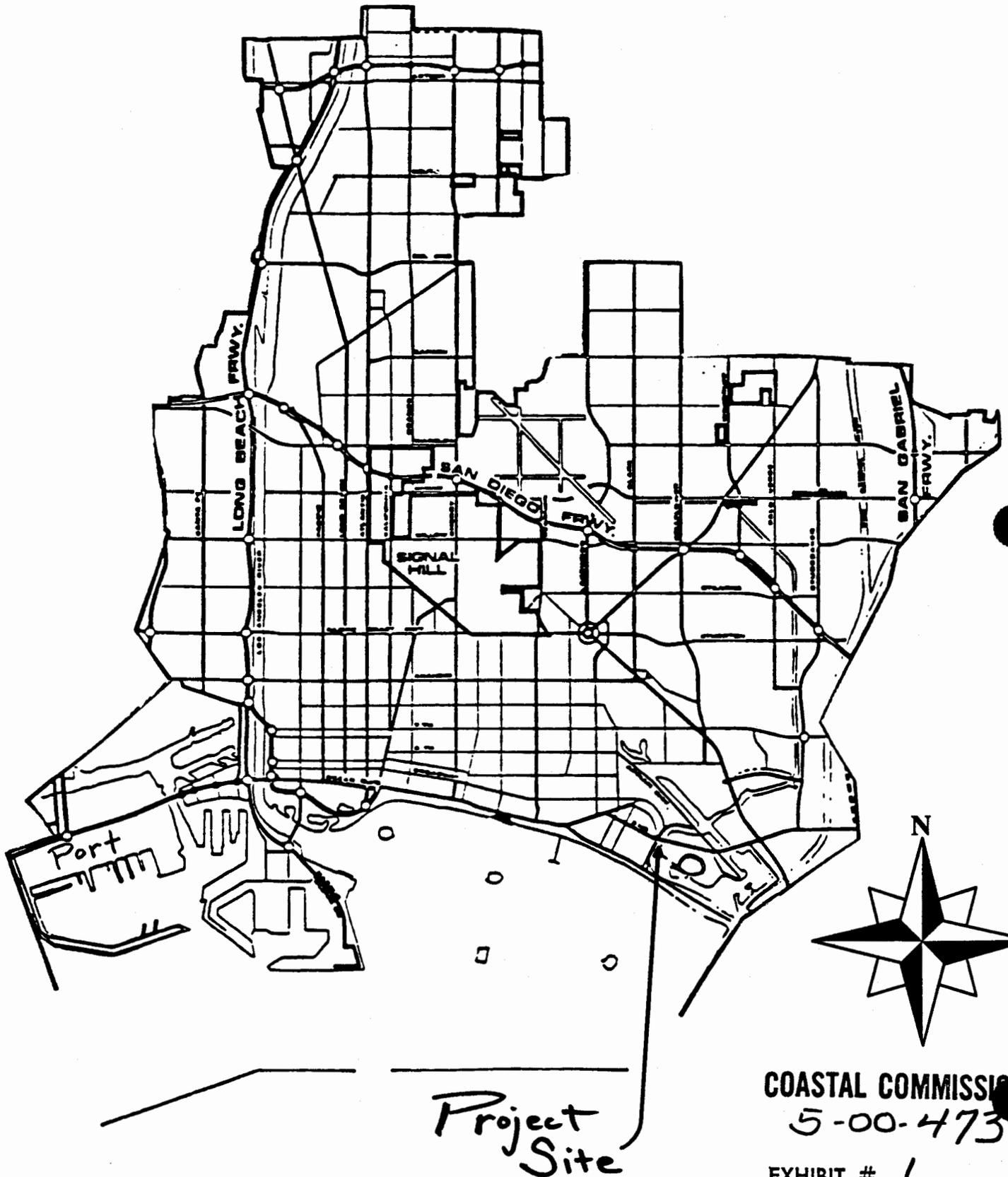
The portion of the proposed development that is located inland of the mean high tide line is located within the area which the City has accepted permitting authority pursuant to the certified Long Beach LCP. Therefore, prior to the commencement of construction, the applicant shall obtain the approval of the City of Long Beach, pursuant to the requirements of the certified Local Coastal Program, for the portion of the proposed project located inland of the mean high tide line.

G. California Environmental Quality Act (CEQA)

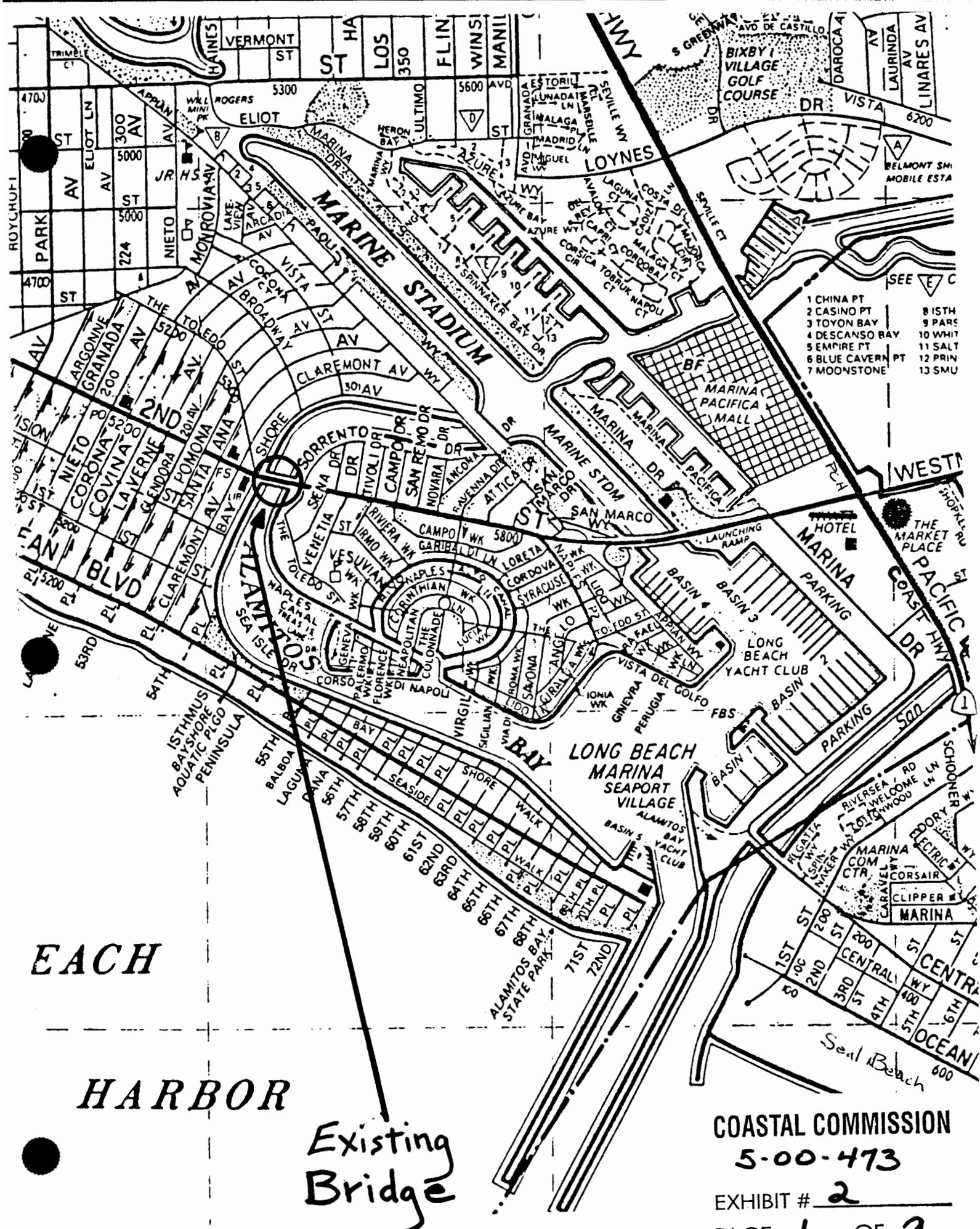
Section 13096 of the California Code of Regulations requires Commission approval of coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental 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 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.

City of Long Beach



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- SEE E C
- 1 CHINA PT
 - 2 CASINO PT
 - 3 TOYON BAY
 - 4 DESCANSO BAY
 - 5 EMPIRE PT
 - 6 BLUE CAVERN PT
 - 7 MOONSTONE
 - 8 15TH
 - 9 PARS
 - 10 WHIT
 - 11 SALT
 - 12 PRIN
 - 13 SMU

EACH

HARBOR

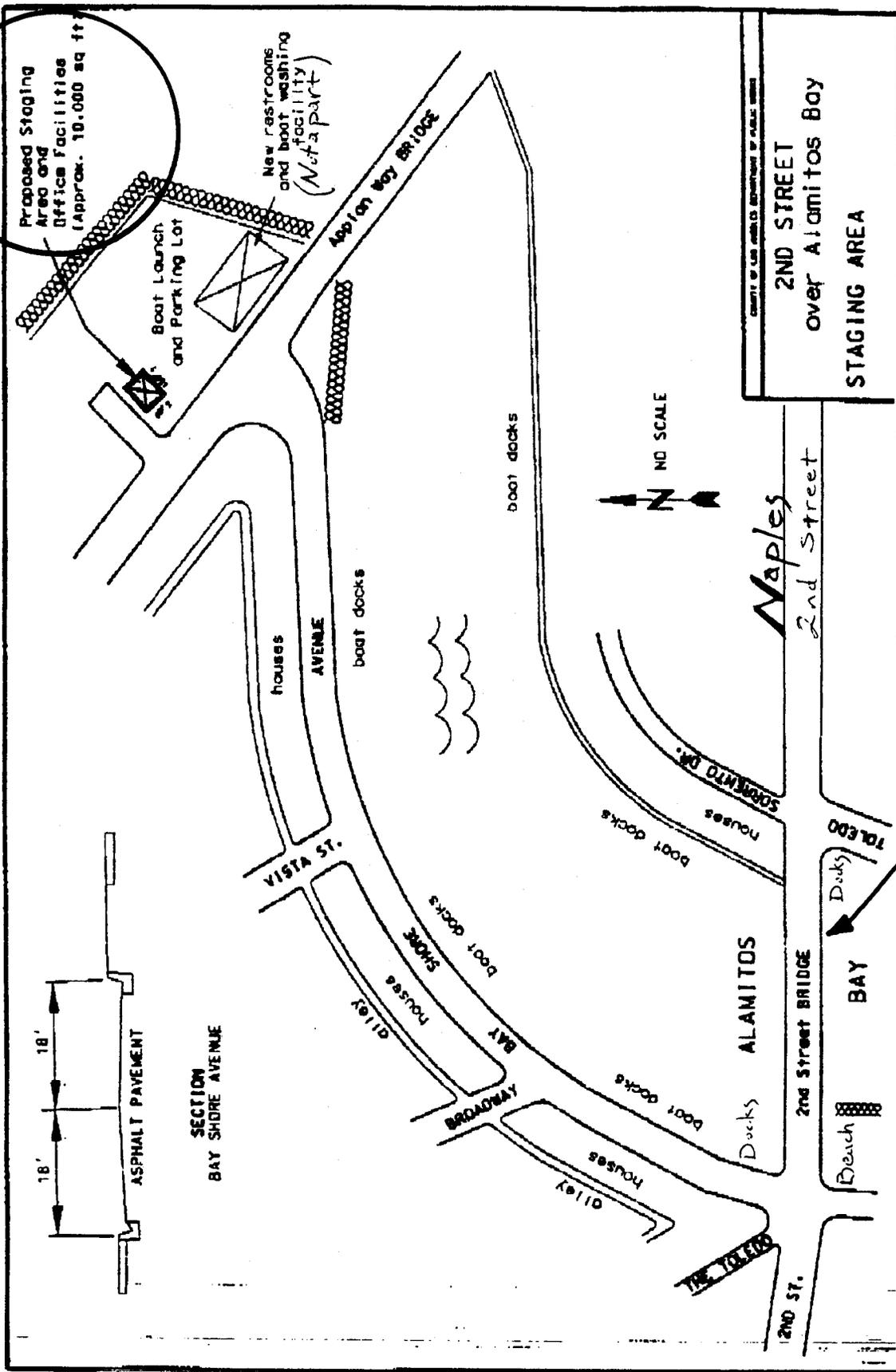
Existing Bridge

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EXHIBIT # 2

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Staging Area



Project Site

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EXHIBIT # 2

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PROJECT DESCRIPTION

SECOND STREET BRIDGE OVER ALAMITOS BAY

The proposed bridge is located in Alamitos Bay in the City of Long Beach. The project location can be found within Section 3, Range 12 West, Township 5 South, in the vicinity of 33°45'30" latitude and 118°07'50" longitude of the Long Beach Quadrangle USGS Map.

The Second Street Bridge over Alamitos Bay is a seven span concrete girder bridge with a concrete deck supported by six pile bents. The bridge is approximately 335 feet long and approximately 100 feet wide with 86 feet of roadway.

The purpose of the proposed project is to retrofit the bridge to increase the structural integrity and meet current seismic standards for highway bridges.

The proposed project involves strengthening the existing steel and concrete framework by widening the existing bent caps and placing a longitudinal restrainer across the joints. The proposed retrofit also includes drilling under the roadway behind the abutment and placing five to eight feet diameter piles, placing shear keys at the abutments, and column casings of the piles. Eight of the fourteen piles will require placing composite jacket around the piers. This jacket will be wrapped around the top portion of the piles and will extend down about seven feet from the bent cap to the mean lower low water elevation.

The majority of the work will be performed from the bridge deck. It is anticipated that work under the bridge will be conducted from a temporary floating platform. Installation of the column casings will be coordinated with the lowest possible tide and work shall be performed from boats/rafts (see attached brochure). The excavated soil around abutments will be regraded back to the original ground elevation. Concrete dust, concrete and epoxy drips, and scraped paint debris will be contained and collected in screens and tarp hanging below work areas for offsite disposal.

The proposed retrofit work will have no permanent effect on navigation under the bridge. The project will not impact any vegetation or have any significant impact to the water quality in the bay.

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SECOND STREET OVER ALAMITOS BAY

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

Steel Casing Installation Procedure:

- 1.- Contractor performs required coating preparation work and majority of application of flame sprayed plastic coating "on site" but probably on land and not over water. Contractor will likely coat all areas except near areas to be welded. At the contractor's option, this work could be done in the place around the pile and after jacket welding has occurred, although this could be considerably more difficult.
- 2.- Accessing the piles from floating platforms, contractor cleans piles of all marine growth, oil, salt, or other surface contaminants, and erects half-shell casings around the piles. These could be supported from the cap beam or by a friction collar device below. At the contractor's opinion, the casings could be installed in 2 pieces per pile, with only vertical welding required, or in 4 pieces per pile, with both horizontal and vertical welding required. No welding will be done under water.
- 3.- Contractor seals the bottom of the casings, flushes the casing with potable water, and grouts the annular space. He removes the seals and supports once grout has set.
- 4.- Contractor completes the surface preparation and application of flame sprayed plastic. The lower portions of the casing will be submerged at the lower tide ranges. This activity could occur before Step 3. The contractor will need to contain the residue from any surface preparation or overspray of flame sprayed plastic.
- 5.- Contractor completes touch up painting (not flame sprayed plastic) at the top edge of the casing.

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EXHIBIT # 4

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