

CALIFORNIA COASTAL COMMISSION

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original staff report

W13d

Addendum

May 9, 2016

To: Commissioners and Interested Persons

From: California Coastal Commission
San Diego Staff

Subject: Addendum to **Item W13d**, Coastal Commission Permit Application No. **6-15-1975 (San Diego West Mission Bay Drive Bridge Replacement)**, for the Commission Meeting of Wednesday, May 11, 2016.

The purpose of this addendum is to make minor correction and revisions to the staff report. Staff recommends the following changes be made to the above-referenced staff report. Deletions shall be marked by a ~~striketrough~~ and additions shall be underlined:

1. In several instances in the staff report, the amount of increase in shading impact due to the proposed bridge's larger size is referenced instead of the total shading impact that the larger bridge will have. Thus, on pages 2, 30, 34, and 37 of the staff report, correct all references to "2.69 acres" of shading impact to "4.6 acres." Relatedly, on page 30, the reference to "2.68 acres of tidal mudflat/open water" shall be corrected to "4.59 acres of tidal mudflat/open water."

2. On page 2 of the staff report, the second paragraph shall be modified as follows:

The project spans a river and will result in some adverse impacts to wetland habitat. The project is a permitted use under Section 30233 of the Coastal Act as an "incidental public service," because even though the bridge itself will be increasing from four lanes to six lanes, it will not be increasing the traffic capacity of the area, as the new bridge has long been seismically obsolete and under capacity with regards to the amount of traffic that crosses it, especially during the busy summer months, and the surrounding surface streets on either end of the bridge have already operated at six lanes for multiple decades. Still the project must still be the least environmentally damaging feasible alternative and provide adequate mitigation, which the project does.

3. On page 11 of the staff report, Special Condition No. 7b. shall be modified as follows:

7. **Final Restoration/Monitoring Plan.** PRIOR TO THE ISSUANCE OF THIS COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, a final detailed mitigation and monitoring plan for all impacts to sensitive biological resources, including wetland restoration areas. Said plan shall include the following:

a. Preparation of detailed site plans identifying all impacted habitat areas and clearly delineating all areas and the exact acreage. Both temporary and permanent impacts shall be included in this calculation.

b. Permanent shading impacts from the new bridge shall be mitigated at a 1:1 ratio. All other impacts to wetland habitat (temporary and permanent) that are not deemed self-mitigating or naturally restored within one year of cessation of the impact shall be mitigated through restoration/enhancement at not less than a 4:1 mitigation ratio. All mitigation shall be located within the project site, and may not be credited through the purchase of mitigation land. In addition, a detailed site plan of the mitigation areas shall be included and shall include any proposed irrigation (temporary or permanent).

[...]

4. On page 23 of the staff report, the final paragraph shall be modified as follows:

The City commissioned a traffic analysis of the project vicinity during morning and afternoon peak weekday and weekend hours during March and July, 2009, to represent non-summer and summer periods, respectively. Level of Service (LOS) is a qualitative measure used to relate the quality of traffic service. LOS is used to analyze roadways by categorizing traffic flow and assigning quality levels of traffic based on performances measures such as speed, density, etc. Grades are assigned ranging from "A" (free flow at speed limit) to "F" (flow breakdown; cars move lockstep). During the non-summer months, critical movements at unsignalized study intersections operated at LOS C or better on weekdays and weekends. All monitored signalized intersections operate at LOS D or better except for West Mission Bay Drive-Midway Drive & West Point Loma Boulevard-Sports Arena Boulevard, located 1,500 feet south of the project site. The traffic study also determined that the Intersection Lane Vehicle (ILV), which is a baseline assumption that the capacity of intersecting lanes is 1,500 vehicles per hour, was nearly met or exceeded during both non-summer weekdays and weekends at intersection of West Mission Bay Drive/Interstate-8 off-ramp. Regarding queue length, the study found that vehicle queues on the westbound I-8 off-ramp exceeded storage during peak weekend hours. For roadway segment operations, the traffic analysis found that all traffic study area street segments operated at LOS D or better except for the existing West Mission Bay Drive bridge segment, which operates at LOS F during all peak time periods.

5. On page 30 of the staff report, the third full paragraph shall be modified as follows:

As a bridge replacement project with existing connection points on either side of the river, there is no substantially different alignment possible for the bridge that could achieve complete avoidance of habitat impacts in the river. To minimize impacts, the support piers for the project are designed to be circular columns, and bridge abutments will be sited upland, out of habitat area. The City has indicated that with piers of this size, the proposed number of piers is the minimum necessary to support the weight of the proposed bridge. As proposed, the permanent physical impact footprint of the new bridge's support columns (0.04 acre) will be less than the footprint of the existing bridge's ten pier walls (0.11-acre), so the project will result in a 0.07-acre net gain of tidal mudflat/open water upon project completion. This reduction in fill is expected to significantly improve the biological productivity of the river. However, the new bridge will permanently shade an approximately 2.69 acres of jurisdictional waters of the United States, comprised of approximately 2.68 acres of tidal mudflat/open water, 0.002 acre southern coastal brackish marsh, and 0.005 acre of riprap.

6. Page 38 of the staff report, the second paragraph shall be modified as follows:

However, because project timelines can fluctuate due to unforeseen complications such as funding, weather, complexity, it is not completely certain whether the trestle system will be in any particular location for only a year, or that the riverbed will be able to recover naturally. Thus, **Special Condition No. 11** requires the City to conduct monitoring of the trestle system's impacts by, among other measures, establishing a baseline through a pre-construction survey of the work area, monitoring the riverbed during construction, and monitoring the riverbed's natural recovery during the year subsequent. If it is found that the trestle system did lead to permanent impacts that the riverbed is not able to recover from in a timely and robust manner, then a formal mitigation plan shall be required of the City detailing how the impacts will be mitigated at the mitigation ratio for such impacts of 4:1. The mitigation ratio of 4:1 is necessary to assure success in mitigating for the impacts to wetlands because studies have found that not all area that is included as part of the mitigation leads to the level of wetland habitat function typical of the wetlands prior to the impact of the wetland. Thus, to ensure that the impact to the existing wetlands is properly mitigated, creating four times the size of the impacted wetland will, typically, ensure that the mitigation will properly mitigate the project's adverse effects on the wetland habitat. ~~legally required ratios.~~ **Special Condition No. 12** requires that the City provide proof of authorizations from all other required federal, state, and local agencies ~~agencies~~ to ensure that all proper monitoring and mitigation activities are identified and implemented. Thus, the Commission can find the proposed project, as conditioned, in conformance with the habitat policies of Chapter 3 of the Coastal Act.

7. On Page 39 of the staff report, the final full paragraph shall be modified as follows:

Similar to the court's reasoning in *Bolsa Chica*, the subject bridge demolition and construction will be temporary actions that will cease upon completion of the new bridge. While the proposed project will expand the size and capacity of the bridge from four lanes to six lanes, it is important to note that the existing transportation network at both ends of the bridge is already six lanes, and has been for many years. Furthermore, the land north of the bridge is Mission Bay Park, which is mostly public open space with a limited number of commercial leaseholds that are already substantially developed, while to the south is the already developed community of Loma Portal/Midway. Thus, instead of expanding traffic capacity and acting as a catalyst for future development, the proposed bridge replacement is actually intended to bring the current bridge, which acts as a bottle neck at an entrance to a very popular coastal destination, up to the already existing standards of the rest of the adjacent transportation network, which has already been operating at a six-lane configuration for decades to accommodate the existing development to the north and south of the bridge. Thus, although the new bridge itself is larger and wider than the current bridge, it is not expanding the traffic capacity of West Mission Bay Drive. Furthermore, no other alternative exists but to replace the aging bridge in this location due to the current configuration of the river and adjacent roads, and the fact that the land north of the river is all Mission Bay Park land. Therefore, the Commission concludes the dredging and fill required by the project is for an incidental public service purpose. Thus, the project qualifies as an allowable use under Section 30233(a).

8. On page 40 of the staff report, the first paragraph shall be modified as follows:

Coastal Act Section 30233(a) further requires that any fill or dredging in wetlands or open coastal waters employ the least environmentally damaging alternative. The current bridge has exhausted its service life and has become seismically unsound through wear and tear and insufficiently deep foundations. In this case, an alternative that avoids impacting wetlands is not feasible for the new bridge because: 1) The current configuration of the existing roads and river limits the crossing points for a new bridge; 2) a cable suspension bridge would require a 130-foot tall suspension tower at each river back in an area governed by a 30-foot height limit; 3) such a bridge would cost four times as much as the proposed bridge; and 4) foregoing bridge replacement and continuing with repair and maintenance of the bridge is not an option as the roadway would ultimately fail in a large seismic event due to its underlying structural deficiency to withstand a large seismic event, creating a safety hazard and impacts to the riverbed by fallen bridge debris.

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W13d

Filed: 11/3/2015
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Staff: A. Llerandi-SD
Staff Report: 4/29/06
Hearing Date: 5/11/16

STAFF REPORT: REGULAR CALENDAR

Application No.: 6-15-1975

Applicant: City of San Diego

Agent: Alex Hardy

Location: West Mission Bay Dr. bridge, Mission Bay, San Diego, San Diego County (APN: 435-480-17)

Project Description: Demolish existing 4-lane vehicular and pedestrian bridge over the San Diego River and construct two new parallel 1,300-ft. long, 63-ft. wide, 3-lane vehicular bridges with bike lanes and sidewalks, approximately 40-ft. apart, with related improvements to existing road connections, and utilizing a trestle system for staging across the river.

Staff Recommendation: Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

The purpose of a project is to replace a seismically deficient transportation bottleneck located at the entrance to a popular coastal destination with a bridge structure that will be conformity with capacity and design of the existing surrounding road system.

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The project will significantly improve public access and circulation to the shoreline by increasing the number of lanes from four to six, while installing Class-I bike lanes and pedestrian sidewalks, connected to existing six-lane roads at either end. Special conditions will ensure impacts to public access and recreation during construction are minimized by requiring that at least two lanes in each direction of travel are kept open at all times, as well as keeping the existing bikes path the follow the river under the bridge open at all time as well.

The project spans a river and will result in some adverse impacts to wetland habitat. The project is a permitted use under Section 30233 of the Coastal Act as an “incidental public service,” because even though the bridge itself will be increasing from four lanes to six lanes, it will not be increasing the traffic capacity of the area, as the new bridge has long been seismically obsolete and under capacity with regards to the amount of traffic that crosses it, especially during the busy summer months. Still the project must still be the least environmentally damaging feasible alternative and provide adequate mitigation, which the project does.

There are no less damaging feasible bridge designs, as the new bridge cannot readily be sited elsewhere in the river due to the location of surrounding roads and the fact that the land north of the river is Mission Bay Park. The size of the support pilings in the river will be reduced such that there will be a net gain of wetland (from 0.11-acre to 0.04-acre), but the permanent shading impact from the larger bridge will be increased from approximately 1.97 acres to 2.69 acres. However, the shading impacts fall substantially on unvegetated mudflat, and the City’s proposed mitigation has been found to be adequate in light of the substantially indirect impacts of the bridge.

In addition, there will be impacts associated with construction. Commission staff worked with the City to identify the least damaging construction staging method across the river – a trestle and platform system. However, even with the trestle method, there will be a total of approximately 0.5-acre of physical impact from the trestle piers and 1.67 acre of shading impacts. However, the bridge is being constructed in two phases of approximately a year duration each, and the trestles impacts will be divided equally between the two phases – 0.25-acre occupation and 0.84-acre shading on the east side for one year, and then the same amount of impact on the west side for the following year. Because of the anticipated annual duration of each stage of the trestle stages and their removal upon completion of each stage, they are anticipated to be temporary impacts as the river system should be able to naturally recover once the trestles are removed. However, to ensure that such natural recovery occurs, monitoring shall be required.

The construction activity could also impact avian and marine wildlife, through occupation of space by equipment, or from noise levels, mainly from the pile driving of the supports for the bridge and the trestle staging platforms. Wildlife surveying and noise monitoring will be required to ensure that levels are within acceptable limits so as to minimize impacts.

To address these potential adverse impacts the Commission staff is recommending **Special Condition No. 1**, which requires the applicant to adhere to approved final plans

that incorporate lighting and anti-perching measures designed to minimize the long-term impacts on shore birds that nest or forage in the mudflats of the river bed. Because of the high use of the area by the public for transport and recreation, **Special Condition No. 2** requires the construction staging and storage plan to avoid all public right-of-ways and actively used recreational areas. **Special Condition Nos. 3 and 4** recognize that a substantial structure is going to be demolished and constructed over a river, and has the potential to introduce pollutants or other discharges into the water system, calling for the creation and adherence to a water quality control plan detailing debris control measures. **Special Condition No. 5** is a recognition by both the City and the Commission that the project site is located in a river channel and flood zone, and that the City will be accepting the risk and liability inherent in such a project. Because the project site is located within a river channel where both avian and marine species can forage, **Special Condition No. 6** requires that sensitive species monitoring be regularly conducted to identify avoidable impacts and modify construction activity accordingly. A final restoration and monitoring plan as required by **Special Condition No. 7** ensures that both anticipated and unanticipated impacts from the bridge and its construction methodology are properly mitigated and monitored in light of delineated success criteria. Because the project site is one of only two river crossings into Mission Bay Park, a popular coastal destination, and the construction will proceed for approximately two years, **Special Condition No. 8** required that a traffic demand management plan be devised that ensures that both vehicular and bicycle/pedestrian traffic will have continuous pass-through of the project area during the duration of construction. While the hydrology reports reviewed by the Commission indicated that the proposed bridge design will adequately convey flood flows during the life of the project, with the growing effects of sea level rise, **Special Condition No. 9** requires that a subsequent hydraulic plan be submitted that looks in greater detail at the combined effects of sea level rise of storm flows to fully ensure that the bridge is adequately designed to not impact hydrology. Because of the close proximity of foraging areas for marine and avian species and because of the large number of support piers that will need to be installed for both the bridge and the trestle staging platforms, **Special Condition No. 10** details the limitations and parameters that should be followed when pile driving will be necessary. While the trestle construction platforms are anticipated to be in a particular location for no more than a year, and thus could potentially be considered temporary impacts, to ensure that the current habitat baseline is established and ensure that the river system is able to naturally recover to this baseline after construction is completed, **Special Condition No. 11** requires that a monitoring plan be drafted such that if the river bed is found to not be recovering, adequate mitigation at the ratios required for permanent impacts shall be drafted and implemented by the City. Finally, the proposed demolition and construction of the bridge is a large and complex endeavor, impacting coastal resources and requiring the participation of numerous federal, state, and local agencies. To ensure that all other required review and authorization is obtained, **Special Condition No. 12** requires that the applicant submit proof that such additional review and authorization has been conducted prior to project commencement.

Commission staff recommends **approval** of coastal development permit application 6-15-1975 as conditioned.

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APPENDICES

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EXHIBITS

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[Exhibit 7 – Flood Map](#)

[Exhibit 8 – Biological Study Area](#)

[Exhibit 5 – Potential Habitat Impacts](#)

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 6-15-1975 subject to the conditions set forth in the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves coastal development permit 6-15-1975 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

This permit is granted subject to the following 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 on which the Commission voted on the application. 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 of 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

This permit is granted subject to the following special conditions:

1. **Revised Final Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, final project plans for the proposed development, that have been stamped approved by the City of San Diego. Said plans shall be in substantial conformance with the site plans submitted by the City of San Diego on November 3, 2015, except as follows:
 - a. No wildlife diversion poles (a.k.a. Sebastian Poles) shall be included in the final bridge design.
 - b. The bridge shall use the minimum number of lighting fixtures and minimum brightness necessary to achieve legally required lighting of the bridge deck and under-bridge pedestrian paths. All lighting shall be shielded and directed to fall onto the paved driving and pedestrian areas to the greatest extent feasible to minimize spillover into adjacent habitat areas.
 - c. All lighting fixtures shall incorporate anti-perching measures to discourage raptors from perching on them.
 - d. A trestle system as described in the City of San Diego's November 3, 2015, submittal shall be used for construction staging and falsework within the San Diego River flood control channel.

The applicant shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No change to the plans shall occur without a Commission-approved amendment to the permit unless the Executive Director determines that no such amendment is legally required.

2. **Construction Staging and Storage Plan.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director, for review and written approval, a Construction Staging and Storage Plan that shall include the following:
 - a. No construction staging or storage shall be permitted in public right-of-ways, utilized public park space, public parking spaces, or in any other location that would otherwise restrict public access to the coast at any time.

- b. No public parking spaces shall be used for employee parking.

The applicant shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No change to the plans shall occur without a Commission-approved amendment to the permit unless the Executive Director determines that no such amendment is legally required.

- 3. **Demolition/Construction Debris Removal.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, a demolition/construction debris removal plan for the construction phase of the project designed by a licensed engineer or other qualified specialist. The plan shall incorporate the following Best Management Practices (BMPs) and other requirements:
 - a. Detailed description of phasing and scheduling of demolition/construction and staging of demolition/construction machinery and materials.
 - b. No demolition/construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to wave, wind, or rain erosion and dispersion or where it may enter a storm drain.
 - c. Removal of bottom debris following demolition and prior to construction.
 - d. Any and all debris resulting from demolition/construction activities shall be removed from the project site and disposed of within 24 hours of completion of construction.
 - e. The applicant shall dispose of all demolition and construction debris outside of the coastal zone or at a site within the coastal zone permitted to receive the debris from the proposed project. The applicant shall provide evidence to the Executive Director of the location of the disposal site prior to the commencement of the development. Should the disposal site be located in the Coastal Zone, the applicant shall confer with the Executive Director to determine whether a separate coastal development permit or notice of impending development is required.
 - f. Machinery or demolition/construction materials not essential for the project are prohibited at all times in the subtidal and intertidal zones.
- 4. **Water Quality/Construction BMPs.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, a water quality plan for the construction phase of the project designed by a licensed engineer or other qualified specialist. The plan shall incorporate the following Best Management Practices (BMPs) and other requirements:

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- a. Concrete work shall employ methods to avoid the placement of cement products, cement-laden wash water, or concrete debris where it could enter coastal waters, except the concrete is of a type suitable for in-water curing and registered for such purposes. All other concrete shall be fully cured, and concrete debris and construction materials shall be completely removed prior to re-watering the construction site. No concrete work will be done when rain is likely to occur.
- b. Any pressure treated wood used in bridge construction shall use as a preservative, in the following order of preference, Copper Azole, Alkaline Copper Quaternary, or Ammoniacal Copper Zinc Arsenate.
- c. Pile driving operations shall be conducted so as to minimize disturbance to benthic substrates.
- d. All construction berm fill, and any associated rip-rap, trestles, and piles shall be completely removed at the end of bridge construction.
- e. Any debris discharged to the water in association with demolition or construction shall be immediately retrieved and disposed of. This shall be done by ensuring that the Contractor has available staff and equipment to collect debris. Where demolition activities involve removal of significant structures from the water and debris discharge could be substantial, the Contractor shall deploy a surface boom around the work area to capture debris and make removal easier. Non-buoyant debris discharged into coastal waters shall be removed as soon as possible after loss.
- f. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. 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 unless the Executive Director determines that no amendment or new permit is legally required.
- g. No demolition or construction materials, equipment, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to river, wind, rain or tidal erosion and dispersion.
- h. All stock piles and construction materials shall be covered and enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and may not be stored in contact with soil.
- i. Machinery or construction materials not essential for project improvements may not be allowed at any time within the river levees.
- j. Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. If thinners, petroleum products or solvents must be used on site, they shall be properly recycled or disposed after use and may not be discharged into storm drains, sewers, receiving waters or onto the unpaved ground.

- k. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The designated area shall be equipped with spill control materials and located to minimize the risk of spills reaching receiving waters, storm drains, sewers or unpaved ground.
- l. Reasonable and prudent measures shall be taken to prevent any discharge of fuel or oily waste from heavy machinery or construction equipment into coastal waters. The applicants shall have adequate equipment available to contain any such spill immediately.
- m. All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.
- n. Temporary erosion control measures shall be implemented should construction or site preparation cease for a period of more than 30 days. These temporary erosion control measures shall be monitored and maintained until demolition or construction operations resume.
- o. The areas to be disturbed by construction activities, including any temporary access roads, staging areas, and stockpile areas, shall be delineated on a map.
- p. At the end of the demolition/construction period, the applicant shall conduct visual inspections of the project area to ensure that no debris, trash or construction material has been left on the shoreline or in the water, and that the project has not created any hazard to navigation.
- q. Best Management Practices (BMP's) and Good Housekeeping Practices (GHP's) designed to prevent spillage and runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity and all BMP's shall be maintained in a functional condition throughout the duration of construction activity.
- r. 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 legally required.

The applicant shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No change to the plans shall occur without a Commission-approved amendment to the permit unless the Executive Director determines that no such amendment is legally required.

5. Assumption of Risk, Waiver or Liability, and Indemnity Agreement

- a. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from waves and flooding; (ii) to assume the risks to the applicant, the landowner, 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; and (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.

6. Sensitive Species Monitoring.

- a. PRIOR TO THE ISSUANCE OF THIS COASTAL DEVELOPMENT PERMIT, a qualified biologist shall conduct a site survey for evidence of active nests of clapper rail, California least tern, western snowy plover, or raptors in all adjacent or on-site vegetation.
- b. PRIOR TO ANY CONSTRUCTION ACTIVITIES during clapper rail, California least tern, western snowy plover, and raptor breeding/nesting season (February 15th through August 15th), a qualified biologist shall conduct a site survey for active nests no more than 72 hours prior to any development. If an active nest is located, then a qualified biologist shall monitor the nest daily until project activities are no longer occurring within 300 feet of the nest or within 500 feet of clapper rails, California least tern, western snowy plovers, or raptors or until the young have fledged and are independent of the adults or the nest is otherwise abandoned. The monitoring biologist shall halt construction activities if he or she determines that the construction activities may be disturbing or disrupting the nesting activities. The monitoring biologist shall make practicable recommendations to reduce the noise or disturbance in the vicinity of the active nests or birds. This may include recommendations such as (1) turning off vehicle engines and other equipment whenever possible to reduce noise, and (2) working in other areas until the young have fledged. The monitoring biologist shall review and verify compliance with these avoidance boundaries and shall verify that the nesting effort has finished in a written report. Unrestricted construction activities may resume when the biologist confirms no other active nests are found. The results of the site survey and any follow-up construction avoidance measures shall be documented by the monitoring biologist and submitted to the San Diego office of the California Coastal Commission.

- c. PRIOR TO ANY CONSTRUCTION ACTIVITIES, a qualified biologist shall conduct a site survey for harbor seals and California sea lions no more than 12 hours prior to any development. The monitoring biologist shall halt construction activities if he or she determines that the construction activities may be disturbing or disrupting the seals or sea lions. The monitoring biologist shall make practicable recommendations to reduce the noise or disturbance in the vicinity of the seals or sea lions. This may include recommendations such as (1) turning off vehicle engines and other equipment whenever possible to reduce noise, and (2) working in other areas until the seals and sea lions have departed. Any cofferdams used in the project shall be inspected weekly for integrity and marine mammal intrusion. The monitoring biologist shall review and verify compliance with these avoidance measures in a written report. Unrestricted construction activities may resume when the biologist confirms no other seals or sea lions are present. The results of the site survey and any follow-up construction avoidance measures shall be documented by the monitoring biologist and submitted to the San Diego office of the California Coastal Commission.

7. **Final Restoration/Monitoring Plan.** PRIOR TO THE ISSUANCE OF THIS COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, a final detailed mitigation and monitoring plan for all impacts to sensitive biological resources, including wetland restoration areas. Said plan shall include the following:

- a. Preparation of detailed site plans identifying all impacted habitat areas and clearly delineating all areas and the exact acreage. Both temporary and permanent impacts shall be included in this calculation.
- b. All impacts to wetland habitat (temporary and permanent) shall be mitigated through restoration/enhancement at not less than a 4:1 mitigation ratio. All mitigation shall be located within the project site, and may not be credited through the purchase of mitigation land. In addition, a detailed site plan of the mitigation areas shall be included and shall include any proposed irrigation (temporary or permanent).
- c. A Restoration and Monitoring Plan shall be prepared by a qualified restoration ecologist and shall at a minimum include the following:
 1. A baseline assessment, including photographs, of the current physical and ecological condition of the proposed restoration site, including, as appropriate, a wetland delineation conducted according to the definitions in the Coastal Act and the Commission's Regulations (Cal. Code of Regs., tit. 14, div 5.5), a description and map showing the area and distribution of vegetation types, and a map showing the distribution and abundance of sensitive species. Existing vegetation, wetlands,

and sensitive species shall be depicted on a map that includes the footprint of the proposed restoration.

2. A description of the goals of the restoration plan, including, as appropriate, topography, hydrology, vegetation types, sensitive species, and wildlife usage.
3. A description of planned site preparation and invasive plant removal
4. A restoration plan including the planting palette (seed mix and container plants), planting design, source of plant material, plant installation, erosion control, irrigation, and remediation. The planting palette shall be made up exclusively of native plants that are appropriate to the habitat and region and that are grown from seeds or vegetative materials obtained from local natural habitats so as to protect the genetic makeup of natural populations. Horticultural varieties may not be used.
5. A brief report on the physical and biological “as built” condition of the mitigation site, to be submitted within 30 days of completion of the initial restoration activities. The report shall describe the field implementation of the approved restoration program and any problems and resolutions, with photographs as needed. The “as built” assessment and report shall be completed by a qualified biologist, who is independent of the installation contractor.
6. A plan for interim monitoring and maintenance, including:
 - a. A schedule
 - b. Interim performance standards
 - c. A description of field activities
 - d. A monitoring period of no less than five years
 - e. Provision for submission of annual reports of monitoring results to the Executive Director for the duration of the required monitoring period, beginning within one year after submission of the “as-built” report. Each report shall be cumulative and shall summarize all previous results. Each report shall document the condition of the restoration with photographs taken from the same fixed points in the same directions. Each report shall also include a “Performance Evaluation” section where information and results from the monitoring program are

used to evaluate the status of the restoration project in relation to the interim performance standards and final success criteria.

7. Final Success Criteria for each habitat type, including, as appropriate:
 - a. Measure of species diversity
 - b. total ground cover of vegetation
 - c. vegetative cover of the major structure producing species for the habitat type as determined by comparison to appropriate reference site.
 - d. wildlife usage
 - e. hydrology
 - f. presence and abundance of sensitive species or other individual target species

8. The method by which success will be judged, including:
 - a. Type of comparison, such as comparing a census of the restoration site to a fixed standard derived from literature or observations of natural habitats; comparing a census of the restoration site to a sample from a reference site; comparing a sample from the restoration site to a fixed standard; or comparing a sample from the restoration site to a sample from a reference site.
 - b. Identification and description, including photographs, of all reference sites that will be used.
 - c. Test of similarity, at a minimum, determining whether the result of a census is above a predetermined threshold, or the mean from a sample is similar to the reference mean based on a standard statistical test, such as a one- or two-sample t-test.
 - d. The field sampling design to be employed, including a description of the randomized placement of sampling units and the planned sample size.
 - e. Detailed field methods.

- f. Specification of the maximum allowable difference between the restoration value and the reference value for each success criterion
 - g. Where a statistical test will be employed, a statistical power analysis to document that the planned sample size will provide adequate statistical power to detect the maximum allowable difference. Generally, sampling should be conducted with sufficient replication to provide 90% power with $\alpha=0.10$ to detect the maximum allowable difference. This analysis will require an estimate of the sample variance based on the literature or a preliminary sample of a reference site.
 - h. A statement that final monitoring for success will occur after at least three years with no remediation or maintenance activities other than weeding, but no sooner than five years after completion of the restoration.
9. Submission of a final monitoring report to the Executive Director at the end of the final monitoring period. The final report must be prepared by a qualified restoration ecologist. The report shall evaluate whether the restoration site conforms to the goals and success criteria set forth in the approved final restoration program.
10. Provision for possible further action. If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved success criteria, the applicant shall submit within 90 days a revised or supplemental restoration program that addresses and proposes solutions to resolve the remaining problems. The revised restoration program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no permit amendment is legally required.

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

8. **Traffic Demand Management Plan.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval a Traffic Demand Management Plan detailing the manner in which the applicant will direct public traffic through and around the project site during demolition and construction. Said plan shall include the following:

- a. Two northbound and two southbound lanes of vehicular traffic, as well as one pedestrian path, shall be kept open across the river at all times during construction of the approved project unless risk to public safety is present.
- b. The public bike/pedestrian paths under the bridge shall be kept open at all times unless risk to public safety is present.

The applicant 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 legally required.

9. Final Bridge Hydraulics Report and Bridge Plan.

- a. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the review and written approval of the Executive Director, (1) a Final Bridge Hydraulic Report that analyzes the Water Surface elevation for the 100-year flood event in combination with future sea level rise and (2) Final Bridge Plan that is in conformance with the Final Bridge Hydraulic Report. The Report and Plan shall be prepared by a licensed civil engineer and shall be in substantial conformance with the previously submitted Preliminary Hydraulic Report, prepared by Rick Engineers, dated September 3, 2010, except for the inclusion of sea level rise.
 - i. The Final Bridge Hydraulic Report shall determine the clearance and freeboard that will be sufficient to safely convey 50-year and 100-year flood flows, under conditions of at least 3-feet and up to 4.7-feet increase in future water levels at the creek mouth, and with no rise in the water surface elevation between the with and without project alternative.
 - ii. The Final Bridge Plan shall include, at a minimum, the bridge clearances and elevations necessary to conform to the flood conveyance conditions identified in the Final Bridge Hydraulic Report.
- b. The permittee shall undertake development in accordance with the approved Final Bridge Plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

10. Hydroacoustic Monitoring and Mitigation Plan.

- a. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and written approval of the Executive Director, a Final Hydroacoustic Monitoring and Mitigation Plan that provides estimates of the sound pressure field generated by the planned pile driving, identifies areas where fish or marine mammals may be at risk of injury, and provides a real-time monitoring plan to document actual sound pressure levels where water depths make this feasible. To be protective of marine resources, peak sound pressure levels generated by the pile driving activities should not exceed 206 dB at 10 meters from source and accumulated sound exposure levels (SEL_{cummm}) should not exceed 187 dB without implementation of all reasonable efforts to curtail the sound levels to below these thresholds. A number of steps shall be taken to identify, avoid, and minimize acoustic exceedances. The measures to be taken to mitigate high impact sound are outlined below.
- b. **All pile driving activities shall be performed in full accordance with the following provisions:**
 - 1) Piles to be installed shall consist of those identified within the project plans and include mix of concrete and steel piles of various types.
 - 2) To the extent feasible, noise dampening including use of a nylon or wooden block shall be employed between the impact hammer and piles to dampen underwater noise generated by hammer strikes. This applies specifically to concrete piles that have a flattened driving surface.
 - 3) All impact pile driving activities shall incorporate a "soft start" approach whereby hammer strikes on each pile begin at low pressure and slowly increase to full hammer strength in order to drive fish away from the piles before the acoustics generated by pile driving approach levels that could result in injury. For any cessation of pile driving for greater than one hour, the soft start procedures shall be repeated to reinitiate behavioral relocation of fish from the acoustic impact area.
 - 4) For all piles, impact hammering shall be used only to 1) set piles to final grade after piles have been jetted or vibrated to within 5 feet of final depth, or 2) to set piles after jetting and vibratory driving have ceased to be effective at driving piles to required engineered depths.
 - 5) To protect fish from the acoustic impacts of pile driving, piles shall be principally driven by vibratory or hydrojetting means with these methodologies being used to the extent feasible.

- 6) In the event that either the 206 dB peak or the 187 dB SEL_{cumm} sound levels are exceeded at a distance of 10 m from the piling being driven, - additional attenuation measures shall be implemented in the form of increased pile mass by temporarily attaching non-resonating materials (e.g., wood or nylon blocking) while piles are driven, use of unconfined bubble curtains to the extent possible on the individual piles, and application of a linear confined or unconfined bubble curtain along the faces of the combi-wall at segments being driven. Exceedances and subsequent avoidance measures taken shall be reported to the Executive Director and the National Marine Fisheries Service within 48 hours of the event.
- 7) Hydroacoustic monitoring shall be performed for each type of pile during the first week of pile driving that type of pile, to determine the hydroacoustic energies generated from the pile types. Sound levels shall be taken using an integrating data logging sound level meter (SLM) with one hydrophone positioned at 10 meters from the driven pile and one or more hydrophones positioned or moved in varying distance increments, including at least 20m, 40m, 120m, 240m from the sound source to determine acoustic attenuation over distance at the site. Hydroacoustic monitoring shall be conducted initially for at least the first five piles of each type driven by impact hammer. Monitoring results from the first five piles of each type shall be reported to the Executive Director. With the monitoring report, the permittee may submit evidence to support stopping hydroacoustic monitoring, including, at least, that the piles monitored in the report are representative of the water depths into which all piles will be driven, and that sound pressure levels at the closest hydrophone during sound testing (stationed at 10 meters from each pile being driven) are below both criteria of the dual metric exposure criteria (206 dB peak or 187 dB accumulated SEL level). Unless and until the Executive Director makes a determination that hydroacoustic monitoring may be discontinued, hydroacoustic monitoring shall continue for any additional pile-driving activities.
- 8) A final report that includes data collected and summarized for all monitoring locations shall be submitted to the Executive Director within 180 days of completion of the hydroacoustic monitoring. The report shall include all the following information:
 - i. The dates, times, and distance at which either the 206 dB peak or 187 dB SEL_{cumm} thresholds were exceeded, if any;
 - ii. The average total number of strikes to drive each pile and the total number of strikes during each 24 hour period when pile driving occurred;

- iii. Sizes and types of piles driven;
 - iv. Scaled graphics and accompanying tables describing the pile driving environment, including:
 - (a) the distance between hydrophones and piles driven;
 - (b) The depth of hydrophones and depth of water at the hydrophone location;
 - (c) The distance from the piles driven to the water's edge and
 - (d) The depth of water in which piles were driven;
 - (e) The depth into the substrate that the piles were driven, and;
 - (f) The physical characteristics of the bottom substrate into which the piles were driven.
 - v. All results of the hydroacoustic monitoring;
 - vi. A description of any marine mammal, sea turtle, or other significant marine life encounters and all actions taken, and;
 - vii. A description of any dead fish observed and the behavioral response to pile driving of any live fish observed.
- 9) In the event of an exceedance of either criterion of the dual metric exposure criteria, (a) the extent of area and duration and magnitude of sound exceedance shall be determined; (b) the affected area will be examined for indications of injured or dead fish (c) additional attenuation measures, such as secondary bubble curtains, changes in dampening materials, or different hammers or cushioning block designs shall be tested to address the noise exceedance. In the event that primary and secondary measures are not determined to be successful, the exceedances shall be reported to the Executive Director, along with any observations of injured or dead fish associated with the pile driving activities. Working in conjunction with the Executive Director and in consultation with National Marine Fisheries Service, the permittee shall develop and test alternative attenuation strategies.
- 10) To ensure injury does not occur to turtles and marine mammals:
- i. A qualified biological observer shall be maintained onsite with the authority to stop construction if a marine mammal approaches or enters the shutdown zone. The shutdown zone is defined as the area within 10 meters of construction activities, or 180 dB rms for marine

mammal pinnipeds. The pile-driving activities will be stopped and delayed until the biological observer visually confirms either that the animal has voluntarily left the shutdown zone and is beyond the shutdown zone, or 15 minutes have passed without re-detection of the animal for pinnipeds.

c. Pile driving shall be conducted at all times in accordance with these provisions. Any proposed changes to these pile driving requirements and limitations shall be reported to the Executive Director. No changes to the requirements of this special condition shall be made without a Coastal Commission approved amendment to this CDP unless the Executive Director determines that no amendment is legally required.

11. Temporary Impacts/Habitat Monitoring Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and written approval of the Executive Director, a final detailed monitoring plan for impacts to sensitive biological resources. Said plan shall include the following:

- a. A site plan delineating all temporarily impacted habitat areas and the exact acreage;
- b. A description of existing biological resource conditions including the percent cover of the dominant plant species and a list of the associated species based on surveys employing quantitative vegetation sampling methods (e.g. transects or quadrats). From this information, the identity of the vegetation community types based on the Manual of California Vegetation Vol. 2 classification schemes (e.g. Encelia californica Shrubland Alliance) must be included in the description. The plan must include vegetation maps with polygons of similar vegetation types clearly identified for the areas where temporary impacts are expected to occur. The quantitative data and vegetation maps will serve as the baseline for assessing the recovery of temporarily impacted areas;
- c. Plans for assessing recovery of temporarily impacted habitat areas one year after completion of the project using the same quantitative vegetation sampling methods used to acquire baseline conditions. Criteria for determining if project impacts have been temporary, one year following the project, must be that the percent cover of the dominant vegetation and the number of associated species of the respective vegetation types must be within 10% or less of the baseline values; and
- d. Submission of final monitoring report within 30 days of completion of one-year post-project monitoring, where report evaluates whether recovery of the site conforms to the goals and success criteria set forth in the approved final habitat monitoring plan. If the final report indicates that temporarily impacted areas have recovered as expected, no further restoration or mitigation will be necessary. If the final report identifies that

recovery has been unsuccessful, in part or in whole, based on the required success criteria and observed permanent impacts to wetland or upland vegetation, the applicant shall propose specific restoration or mitigation for the identified impacts within 90 days of the determination. The mitigation program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no permit amendment is legally required.

All plans, reports, and other documentation of project impacts, monitoring, and mitigation shall be submitted to the San Diego office of the Coastal Commission.

12. **Other Permits.** PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, the applicant shall provide to the Executive Director, for review and written approval, copies of all other required state or federal discretionary permits (such as U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Regional Water Quality Control Board and the California Department of Fish and Game, and CA State Parks) for the development authorized by CDP No. 6-15-1975.

The applicant shall inform the Executive Director of any changes to the project required by other state or federal agencies. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION

The City of San Diego proposes to demolish the existing four-lane West Mission Bay Drive bridge currently supported by ten pier walls within the riverbed and construct two new parallel 1,300-ft. long, 63-ft. wide, 3-lane vehicular bridges with bike lanes and sidewalks supported by twenty-four concrete piles and located 40-ft. apart. The project will also widen the westbound Interstate-8 off-ramp onto West Mission Bay Drive and construct a Class I bike path on each bridge.

The existing West Mission Bay Drive bridge spans the San Diego River flood control channel in a north/south direction between the Sports Arena Boulevard/Interstate-8 intersection on the south and the Sunset Cliffs/SeaWorld Drive intersection on the north in the Mission Bay area of the City of San Diego. The bridge is a pre-coastal structure that was constructed in the early-to-mid twentieth century. This segment of the San Diego River west of Interstate-5 is fully channelized with riprap lining its banks and drains directly west to the Pacific Ocean.

The existing bridge has been classified by the California Department of Transportation (Caltrans) as functionally obsolete due to inadequate capacity, as well as seismically and structurally deficient due to concrete spalling, potential presence of shear cracks, and possibility of local failures. In addition, the City has indicated the capacity of the existing bridge is currently below acceptable levels, and the existing bridge's four-lane configuration and the adjacent local roadway connections at six-lane configuration on both ends of the bridge creates a conflict and a safety and circulation problem. The purpose of the proposed new bridge is to improve the transportation function and safety of the link across the San Diego River between the communities of Pacific Beach/Mission Bay Park to the north and the communities of Point Loma, Loma Portal, and beyond to the south.

Construction of the bridge is expected to take approximately two years. The City has proposed to utilize a trestle and platform system to stage equipment due to it being the least environmentally damaging staging method.

Mission Bay Park is primarily unzoned and is a dedicated public park. While the park has a certified Mission Bay Park Master Plan, the subject site is located within the City of San Diego in an area of deferred certification, where the Commission retains permit authority and Chapter 3 of the Coastal Act remains the legal standard of review.

B. PUBLIC ACCESS

Section 30210 of the Coastal Act states:

In carrying out the requirements 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

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public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act states:

Development shall not interfere with the public's right of access to the sea where acquired through use of legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212(a) of the Coastal Act states:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Section 30212.5 of the Coastal Act states:

Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, or overcrowding or overuse by the public of any single area.

Section 30252 of the Coastal Act states in part:

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 acquisitions and development plans with the provision of onsite recreational facilities to serve the new development.

Section 30253(d) of the Coastal Act states:

New development shall do all of the following: [...]

(d) Minimize energy consumption and vehicle miles traveled.

Setting/Detailed Project Description

The existing four-lane West Mission Bay Drive bridge spans the San Diego River flood control channel between the Sports Arena Boulevard/Interstate-8 intersection on the south and the Sunset Cliffs/SeaWorld Drive intersection on the north. West Mission Bay Drive in the vicinity of the project site is classified by Caltrans as a six-lane prime arterial, but the bridge segment is built as a four-lane facility due to the width restrictions of the bridge structure. On-street parking is prohibited in the project-related segment of the road, and the posted speed limit is 45 miles per hour. Traffic signals are currently located at Perez Cove Way to the north and the I-8 westbound off-ramp and Sports Arena Boulevard to the south. Existing bus transit routes 8 and 9 currently traverse the bridge to access transfer points.

Additionally, two bike/pedestrian paths cross under the existing West Mission Bay Drive bridge, running parallel to the San Diego River flood control channel. The southern path, commonly known as the Ocean Beach Bike Path, connects Ocean Beach in the west to Mission Valley in the east, and is a stand-alone paved path solely for the use of bicyclists and pedestrians. The path on the northern bank runs between Mission Bay Park in the west and Friars Road in the east, and is configured as a stand-alone paved path west of the existing West Mission Bay Drive bridge and shares the roadway of Old Sea World Drive east of the existing West Mission Bay Drive bridge. The path on the north side of the river also serves as an informal wildlife observation point. Both paths are official bike paths as identified in the City of San Diego Master Bicycle Plan and are owned and operated by the City.

The applicant is proposing to construct a replacement bridge consisting of two parallel 1,300-ft. long, 63-ft. wide, 3-lane vehicular bridges with bike lanes and sidewalks, supported by twenty-four concrete piles total and located 40-ft. apart. Each parallel bridge would have one 14-foot wide lane and two 12-foot wide lanes, an 8-foot wide shoulder lane, and a 12-foot wide shared pedestrian bike path that is protected from oncoming traffic by a 1.5-foot wide concrete barrier. The project would also widen the Interstate-8 off-ramp by extending the four-lane configuration by 1,200 feet eastward.

The purpose of the proposed project is to improve the transportation function and safety of the link across the San Diego River between the communities of Pacific Beach/Mission Bay Park to the north and the communities of Point Loma, Loma Portal, and beyond to the south.

Project Need

The City commissioned a traffic analysis of the project vicinity during morning and afternoon peak weekday and weekend hours during March and July, 2009, to represent non-summer and summer periods, respectively. During the non-summer months, critical movements at unsignalized study intersections operated at LOS C or better on weekdays and weekends. All monitored signalized intersections operate at LOS D or better except for West Mission Bay Drive-Midway Drive & West Point Loma Boulevard-Sports Arena Boulevard, located 1,500 feet south of the project site. The traffic study also determined

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that the Intersection Lane Vehicle (ILV), which is a baseline assumption that the capacity of intersecting lanes is 1,500 vehicles per hour, was nearly met or exceeded during both non-summer weekdays and weekends at intersection of West Mission Bay Drive/Interstate-8 off-ramp. Regarding queue length, the study found that vehicle queues on the westbound I-8 off-ramp exceeded storage during peak weekend hours. For roadway segment operations, the traffic analysis found that all traffic study area street segments operated at LOS D or better except for the existing West Mission Bay Drive bridge segment, which operates at LOS F during all peak time periods.

During the summer period, the traffic analysis found that critical movements at unsignalized study intersections operate at LOS C or better during the summer weekday and weekend hours. Signalized study intersections operate at LOS D or worse. Regarding ILV, the West Mission Bay Drive/I-8 westbound off-ramp was found to be under or near capacity during the peak AM weekday and weekend AM hours and overcapacity in the peak summer weekday and weekend PM hours. The queue lengths do not exceed capacity during any of the peak summer weekday and weekend hours. All the study street segments operated at LOS D or better, with a few exceptions, the notable one being the West Mission Bay Drive bridge segment, which operated at LOS F.

In addition, the City of San Diego has indicated that the capacity of the existing bridge is currently below acceptable levels. The bridge's existing four-lane configuration is designed to handle approximately 40,000 Average Daily Trips (ADT). However, daily traffic volumes currently exceed 64,000 vehicles during the summer months, and exceed 53,000 vehicles during the remainder of the year. By 2035 it is projected that ADT will increase further to 83,000 vehicles. In addition, with the existing bridge's four-lane configuration and the adjacent local roadway connections at a six-lane configuration on both ends of the bridge, the transition between the two creates conflicts, further exacerbated with the on-ramps and off-ramps connecting West Mission Bay Drive to SeaWorld Drive on the north and Interstate-8 on the south. The traffic analysis prepared for the proposed project found that the West Mission Bay Drive/I-8 westbound off-ramp signalized intersection currently operates at a Level of Service (LOS) F during the AM summer weekend peak hours. Furthermore, the existing bicycle path across the bridge is very narrow and shared with pedestrians, and currently bicycles are prohibited from the east side of the existing bridge due to the narrow width.

All of the above information makes clear that the current bridge acts as a bottle neck impeding both vehicular and pedestrian access to a popular coastal destination – Mission Bay Park – and the surrounding communities, and is in need of an upgrade not only for safety reasons, but to be brought into conformity with existing roads and adequately meet current and projected demand.

Associated Improvements to Capacity and Circulation

In addition to expanding the bridge capacity from four lanes to six lanes (three north bound and three southbound) and constructing Class-I bike lanes in each direction, the proposed project would also include improvements at the north and south ends of the existing bridge. The northbound right lane on West Mission Bay Drive would become a

dedicated on-ramp for eastbound Sea World Drive. A 600-foot long auxiliary lane in the southbound direction would also be included. The proposed project also proposed improvements to the westbound I-8 off-ramp onto West Mission Bay Drive, including widening of the off-ramp through extending the four-lane configuration for 1,200 feet eastward. Additionally, the existing river bike paths under the bridge would be connected to the Class I bike paths in the proposed bridge.

These design features of the proposed bridge would improve capacity of all forms of public travel. According to the City's traffic analysis, the expanded bridge would reduce wait times at the intersections by up to two minutes while increasing the safety to the public by implementing more attractive and safer bike and pedestrian facilities.

Potential Adverse Impacts to Public Access

While the proposed bridge replacement will benefit public access and circulation, there is the potential for the two-year demolition and construction process to temporarily adversely impact public access were the construction access, staging, and storage to block public right-of-ways or occupy usable recreational open space.

The demolition and construction of the bridges would employ a staged construction process. During stage 1, the contractor would build a temporary trestle from the north side of the San Diego River southward into the river on the east side of the new bridge alignment. Using the staging structure and embankment, the contractor would construct the new bridge's columns, place temporary falsework, and construct the eastern half of the new bridge. Upon completion of stage 1, the contractor would deconstruct the falsework and the staging structure and construct a staging area and falsework on the west side of the bridge for stage 2. The westerly half of the existing bridge would be demolished before construction of the western half of the new bridge begins. It is anticipated that the construction sequence for stage 2 of the new bridge would be identical to stage 1. Once the western half of the new bridge is complete, the remainder of the existing bridge would be demolished and the temporary structures would be deconstructed and removed.

The majority of access for implementing construction would come from the north side of the San Diego River. The contractor's staging areas would likely include part of the SeaWorld San Diego parking lot, the area on the northeast quadrant of the site between SeaWorld Drive and the San Diego River, and the area on the northwest quadrant of the site that is bound by the San Diego River, Sunset Cliffs Road, and the southbound West Mission Bay Drive off-ramp to eastbound SeaWorld Drive. The City has indicated that the access road that exists on the north embankment of the San Diego River would be used to mobilize personnel, equipment, and materials. Access to the west side of the existing bridge for stage 2 of construction would likely be limited to traveling under the new and existing bridges, using the existing frontage road (Old Sea World Drive). Part of the existing bridge that is to remain during construction may create access constraints for the public. Staging areas for construction of the southern abutments and the first span of the new bridge would be on the south side of the San Diego River between the river and the westbound I-8 off-ramp to West Mission Bay Drive/Sports Arena Boulevard. Thus,

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because all construction access and staging will occur in areas not currently available for public parking or recreation, construction is not expected to adversely impact public parking and circulation.

In addition, construction activities and staging areas would not directly encroach into any active recreation areas of Mission Bay Park. Access to all recreational areas at the park would remain open throughout construction.

Construction activity would occur in the vicinity of the bike/pedestrian paths on the northern end and southern banks of the San Diego River, with a portion of the bridge work spanning directly over the paths. However, full access to the existing paths would be maintained throughout project construction, and the project would not require path closure or detours. Construction would include erecting protected crossings that would enclose the existing bike paths and allow passage. The protected crossings will be in place for 16 – 22 months.

The City will draft a traffic management plan pursuant to **Special Condition No. 8** to minimize impacts to traffic during construction, as construction of the proposed project would result in temporary traffic impacts, including periodic traffic delays that could increase travel times for motorists through the area. Temporary traffic impacts would be minimized by maintaining two lanes of traffic on West Mission Bay Drive Bridge in both the northbound and southbound directions at all times throughout the staged construction process, the same number of lanes that are currently open. One sidewalk across the bridge would remain open at all times, which would also provide pedestrian and bicycle access.

Conclusion

The proposed six-lane bridge with Class-I bike paths represents a substantial upgrade in public access opportunities over the existing bridge, as it will greatly increase the safety of a main thoroughfare into Mission Bay Park while decreasing wait times at intersections for vehicles and bicyclists alike. To ensure that the interim construction of these improvements minimally impacts public access during the two-year construction schedule, **Special Condition No. 2** requires that a staging and storage plan be submitted and adhered to that sites staging, storage, and employee parking outside of public right-of-ways and utilized parkland. **Special Condition No. 8** requires that a Traffic Demand Management Plan be followed that includes the provision of vehicular, pedestrian, and bike access at all times during construction. Finally, **Special Condition No. 1** requires that final plans, which include improvements such as increased numbers of lanes and improved bike lanes, be incorporated. Thus, the Coastal Commission can find that the proposed project, as condition, conforms to the public access policies of Chapter 3 of the Coastal Act.

C. WETLAND/HABITAT IMPACTS

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 maritime environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy population 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 effect of waste water discharges and entrainments, 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.

Section 30233 of the Coastal Act states in relevant 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:*
- 1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities;*
 - 2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basin, vessel berthing and mooring areas, ad boat launching ramps;*
 - 3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities;*
 - 4) 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.*
 - 5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas;*
 - 6) Restoration purposes;*

7) *Nature study, aquaculture, or similar resource dependent activities*

(b) *Dredging and spoils shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.*

(c) *In addition to the other provision of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary...*

Section 30240 of the Coastal Act states:

(a) *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

(b) *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat recreation areas.*

Existing Conditions

A Jurisdictional Delineation Report for the project site was prepared in October 2011. The approximately 54.42-acre survey area for conducting the jurisdictional delineation includes the limits of construction and staging areas. The area contains coastal brackish marsh, southern coastal salt marsh, and open water/tidal mudflat. Disturbed wetland in the form of riprap river bank is also present.

Five vegetation communities and land cover types were identified in the project area, three of which are native vegetation communities: open water/tidal mudflat, coastal brackish marsh, and southern coastal salt marsh; the remaining two cover types are nonnative disturbed habitat and disturbed land. Both marsh communities include disturbed native vegetation as well.

Based on vegetation mapping and field delineation efforts within the survey area, coastal brackish marsh only occurs within a small raised portion of the vegetated mudflat, located at the edge of the San Diego River flood control channel near the southwest portion of the bridge. This marsh, has low diversity and is considered disturbed, as it is essentially a monotypic stand of common reed next to a fill substrate (riprap), with nonnative upland vegetation and development abutting its outer extent.

The disturbed wetland community in the study area is represented by a graded levee that has been armored by riprap. Upland herbaceous species primarily occupy the spaces in between the rip rap. Although all tidal action occurs within the lower extent of the riprap, there has not been any natural biotic colonization, as only algae or bare mudflat are present.

Additionally, the subtidal soft bottom of the San Diego River flood control channel supports tidal mudflat, which is an important contributor to the food chain through its benthic community within the soils. Tidal mudflats support a diverse community of shorebirds, fish larvae, and bottom-dwelling invertebrates, and contribute to the detrital (decaying organic) food chain, as the decaying plant material is consumed by benthic invertebrates.

The project area lies within intertidal zone. As a result, the San Diego River flood control channel fluctuates between open water and exposed layers of mud, silts, and marine detritus. These mudflats are exposed twice daily and make up nearly 13 percent of the project limits.

An extensive coastal brackish marsh community is present in the San Diego River flood control channel east of the construction limits, and as the aforementioned small community along the south toe of the flood control channel under the existing bridge. This community type is dominated by perennial, emergent, herbaceous monocots up to almost seven feet in height with vegetative cover often complete and dense. Coastal brackish marsh is similar to southern coastal salt marsh and to coastal and valley freshwater marsh, and may intermingle with them depending on salinity and distance to the river mouth or ocean.

Southern coastal salt marsh is a highly productive association of herbaceous and suffrutescent, salt-tolerant hydrophytes that form a moderate to dense cover and can reach 3 feet in height. Southern coastal salt marsh communities occur in limited portions at the two of the San Diego River flood control channel on both sides of the river extending eastward. This salt marsh has low diversity, consisting of primarily nonnative species with a few native species present, and nonnative uplands abut it along the banks of the river channel.

Disturbed habitat comprises 8 percent of the project area; it is dominated by invasive nonnative forbs that are adapted to the disturbances. The exotic weeds now present include prickly Russian thistle, tocalote, short-pod mustard, and red brome. The cover also includes riprap lining the banks of the river.

Approximately 60 percent of the 55-acre project area consists of developed land, consisting of roads, structures, and landscaping.

Regarding federally listed plant species, salt marsh bird's beak and Brand's star phacelia could occur in the project area, but no other species was detected during the resource surveys for the proposed project, and only marginal habitat potential suitable to support

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salt marsh bird's beak occurs in the survey area, though it does occur downstream by the river mouth.

While eel grass occurs in large quantities within Mission Bay, a short distance to the north of the San Diego River and the project site, no eel grass was observed occurring in the project area during the survey.

Proposed Project

The project site consists of an existing four-lane vehicular and pedestrian bridge in the San Diego River flood control channel over tidal mudflat/open water along the channel bottom, and riprap with a small amount of coastal brackish marsh along the channel slopes. The new bridge structure would be two parallel 1,300, 63-foot wide three-lane bridges supported by twenty-four 10-foot diameter concrete pier piles and located 40 feet apart. The pier piles would be made up of six "bents" (pier pile groupings), with two pier piles per bent. This means that approximately 1,885 square feet (0.04-acre) of river bed will be permanently occupied by the bridge's support piers.

As a bridge replacement project with existing connection points on either side of the river, there is no substantially different alignment possible for the bridge that could achieve complete avoidance of habitat impacts in the river. To minimize impacts, the support piers for the project are designed to be circular columns, and bridge abutments will be sited upland, out of habitat area. As proposed, the permanent physical impact footprint of the new bridge's support columns (0.04 acre) will be less than the footprint of the existing bridge's ten pier walls (0.11-acre), so the project will result in a 0.07-acre net gain of tidal mudflat/open water upon project completion. This reduction in fill is expected to significantly improve the biological productivity of the river. However, the new bridge will permanently shade an approximately 2.69 acres of jurisdictional waters of the United States, comprised of approximately 2.68 acres of tidal mudflat/open water, 0.002 acre southern coastal brackish marsh, and 0.005 acre of riprap.

Construction Methods

In addition to the impacts from the project itself, there will be impacts associated with construction. The proposed project will take approximately twenty-four months to complete. Demolition of the existing structure and construction of the new structures require equipment and worker access to the site within the river, including constructing structures to enable access to the bridge deck areas. The City analyzed three potential construction methods: large berm, small berms, and trestles, before settling on the trestle option. Each of the three construction methods would result in different resource impacts and have different costs and efficiencies.

All three construction methodologies would employ a staged construction process. During stage 1, the contractor would build a temporary berm or trestle from the north side of the San Diego River southward into the river on the east side of the new bridge alignment. Using the staging structure and embankment, the contractor would construct the new bridge's columns, place temporary falsework, and construct the new three-lane

eastern half of the bridge. Upon completion of the eastern bridge (stage 1), stage 2 would entail the contractor deconstructing the falsework and the staging structure and constructing a staging area and falsework on the west side of the bridge, demolishing the western half of the existing bridge, constructing the remaining western half of the new bridge, and demolishing the final portion of the existing bridge. Upon completion, all construction staging structures and falsework would be deconstructed and removed.

The large berm construction method would have the contractor build one large, wide berm in the river channel extending 50 feet east of the new edge of the deck for the east bridge and 50 feet west of the new edge of the deck for the west bridge, allowing lateral movement for construction workers and vehicles under and on the bridge during demolition and construction. The berm would be 265 feet wide on top and 300 feet wide at the bottom. The volume of fill would be 93,000 cubic yards and consist of non-silt/non-clay materials.

The large berm would require twelve or more berm openings, including culverts in the berm, each 30 feet wide, for a total of 1,444 square feet of open area to allow the river to flow west to the Pacific Ocean and accommodate the twice-daily tidal prism of the area. Openings would be constructed of corrugated metal pipes placed perpendicular to the alignment of the berm. The space between the pipes would be filled with dirt and plates placed over them.

The small berm option would entail construction of two separate berms, one west of the bridge and one east of the bridge, narrower than the single large berm option. The width of each berm would be 30 feet on top and 62 feet on the bottom, with a height of 8 feet and utilizing 14,500 cubic yards of fill. The small berm option would permit only the construction of the new bridge; demolition of the existing bridge would be done from the existing bridge itself or from portions of the new bridge as it is being constructed.

The small berm option would require six or more berm openings, including culverts in the berm, each 30 feet wide and totaling 977 square feet of open area to allow river flow and the twice-daily tidal prism. Corrugated metal pipes would be used, with the intervening space filled with dirt and plates placed over them. The small berms would likely also require the construction of cofferdams of interlocking sheet piling to drill the cast-in-drill-hole piles for the columns and to protect the river from debris from the drilling process.

Under either of these two berm scenarios, geotechnical evaluation of the project area indicates that the weight of the staging structures, namely the berms, would result in significant compaction of the river bed, depressing it below the grade of the adjacent river bed. This compaction, and its duration, would kill off the benthic community in the soil and dewater the river bed under the berm. Subsequent removal of the berm soils would either leave some of the deposited fill behind if too little fill was removed or remove portions of the underlying riverbed if too much fill is removed.

The trestle option would involve the erection of 30-foot wide trestles. At each pier for the new bridge, a side trestle would be built to allow access for pile and column construction,

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approximately the width of the new bridge (63 feet) and 25 to 30 feet long at each pier. The contractor would build the trestles from the north side of the San Diego River southward on the east side of the new alignment and then construct the columns and falsework of the eastern half of the new bridge. Once the eastern bridge span is completed, the trestles would be deconstructed and moved to the western side of the new bridge, where a portion of the existing bridge would first be demolished before constructing the western half of the new bridge. As part of the demolition of the existing bridge, a trestle would be constructed to provide access to the existing bridge, but this trestle would be narrower than the trestle for construction. The demolition trestle would also require a netting system supported on the trestle and existing piers to prevent debris from falling into the San Diego River during demolition, as well as cofferdams of interlocking sheet piling to drill the cast-in-drill-hole piles for the columns and to protect the river from debris from the drilling process.

The estimated number of piles in each row and spacing of pile rows is 500 to 600 (250 to 300 piles per stage). Trestle piles are grouped around each of the 38 bents required for the trestle option, with each bent spaced at 35 feet on center and trestle spans between each bent. The trestle pile will be a 20-inch diameter steel shell pile. The orientation of the trestle bents would be orthogonal (at right angles) to the trestle and would not be oriented parallel to the river flow. However, the trestle design would provide a total of 977 square feet of open area to allow the river to flow west into the ocean and accommodate the twice-daily prism. The approximate width of the trestle would be thirty feet. At each pier for the new bridge, a side trestle would be built to allow access for pile and column construction. It would be approximately the width of the new bridge and 25 to 30 feet long at each pier.

The contractor would drive the first row of piles into the existing river embankment area at the interface where the trestles and embankment meet. The next row of piles would be driven into the river with the pile rig on the initial platform that would be built out onto the river from the existing embankment area.

In all three options, falsework construction (supports for the structure as it is being built) would require 115 20-inch diameter steel shell piles per stage, or 230 piles total. Additionally, the contractor would identify the area within the San Diego River to be impacted and place an impermeable barrier along the perimeter to avoid an increase in turbidity while the trestle is being constructed. The impermeable barrier may be in the form of floating tubes with plastic sheeting hanging down below and weighted at the bottom to prevent substantial tidal water from passing through the impacted area.

Construction Method Impacts

Regarding impacts to wetlands and habitat, the large berm option would impact approximately 1.671 acres of open water/tidal mudflat, 0.002-acre of southern coastal brackish salt marsh, and 0.553-acre of disturbed wetland/riprap. The small berm option would impact 2.72-acre of open water/tidal mudflat, 0.002-acre of southern coastal brackish salt marsh, and 0.175-acre of disturbed wetland/riprap. The trestle option would impact 2.1 acres of open water/tidal mudflat, 0.002-acre of southern coastal brackish

marsh, and 0.251-acre of disturbed habitat/riprap. However, because the trestle option would use elevated platforms, its impacts are different from the impacts of the berm options. Each stage of the trestle option will require 250-300 trestle piles, which equals 7,850 square feet, or 0.18 acre). Each stage will also require 115 falsework piles, which is equal to 3,009 square feet, or 0.07-acre. In total, each stage of the trestle option would result in approximately 0.25-acre of river bed occupation by the piles. Of the 0.25-acre impacts, the 0.07-acre attributable to the falsework would be within the footprint of the permanent impacts caused by the new bridge. The shadow footprint of the trestles is approximately 1.67-acre – 0.84-acre per stage.

Of the three options, the small berm option is the most impactful on habitat, while the trestle option is the least impactful. The trestle option is the least impactful because the majority of its impacts will be in the form of shading, as opposed to substantial physical occupation and soil compression of the two berm options. With the trestle option, once the approximately one-year stage 1 of construction is done on the east side of the new bridge, the trestles and falsework will be dismantled and reassembled on the western side of the new bridge for approximately another year. As a result of the City and Commission staff consultation regarding the impacts of the various construction alternatives, the City chose the trestle option to minimize impacts to sensitive habitat.

Wildlife Impacts

The San Diego River functions as both a local and regional wildlife corridor, providing a regional connection from the Pacific Ocean through Mission Valley to the habitat in the Mission Trails Regional Park and beyond. It is the only continuous connection in the area between coastal and inland habitats. The San Diego River is also one of several coastal areas in San Diego County located along the Pacific Flyway, where migrating birds either stop temporarily to rest and forage, or for breeding grounds.

Stream and riparian corridors are particularly important to regional connectivity in two functional capacities. First, riparian corridors provide linear habitat with sufficient structural vegetative cover to allow passage of wildlife. Second, riparian habitats are of particular value in San Diego's arid climate, where water is a limited resource.

The segment of the San Diego River flood control channel crossed by the proposed project is designated by the City as the Southern Wildlife Preserve. The segment of the San Diego River flood control channel crossed by the project contains environmentally sensitive wetlands and qualifies as ESHA.

Furthermore, the coastal waters of Southern California are designated as Essential Fish Habitat (EFH) and the flood control channel is mapped as EFH from its mouth inland for 3 miles to the Interstate-5 bridge over the river channel. Water temperatures in the project area are suitable for four finfish: Pacific sardine, Pacific (chub) mackerel, northern anchovy, and jack mackerel; and market squid.

Three federally-listed bird species are known to or have the potential to occur within the survey area: California least tern, light-footed clapper rail, and western snowy plover. Of

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these species, the project survey observed only the clapper rail in a patchwork of pickleweed, which provides suitable nesting and foraging habitat for this species. This habitat was located in coastal brackish salt marsh approximately 300 to 1,000 feet east of the bridge, as well as further east within the San Diego River flood control channel near a mitigation site proposed by the City.

The presence of western snowy plover was not detected during avian surveys. The closest confirmed breeding ground is approximately five miles south on the Naval Amphibious Base and the Silver Strand. The species is also observed year round at the mouth of the San Diego River, but no nesting occurs in that location. While no nesting occurs in the project area, there is the potential for foraging in the mudflat during low tides. The western snowy plover has also been observed foraging at the downstream mitigation site, and plovers may forage within the project impact footprint during periods of low tide when tidal mudflat is exposed.

No least terns were detected during the 2010 surveys, and no nesting habitat for these species occurs within the project footprint. However, there are extant tern nesting areas within the California Least Tern Preserve within foraging distance (0.15 mile to the north and 0.75 mile to the northeast) of the project site both to the north on Fiesta Island in Mission Bay Park and to the west near the mouth of the river at the proposed western mitigation site. An area northeast of the project site is also managed for tern nesting, though terns have never been known to nest at this location.

The proposed project will result in 0.002-acre of permanent shading and 0.034-acre of construction impacts to coastal salt marsh suitable for clapper rail nesting. Furthermore, the project will result in approximately 2.69 acres of permanent shading and 1.67 acres of temporary shading impacts and 0.50-acre of temporary physical impacts to tidal mudflat/open water habitat suitable for tern, rail, and plover foraging. In addition, the project has the potential to result in construction impacts to foraging from dust, noise, light, turbidity, runoff, human encroachment, etc.). The proposed mitigation elsewhere nearby in the river channel may also impact clapper rail breeding and foraging. Shaded structures prevent foraging by birds like least terns. The California least tern feeds on small fish, crustaceans, and insects, and they forage by hovering over shallow water to deep waters and diving or dipping onto the surface of the water to catch prey. They require clear water to locate their prey that is found in the upper water column of the Bay and in nearshore ocean waters. Furthermore, shadows cast by overwater structures affect both the plant and animal communities below the structures. Light is the single most important factor affecting aquatic plants. Light levels underneath overwater structures have been found to fall below threshold levels for the photosynthesis of diatoms, benthic algae, eelgrass, associated epiphytes and other autotrophs. These photosynthesizers are an essential part of nearshore habitat and the estuarine and nearshore food webs that support many species of marine and estuarine fishes. In addition, fishes rely on visual cues for spatial orientation, prey capture, schooling, predator avoidance and migration. The reduced-light conditions found under an overwater structure limit the ability of fishes, especially juveniles and larvae, to perform these essential activities. Shading from overwater structures may also reduce prey organism abundance and the complexity of the habitat by reducing aquatic vegetation and phytoplankton abundance.

A biological assessment was prepared in 2011 to analyze impacts to threatened or endangered species. National Marine Fisheries Service (NMFS) confirmed that two federally endangered marine species – green sea turtles and loggerhead sea turtles – could occur within the project area. However, NMFS determined the likelihood of their occurrence in the project area to be very low. However, there is a chance that in-channel construction activity could impact foraging harbor seals or sea lions.

The project is likely to create noise impacts though the use of diesel engine equipment, pavement removal, loading and unloading materials, and construction. Under loading conditions, diesel-engine noise levels can reach up to 90 decibels (dBA) at a distance of 50 feet from the equipment. Occasional pile driving will be needed for the trestle and bridge piers, which would generate noise up to 95 dBA at 50 feet from the equipment. Construction equipment noise is considered a “point source” and is attenuated over distance at a rate of 6 dBA for each doubling of distance. Thus, a noise level of 85 dBA at fifty feet would be 79 dBA at 100 feet and 73 dBA at 200 feet from the source.

During excavation, grading, and paving operations, equipment moves to different locations and goes through varying load cycles and breaks in use. Thus, while maximum noise levels may rise to 90 dBA at a distance of 50 feet, hourly average noise levels near the edge of the project footprint are anticipated to be 65 to 75 dBA, though during pavement breaking it may reach 90 dBA.

Pile driving would generate maximum noise levels of 95 dBA at 50 feet each time the hammer head strikes the pile. It is estimated that the actual strike of the hammer head accounts for 20 percent of an hour, which results in an average noise level of 88 dBA at 50 feet.

Construction noise may affect wildlife, potentially causing it to change its behavior and move out of the area. Additionally, construction equipment and installation of project components in aquatic habitats have the potential to directly impact individual Pacific harbor seals or California sea lions if they are present in the project area. Loud construction equipment could also potentially disturb marine mammals in open waters within the project area and adjacent to the project site.

Additionally, a small group of trees potentially suitable for nesting Cooper’s hawk lies within the northern corner of the project limits. Additional trees lie within the matrix of roadway intersections and interchanges at the northern end of the project area. Construction activities occurring near this area could produce noise levels that would potentially impact suitable Coopers hawk nesting habitat.

To avoid noise impacts on wildlife, pile driving of the new bridge piers would be conducted outside of the breeding season. Should pile driving be needed during the breeding season, their usage should be limited and the hammer should be draped with sound blankets and vibratory dampeners placed on the hammer head in line with the measures contained in **Special Condition No. 10** for hydroacoustic impacts. It is expected that these measures would reduce pile-driving noise levels to existing

operational levels at 400 feet from the source. Noise monitoring is recommended if bird species are to be impacted (observed leaving the area).

If construction is scheduled to occur during the bird breeding season, pre-construction surveys are required to be conducted by **Special Condition No. 7**. If nesting birds are detected, the project must implement noise reduction measures or discontinue work until the hatchlings have fledged. Because the new bridge will overlook a foraging spot for sensitive species, **Special Condition No. 1** requires that anti-perching measures be installed on all new light fixtures so as to discourage raptor perching and predation on foraging seabird on the riverbed.

A pre-construction survey and further monitoring during construction should be done for harbor seals and California Sea Lions when water is present. Cofferdams should be inspected weekly, as sea lions may be able to jump over them. Pile driving noise could travel in the water and impact marine mammals. If such mammals are present and appear to be impacted by the noise, the activity will be reduced or stopped. In-water construction noise levels should not exceed a 120 dB air sound pressure level for vibratory pile driving and 160 dB for impact pile driving. Air bubble curtains or cushion block equipment on the pile driver could attenuate noise further. **Special Conditions Nos. 6 and 10** explain the specific measures and parameters for mitigating these potential impacts during construction.

Finally, while neither bats nor birds were identified as using the existing bridge structure for roosting or nesting during biological surveys, the potential exists for such activity to occur prior to demolition of the existing bridge. The city proposes to install exclusionary devices under the bridge to prevent birds or bats from roosting or nesting there prior to and during construction. Because the existing bridge is going to be demolished, the use of exclusionary measures during the project to avoid potential impacts does not raise an issue.

Lighting

Furthermore, all nearby wildlife could be adversely impacted by light spillover from the increased amount of lighting on and under the bridge. The proposed bridge includes lighting on the roadway and the pedestrian/bike path on the bridge, as well as lighting for the San Diego River Trail crossing beneath the proposed bridge. The project must include a larger number of lights in order to comply with the City's latest street design requirements and because the new bridge will have a larger deck than the existing bridge. The lighting will be directed onto the bridge deck and under-bridge paths to minimize light spillover onto the river area, as required by **Special Condition No. 1**.

Mitigation

The piers of the new bridge will physically occupy less square footage than the existing bridge, decreasing physical impacts on the river bed from 0.11-acre to 0.4-acre. Although all new piling's displace bay bottom and impact benthic organisms, the Commission's staff ecologist has reviewed the project and determined that impact will be self-

mitigating due to the net gain in wetland. Furthermore, the City will remove a small stand of southern coastal brackish marsh that is infiltrated with invasives, restoring it to tidal mudflat. This removal of brackish marsh is also a net gain to wetlands, as the degraded area currently has little habitat value, but is expected to revegetate with high-value natives. The shading of the new bridge is expected to permanently impact approximately 2.69 acres of habitat in the river channel. The river bed under the existing and proposed bridge is unvegetated, and the Commission's staff ecologist has determined that the benthic community in the river soil in this particular segment of the riverbed will not be significantly adversely affected by the shading. However, as described above, there are impacts to birds and fish. The trestles will impact approximately 1.67 acres of wetland by shading and 0.50-acre of wetland by physical occupation of piers, along with 0.27 acre of disturbed upland habitat.

As mitigation for the permanent shading impacts associated with the bridge, as well as the shading and direct impacts from pilings necessary during construction, the City of San Diego proposes to enhance wetlands and riparian habitat at two City-owned sites located at either end of this stretch of the San Diego River flood control channel, at the mouth of the San Diego River approximately 1.7 miles to the west and where Interstate-5 freeway crosses over the San Diego River approximately 1.25 miles to the east. Clapper rail, least tern, and snowy plover are known to occur in the project vicinity and both proposed mitigation sites, and the salt marsh bird's beak plant is known to occur in the vicinity of the downstream mitigation site.

The City is currently proposing a mitigation ratio of 1:1 for permanent indirect impacts to vegetated and unvegetated wetlands. The City claims that there will be a new wetland gain from the reduction of the physical bridge footprint from 0.11-acre to 0.4-acre, as well as converting the small stand of invasive coastal brackish marsh into mudflat, and the square footage of riverbed occupied by the bridge footings will be reduced, resulting in a net gain in wetland on site. Thus, the substantial majority of the impacts from the bridge will indirect impacts in the form of shading of the riverbed. Upon analysis by the Commission's staff ecologist, it was found that while shading is commonly an adverse impact on habitat value, because this particular stretch of riverbed is unvegetated, the main habitat resource is the benthic community in the river soil, and that based on the characteristics of this specific site, the shading should not substantially adversely affect the benthic community, and the City's proffered mitigation is adequate for the anticipated impacts.

Although construction of the bridge will take approximately two years, the City is classifying the river bottom and shading impacts from the trestle staging area as "temporary," because the two-year project will be divided into two consecutive stages of approximately a year each. Thus, the trestles sections will not be in any one location, occupying and shading riverbed, for more than a year. This, coupled with the use of relatively small 20-inch diameter steel pilings for the trestles platforms, increases the likelihood that the riverbed will be able to naturally recover within a year of removal of the trestles from a particular location.

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Upon review of the anticipated impacts and schedule of construction by the Commission's staff ecologist, the Commission believes that the impacts from the trestle staging platforms can be considered temporary if they adhere to the expected timeline of up to one year per stage (side of the bridge). This length of time, coupled with the relatively minimal square footage of river bed that the piers will occupy, and the fact that the piers are steel rods only 20-inches in diameter, makes it likely that, upon removal of the trestle systems, the river system will be able to naturally recover through fluvial processes within the following year.

However, because project timelines can fluctuate due to unforeseen complications such as funding, weather, complexity, it is not completely certain whether the trestle system will be in any particular location for only a year, or that the riverbed will be able to recover naturally. Thus, **Special Condition No. 11** requires the City to conduct monitoring of the trestle system's impacts by, among other measures, establishing a baseline through a pre-construction survey of the work area, monitoring the riverbed during construction, and monitoring the riverbed's natural recovery during the year subsequent. If it is found that the trestle system did lead to permanent impacts that the riverbed is not able to recover from in a timely and robust manner, then a formal mitigation plan shall be required of the City detailing how the impacts will be mitigated at the legally required ratios. **Special Condition No. 12** requires that the City provide proof of authorizations from all other required federal, state, and local agencies to ensure that all proper monitoring and mitigation activities are identified and implemented. Thus, the Commission can find the proposed project, as conditioned, in conformance with the habitat policies of Chapter 3 of the Coastal Act.

Permissibility

Allowable Use

While the proposed bridge constitutes an improvement over the existing bridge in that it will have a smaller physical footprint in the riverbed than the existing bridge, it still constitutes new development within wetlands that must meet the regulatory criterion of Section 30233 of chapter 3 of the Coast Act. Section 30233 prohibits diking, dredging, and filling of wetlands unless it is one of the seven enumerated uses, and the enumerated use must be in the least environmentally impactful form feasible.

However, Section 30233 has been interpreted to allow for dredging and fill of wetlands despite impacts to ESHA, subject to certain criteria and importantly including that such projects incorporate feasible mitigation measures. As stated in *Bolsa Chica Land Trust v. Superior Court*,

...the ESHA protections provided by section 30240 are more general provisions and the wetland protections provided by section 30233 are more specific and controlling when a wetland area is also an ESHA... Section 30240, a more general policy, also applies, but the more specific language in the former sections is controlling where conflicts exist with general provisions of Section 30240.

((1999) 71 Cal.App4th 493, 515.) As such, the aspects of the proposed project which result in or are related to the dredging and fill of wetlands and open coastal waters that are also considered ESHA may be allowed if all requirements of 30233 are met.

The Commission has considered what constitutes an incidental public service many times. First and foremost is whether the project is initiated by a public agency for a public purpose, such as replacement of old railroad bridges (CC-059-09); expansion of a railroad line (CC-052-05, CC-086-03) or modifications to an airport (CC-058-02). In this case, replacement of the bridge has been initiated by a public agency, the City of San Diego, for a public purpose, the replacement of a seismically vulnerable and capacity-deficient bridge, which provides access to and from the coast.

Second, the use must be incidental. *Bolsa Chica*, cited above, supported the Commission's use of incidental public service purposes and elaborated:

In particular we note that under Commission's interpretation, incidental public services are limited to temporary disruptions and do not usually include permanent roadway expansions. Roadway expansions are permitted only when no other alternative exists and the expansion is necessary to maintain existing traffic capacity.

Similar to the court's reasoning in *Bolsa Chica*, the subject bridge demolition and construction will be temporary actions that will cease upon completion of the new bridge. While the proposed project will expand the size and capacity of the bridge from four lanes to six lanes, it is important to note that the existing transportation network at both ends of the bridge is already six lanes, and has been for many years. Thus, instead of expanding traffic capacity and acting as a catalyst for future development, the proposed bridge replacement is actually intended to bring the current bridge, which acts as a bottle neck at an entrance to a very popular coastal destination, up to the already existing standards of the rest of the adjacent transportation network. Thus, although the new bridge itself is larger and wider than the current bridge, it is not expanding the traffic capacity of West Mission Bay Drive. Furthermore, no other alternative exists but to replace the aging bridge in this location due to the current configuration of the river and adjacent roads, and the fact that the land north of the river is all Mission Bay Park land. Therefore, the Commission concludes the dredging and fill required by the project is for an incidental public service purpose. Thus, the project qualifies as an allowable use under Section 30233(a).

Least Environmentally Damaging Alternative

Coastal Act Section 30233(a) further requires that any fill or dredging in wetlands or open coastal waters employ the least environmentally damaging alternative. The current bridge has exhausted its service life and has become seismically unsound through wear and tear and insufficiently deep foundations. In this case, an alternative that avoids impacting wetlands is not feasible for the new bridge because: 1) The current configuration of the existing roads and river limits the crossing points for a new bridge;

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2) a cable suspension bridge would require a 130-foot tall suspension tower at each river back in an area governed by a 30-foot height limit; 3) such a bridge would cost four times as much as the proposed bridge; and 4) foregoing bridge replacement is not an option as the roadway would ultimately fail, creating a safety hazard and impacts to the riverbed by fallen bridge debris.

In addition, despite the impacts to habitat from construction activities, over the long-term, the project is likely to benefit the local habitat by decreasing the bridge footprint in the riverbed from 0.11-acre to 0.04-acre, increasing the amount of tidal mudflat, as well as instituting newer and improved water treatment measures to capture and treat runoff flowing from the bridge.

Therefore, the Commission finds that the proposed new bridge design minimizes disturbance to wetlands and enhances habitat, and is therefore the least damaging environmental alternative available, consistent with that provision of Section 30233(a).

In order to find that the project conforms to the habitat protection policies of the Coastal Act, **Special Condition No. 7** lists the various criteria required in a mitigation plan to be submitted to and approved by the Commission prior to issuance of the permit. Because the project site contains foraging area for several sensitive species, as well as being in proximity to some of their nesting areas, **Special Condition No. 6** requires that biological surveys be done so as to ensure that the presence or absence of such species are confirmed and, if present, that appropriate protective measures be taken. To ensure that properly shielded and oriented lighting is used, **Special Condition No 1** requires that all lighting be designed so that spillover onto the habitat areas is minimized to the greatest extent feasible.

D. VISUAL RESOURCES

Section 30250 of the Coastal Act states in relevant part:

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 landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas...

The City prepared a Visual Impact Assessment for the project in 2012. The visual characteristic of the project site is of an urban transportation corridor spanning and bordering natural open space, including a tidally influenced river and nearby municipal park and bay. The San Diego River between the I-5 freeway and the river mouth is fairly uniform in appearance, with the river bed substantially covered in wetland vegetation and mudflats periodically exposed subject to tidal influence. Shore birds and other wildlife congregate in the vegetation and nearby trees, and forage in the mudflat as it becomes exposed. The I-8 freeway runs parallel to the southern bank of the river, while the I-5 freeway and related connectors can be seen crossing the river in the distance to the east

and the Sunset Cliffs bridge over the river can be seen to the west. Beyond the immediate area, development mostly consisting of residential units can be seen in the mid-to-far distance along the surrounding hills and skyline. SeaWorld San Diego is located northeast of the project site, but the vast majority of the recreation area is below thirty feet in height and is screened by either elevations changes or border landscaping up to sixty feet in height.

The largest group of viewers of the project area would be drivers travelling along I-8 to the south, followed by drivers on SeaWorld Drive to the north, then residences on nearby surface streets to the south, and finally bicyclists and pedestrians on the paths along the riverbanks.

The existing bridge is a worn structure that shows the weathering that over 60 years of exposure can cause. The concrete is stained and pedestrian railings rusted, and emergency seismic retrofitting added in subsequent years is clearly visible in the undercarriage of the bridge. Sheet wall pilings on the river bed are of a size and angle as to substantially impact views through the bridge and of the river. Compared to the existing bridge, the proposed bridge would be wider, low retaining walls would be added within the levee/riverbank areas, and freeway off-ramps would be widened and realigned. However, the large, sheet wall pilings of the existing bridge would be replaced with smaller, slimmer footings, lessening visual obstruction of the river bed and allowing more visual pass-through. The newer material of the replacement bridge and its updated architectural style would be a visual enhancement compared to the cracked, worn concrete of the existing bridge. Retaining walls would be sited within the existing rip rap, and bridge abutment walls would be similar to what is currently in place. Replacement landscaping around the bridge will be native coastal sage scrub. Thus, in general, the proposed project is expected to improve the visual quality of the area.

The City's proposed bridge design initially contained wildlife diversion poles (a.k.a. Sebastian Poles). These poles would have been approximately ten feet in height and located approximately every ten feet along the east and west side of bridge span, being highly visible on and around the bridge. While the approximately 260 poles would not have completely blocked views of the river from the bridge, they would have significantly disrupted the open vistas currently available to travelers crossing the bridge.

These poles were intended to direct inflight birds over vehicular traffic, minimizing bird strikes from cars. However, while shore birds are known to forage in the mudflats in the river, the City has not submitted any evidence that bird strike from vehicles occurs on the bridge, or, if they do, that they occur in such quantities as to warrant the visual and aesthetic impacts that tall and numerous wildlife diversion poles would cause. Furthermore, based on the information submitted, the Commission is not convinced of the effectiveness of wildlife diversion poles, as the only study submitted by the City references a small area in Florida. The Commission's staff ecologist has reviewed the material, and, unable to locate additional studies on the effectiveness of such poles, was unable to conclude that such poles operate as claimed or that their presence was warranted on the proposed bridge. Subsequently, the City modified their proposal to remove the wildlife diversion poles. Thus, given the substantial visual impact that would

result from the presence of approximately 260 10-foot high poles lining the proposed bridge, and to ensure that they are not included in the final design, **Special Condition No. 1** requires prohibits all wildlife diversion poles from the project.

The trestle construction staging platforms would temporarily alter the visual appearance of the project site. However, with the trestle construction method, a series of lattices would be visible spanning the river for the duration two-year of the construction – a year on each side of the bridge site – though they would appear lower and less bulky in comparison to both the existing and proposed bridge, and allow better visual access than other staging options such as large earthen berms. Any impacts to visual quality would be temporary and end when construction was complete.

Thus, because the replacement bridge is going in substantially the same location as the existing bridge, but will utilize new materials and updated design, the proposed project will not adversely impact the visual quality of this stretch of the river. To ensure that the visual improvements of the final project are implemented, **Special Condition No. 1** requires the applicant to submit and adhere to approved final plans, including prohibition of all wildlife diversion poles. Thus, the Coastal Commission can find that the proposed project, as conditioned, conforms to the visual resource policies of Chapter 3 of the Coastal Act.

E. WATER QUALITY

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 significance. Uses of the marine environment shall be carried out in a manner that will sustain 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.

The demolition of the existing bridge and construction of the replacement bridge will occur within the San Diego River flood control channel, also known as the Mission Bay Improvement Floodway, a United States Army Corps of Engineering (USACE) project. The San Diego River is listed on the 303(d) list of impaired water bodies for the

following pollutants of concern: enterococcus, fecal coliform, low dissolved oxygen, nitrogen, phosphorous, total dissolved solids, and toxicity. The potential pollutants from the site are sediment, heavy metals, organic compounds, trash and debris, oil and grease, bacteria and viruses, and pesticides. Construction activities on the landside part of the project would result in soil disturbance adjacent to the river, which would increase the potential for adding sediment to the river. Construction staging areas would include part of SeaWorld San Diego parking lot, the area in the northeast quadrant of the project site between SeaWorld Drive and the San Diego River, as well the area on the northwest quadrant of the project site bound by the San Diego River, Sunset Cliffs Boulevard, and the southbound West Mission Bay Drive off-ramp to eastbound SeaWorld Drive. It is also presumed that the existing access road on the north embankment of the river would be used.

The project entails in-water work that would stir up sediment in the river that could be transported downstream, including the establishment of the temporary trestles, installation of the bridge piles, and the removal of the existing bridge. The use of trestles for staging in the river will result in the potential for increased turbidity during pile placement. This impact can be avoided through the placement of an impermeable barrier along the length of the affects channel area, which likely would be in the form of a cofferdam, made of floating tubes with plastic sheeting hanging down and weighted at the bottom. The would prevent significant tidal water from passing through the impacted area.

Construction BMPs including erosion control, sediment control, vehicle sediment tracking control, wind erosion control, non-storm water management pollution control, waste management, and materials pollution would be used. Regarding permanent BMPS, the proposed bridge calls for filtration devices and other permanent BMPs prior to releasing drainage into the river. These include small-footprint filtration devices, rock-lined bioswales, and small areas of permeable pavement. This is anticipated to treat 100 percent of the runoff from the bridge before it enters the river. While the current bridge does have some drainage facilities to capture runoff, they are aged, and the cracked, worn nature of the existing bridge means not all runoff may make it into existing facilities, but instead seep through the bridge cracks. Thus, the proposed bridge represents an improvement to the water quality treatment over this portion of the river.

To ensure that proper construction and permanent BMPs are incorporated into the design and construction of the replacement bridge, **Special Condition Nos. 3 and 4** list the specific measures that should be taken to avoid the introduction of pollutants into the river channel. **Special Condition No. 1** requires that final plans be submitted and adhered to, which will include the incorporation of permanent BMPs into the bridge design. Thus, the Coastal Commission can find that the project, as conditioned, conforms to the water quality protection policies of Chapter 3 of the Coastal Act.

F. GEOLOGICAL/COASTAL HAZARDS

Section 30253 of the Coastal Act states in relevant part:

New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) 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.

The West Mission Bay Drive bridge is approximately 1.7 miles east of the San Diego River mouth, and water surface elevations in the project area can be influenced by tides and ocean water levels. The Preliminary Hydraulic Report for the West Mission Bay Drive bridge provided an analysis of the 50-year and 100-year water surface elevations for the proposed project. The proposed project provides sufficient clearance for these flood flows without resulting in changes to upstream water levels from the current conditions.

While the Preliminary Hydraulic Report did not specifically examine changes in the water elevations that could be associated with future sea level rise, the effects from rising sea level are not likely to result in significant changes to the 50-year and 100-year water elevations at the bridge for several reasons. First, the 1.7-mile distance between the ocean and the bridge will provide some buffer for the sea level rise influence. Second, the Preliminary Hydraulic Report indicates that the proposed bridge design may have additional clearance for flows in excess of that needed for the 50-year and 100-year flood events that could accommodate increased water levels resulting from sea level rise in conjunction with flood flows. And third, the likely flood conditions identified by the CoSMoS 3.0 model¹ for this area shows that neither the bridge abutments nor the river bank needed for the bridge appear to be within the future flood zone from a 100-year coastal storm in combination with 2.0 meters of sea level rise.

Regardless, none of the above reasons provide explicit, clear evidence that the proposed bridge will be safe from flooding due to riverine flooding in combination with future sea level rise because only the Coastal Storm Modeling System (CoSMoS) model explicitly examines flooding from sea level rise. However, the latest version of the model does not examine the combined flooding effects from sea level rise and riverine flooding. A 3-foot sea level rise scenario would provide for examination of what is generally used as a mid-range of sea level rise approaching the end of the 21st century, and the 4.7 feet of sea level rise is the upper limit for sea level rise by 2090 from the 2012 National Research Council's Sea Level Rise for the Coasts of California, Oregon, and Washington: Past,

¹ CoSMoS is the Coastal Storms Modeling System that is being developed by the US Geological Survey. Results from CoSMoS 3.0 for Southern California are being released in phases. The 100-year storm information has been released for San Diego County for 0.5, 1.0, and 1.5 meters of sea level rise. Additional storm events other than the 100-year event and the combined influence of riverine and coastal flooding will be provided in future releases. The CoSMoS 3.0 model is not appropriate for use as the only source of information for future flood risks; however, it is a useful resource to scope the potential for future flooding concerns.

Present and Future. Therefore, to ensure that the proposed project will be safe from flood risk over the anticipated 75-year life of the development and in compliance with the general guidance from the Coastal Commission to consider sea level rise in planning and permitting decisions, **Special Condition No. 9** requires that the Final Hydraulic Study for the West Mission Bay Drive bridge analyze 3-feet and up to 4.7-feet of sea level rise, and that the final plans for the West Mission Bay Drive bridge be modified, if necessary, to provide sufficient clearance for the 50-year and 100-year flood flows, taking this sea level rise analysis into account. Only with this condition can the proposed project be found to be consistent with Section 30253 of the Coastal Act.

Regarding seismic risk, the existing bridge has been classified as structurally deficient based on a Caltrans Condition Rating of 3, "Serious Condition." A Condition Rating of 3 means that concrete spalling (break-up) has seriously affected the structural integrity of the bridge deck, cracks may be present, and local failures are possible. These conditions and associated risks cannot be addressed by resurfacing the existing paved surface; complete deck replacement is required.

The existing bridge is also seismically deficient because the existing pier walls are not anchored into bedrock. Instead, the foundation piles were driven into soft soil that is defined as liquefiable. The liquefiable soils extend to an approximate depth of ninety feet, and the existing timber piles were driven to an approximate depth of forty-five feet. During a major seismic event, the soft soil may experience total post-liquefaction settlement of ten to thirteen inches. Furthermore, the supporting timber piles cannot accommodate anticipated lateral forces and resulting displacements, and thus collapse is a significant concern. The proposed replacement bridge will eliminate this safety risk.

The project site spans the San Diego River, the main drainage for the San Diego River watershed. This segment of the river is identified by the Federal Emergency Management Agency (FEMA) as a base floodplain within the 100-year flood channel. The hydraulic model conducted for the proposed project considered existing flow rates for different levels of storm events: 100-year storm (36,000 cubic feet per second), 50-year storm (17,000 cfs), 25-year storm (10,000 cfs), and 10-year storm (3,100 cfs). The proposed bridge is not expected to reduce the federally-authorized level of flood protection of the levee and floodway system, permanently change the structural geometry and integrity of the federally built levees, or interfere with the operation, maintenance, or use of the federally built levees.

As discussed in greater detail under **C. Wetland/Habitat Impacts**, as conditioned, demolition and construction of the bridge would require the placement of trestles within the river channel to enable access. The trestle method could construct two platforms upstream and downstream of the existing bridge supported by piles driven into the river bed. The piles would be grouped in bents, spaced approximately 35 feet apart, with spans between each bent totaling 977 square feet of open area to minimize effects on water flow.

Hydraulic analysis indicates that the trestles would lead to a slight increase in the water elevation upstream of the berm during storm events. This increase in water level would

be within the parameters of the existing banks of the river channel. The trestles will also impact the twice-daily tidal flows. The trestles would adequately convey the majority of the water during a high tide event, but would reduce upstream elevation by 0.02 feet, which in turn will reduce upstream reach of tidal waters by 0.6 feet.

During non-rainy days, water flows within the river range from 8.6 cfs to 12 cfs, which is well below the 555 cfs conveyed during the highest tide events. The trestles will also have an accelerating effect on water flowing through their opening – approximately 1.3 feet per second for water volumes between 100 and 555 cfs – but this is not typically considered to be erosive, and thus not lead to substantial increase in scour. Thus, no significant adverse impacts to the channel are expected to occur during construction.

The Commission's staff geologist and civil engineer have both reviewed the geological surveys and hydrological reports for the proposed project and have concurred with their findings that the proposed bridge replacement will be seismically sound and not adversely impact the hydrology of the river channel. However, because the applicant recognizes that the location poses seismic and hydrological risks from the soft river soils and tidal flows, **Special Condition No. 5** requires the applicant to assume these risks in accepting this permit. Thus, the proposed project, as conditioned, can be found to conform to the hydrological and geological risk policies of Chapter 3 of the Coastal Act.

G. LOCAL COASTAL PLANNING

Section 30604(a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

Mission Bay Park is primarily unzoned and is a dedicated public park. While the park has a certified Mission Bay Park Master Plan, the subject site is located within the City of San Diego in an area of deferred certification, where the Commission retains permit authority and Chapter 3 of the Coastal Act remains the legal standard of review. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act, and thus, approval of the development, as conditioned, will not prejudice the ability of the City of San Diego to implement a certified LCP for the Mission Bay Park segment.

H. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, 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 City of San Diego prepared and revised a Mitigated Negative Declaration for this project, and found potential impacts to biological resources and land use/planning. Impacts to biological resources are

discussed in the above findings and are fully mitigated. Regarding land use, the City found in the revised declaration that it was necessary to apply for a coastal development permit from the Coastal Commission.

The proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act. Mitigation measures, including conditions addressing staging and storage, wetland mitigation, traffic control, visual appearance, lighting, water quality treatment, and future shoreline protection will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

- Final Environmental Assessment/Section 4(f) De Minimis Determination with Finding of No Significant Impact, dated February 2013
- Preliminary Hydraulics Report
- Hydraulic Impacts Report
- Jurisdictional Delineation Report For West Mission Bay Drive Bridge Project
- Conceptual Mitigation Plan
- Biological Assessment
- Final Mitigated Negative Declaration
- Geology/Soils Report
- Geotechnical Design Report
- Preliminary Geotechnical Report

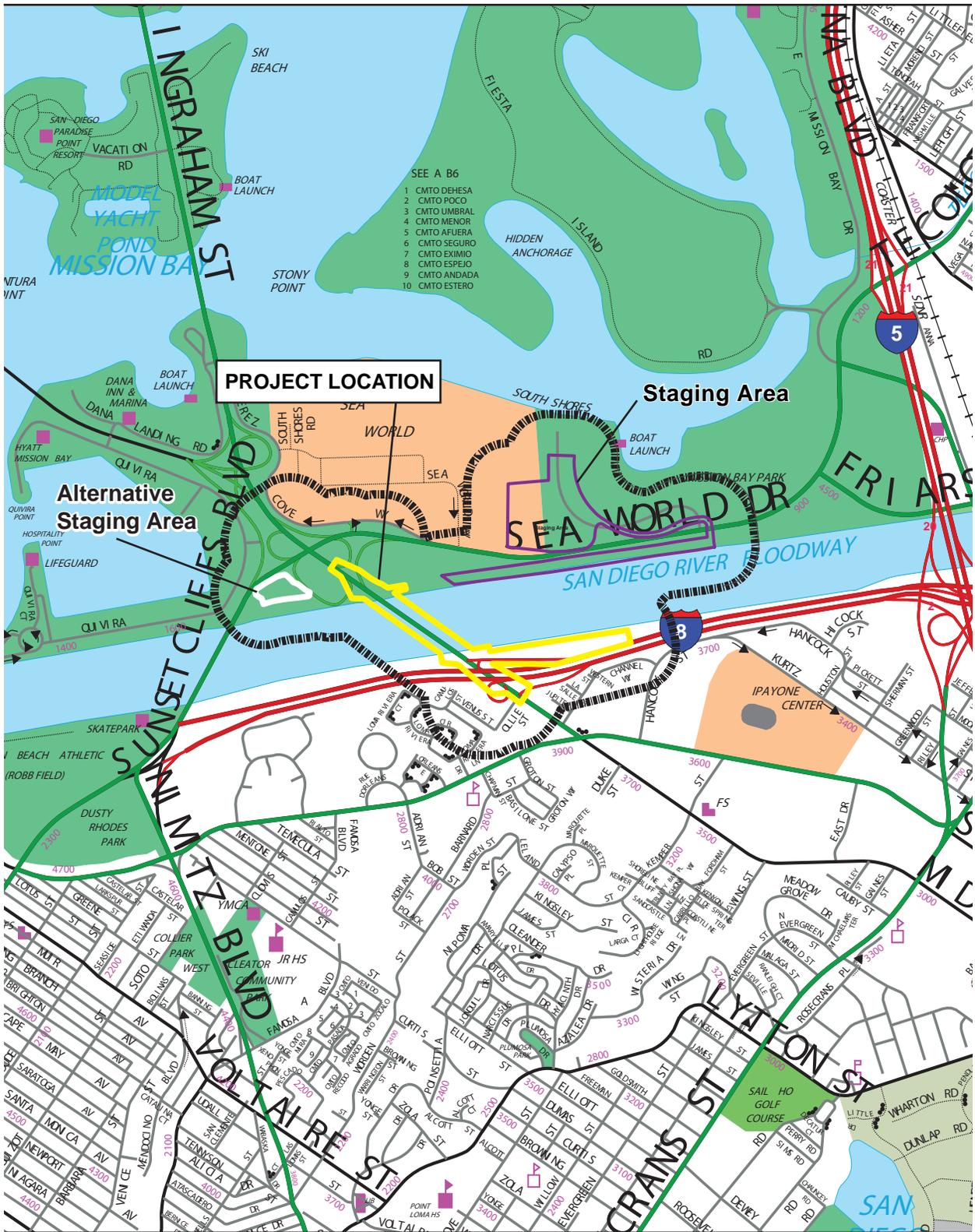
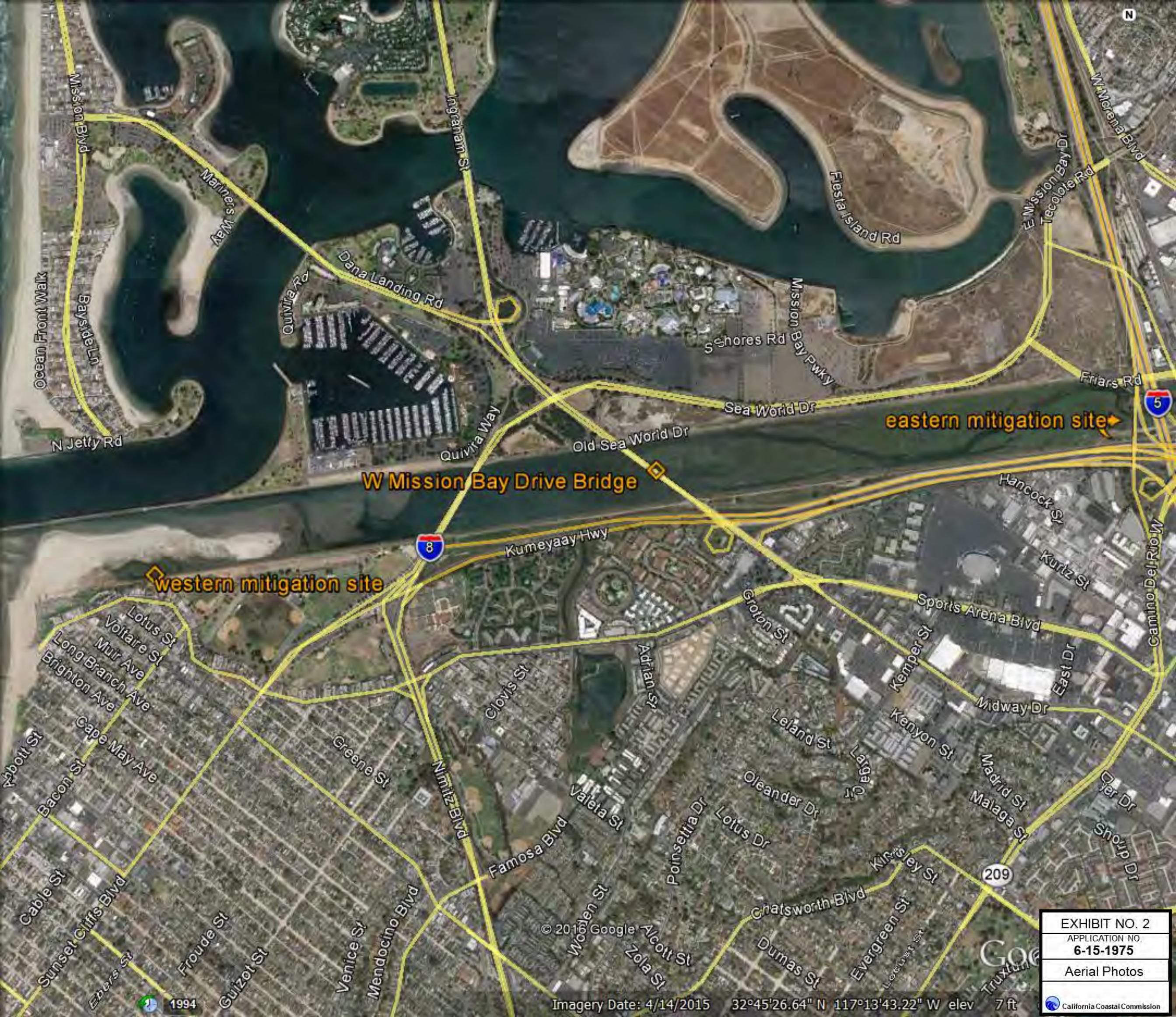


Figure 1.1-2

Project Vic

EXHIBIT NO. 1
 APPLICATION NO.
6-15-1975
 Vicinity Map

West Mission Bay Drive Bridge Project Environmental



W Mission Bay Drive Bridge

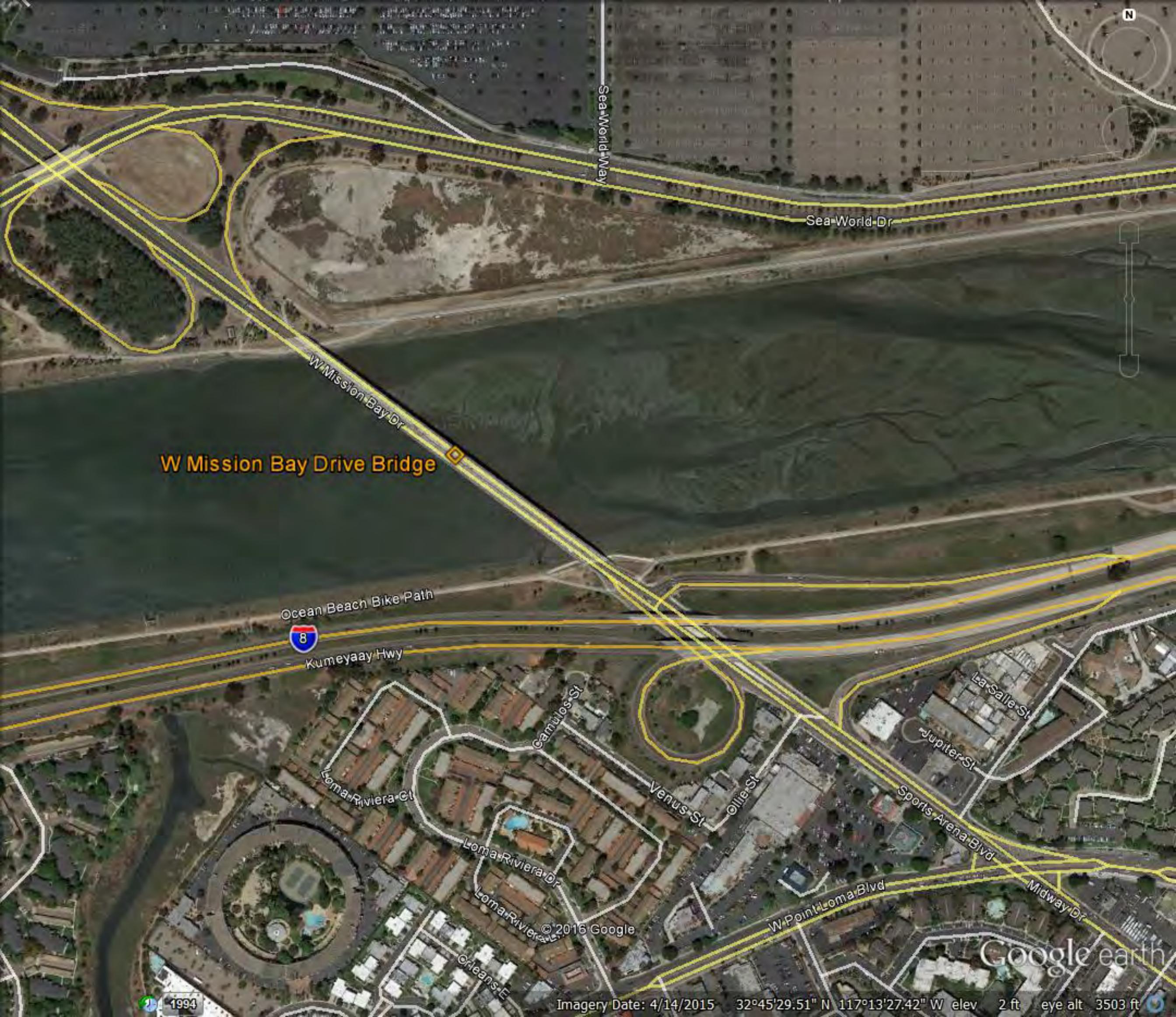
eastern mitigation site

western mitigation site

EXHIBIT NO. 2
APPLICATION NO.
6-15-1975
Aerial Photos
California Coastal Commission

© 2015 Google
 Imagery Date: 4/14/2015 32°45'26.64" N 117°13'43.22" W elev 7 ft

1994



W Mission Bay Drive Bridge

Ocean Beach Bike Path



Kumeyaay Hwy

Gamulos St

Loma-Riviera Ct

Loma-Riviera Dr

Loma-Riviera

Orleans E

Venus St

Ollie St

Jupiter St

Sports Arena Bldg

W Point Loma Blvd

Midway Dr

La-Salle St

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Google earth

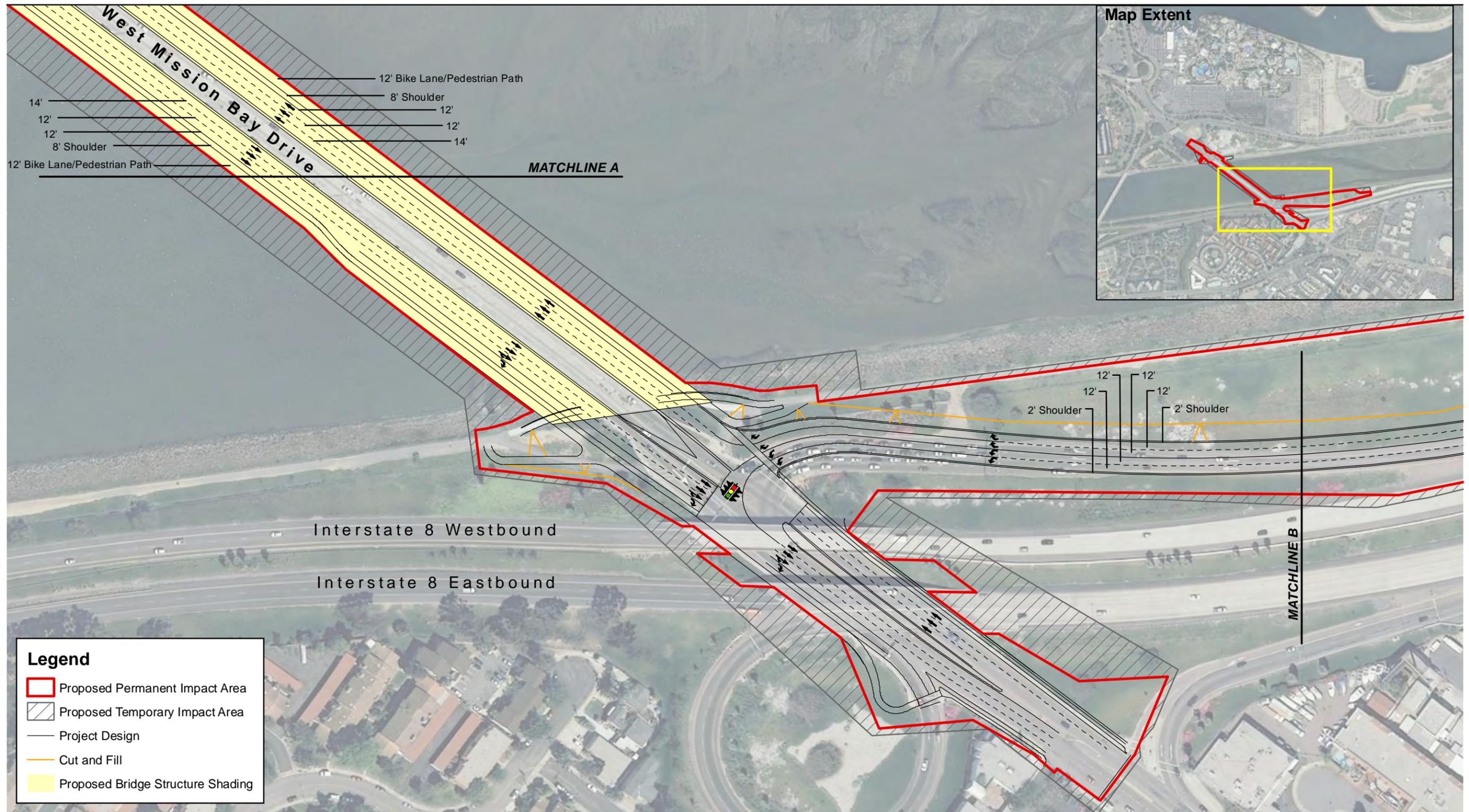
1994

Imagery Date: 4/14/2015 32°45'29.51" N 117°13'27.42" W elev 2 ft eye alt 3503 ft



Figure 1.2.1a
Alternative 2c - Project

EXHIBIT NO. 3
APPLICATION NO. 6-15-1975
Site Plans
California Coastal Commission



Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

150 75 0 150 Feet

Scale: 1 = 1,800; 1 inch = 150 feet

Figure 1.3-1b
Alternative 2c - Project Design



Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

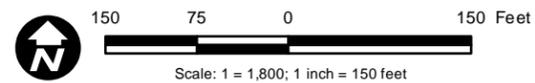
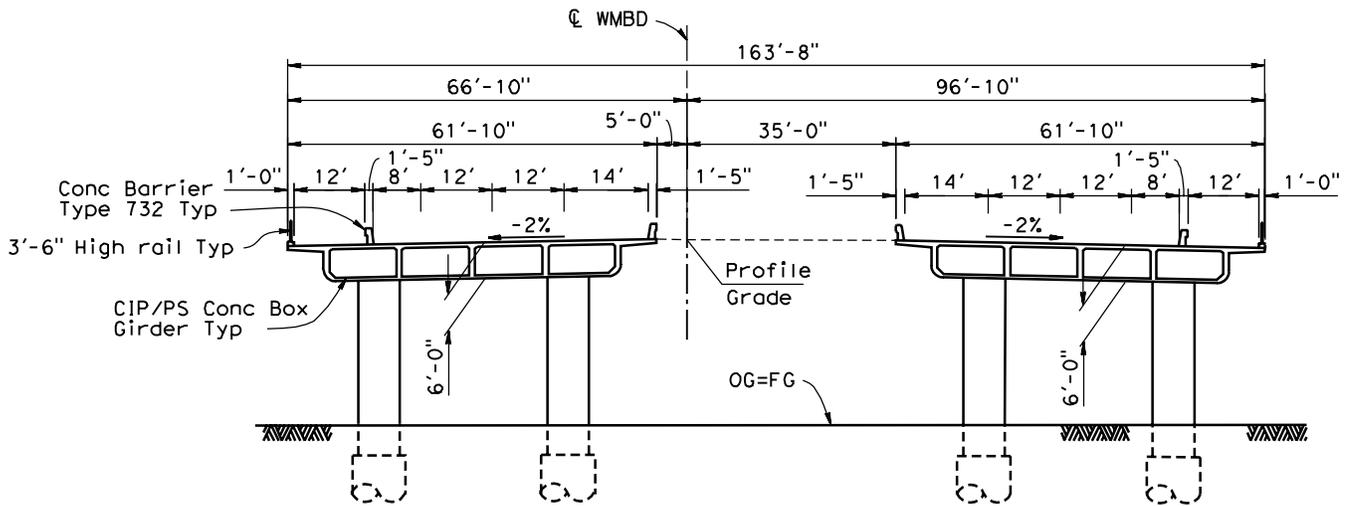


Figure 1.3-1c
Alternative 2c - Project Design



TYPICAL SECTION

No Scale

Figure 1.3-4
Alternative 2c Cross

West Mission Bay Drive Bridge Project Environmental A

EXHIBIT NO. 4
APPLICATION NO. 6-15-1975
Cross Section
California Coastal Commission



Existing



Proposed

Key View 1: View Looking East from Su

EXHIBIT NO. 5
APPLICATION NO. 6-15-1975
Visual Comparisons
 California Coastal Commission



Existing



Proposed

**Figure 2.2.3-9
Key View 2: View Looking Southeast from Old Sea World Drive**



Legend

- Project Footprint
- Staging Areas

Jurisdictional Waters of the U.S., State, and City

- Coastal Brackish Marsh (0.036 ac)
- Coastal Salt Marsh (0.026 ac)
- Open Water/Tidal Mudflat (7.27 ac)

Jurisdictional Waters of the State

- Disturbed Habitat (0.70 ac)

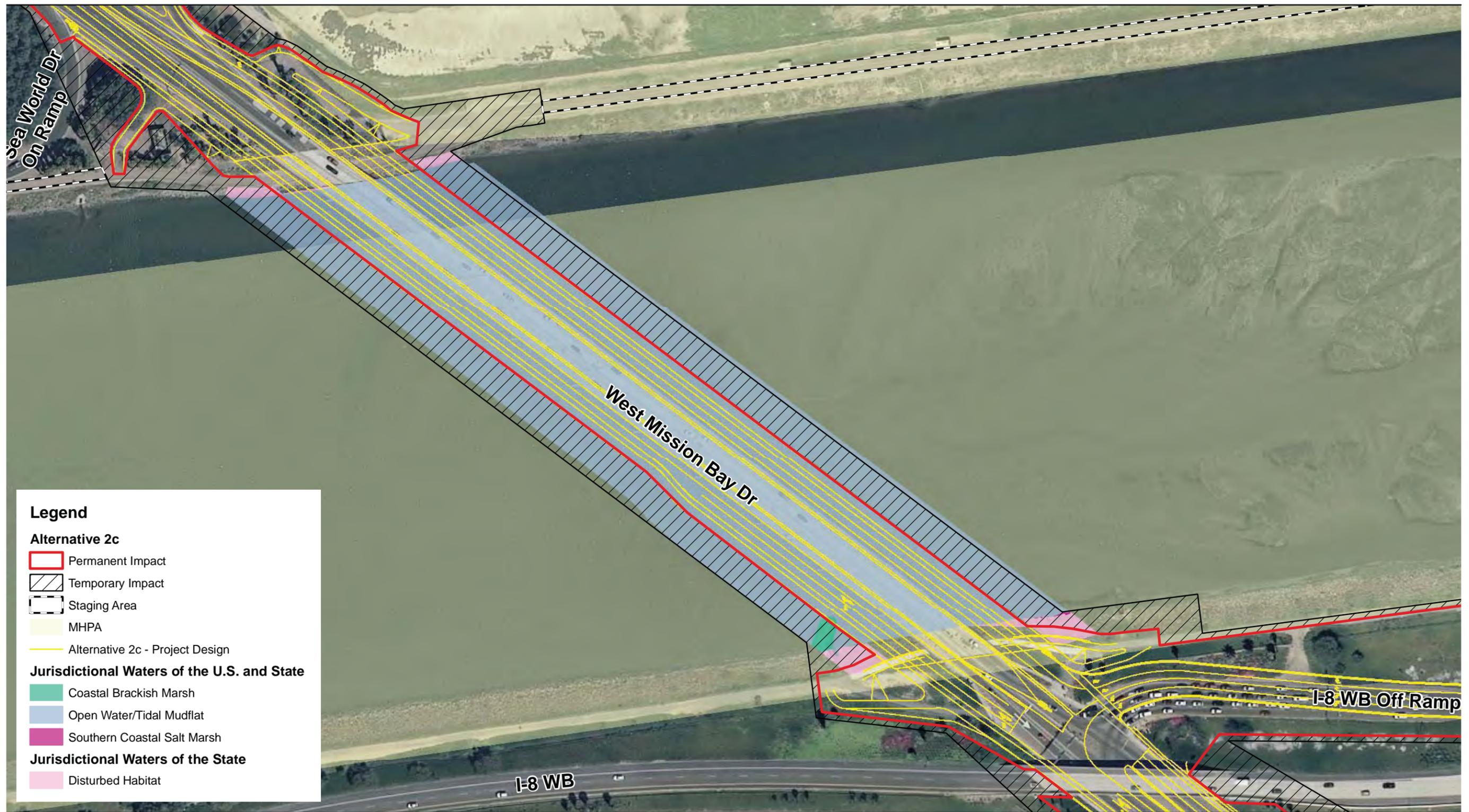
Source: DigitalGlobe 2008; SanGIS 2010; TYLin 2010

200 100 0 200 Feet

Scale: 1 = 2,400; 1 inch = 200 feet

Figure 2.2.5.1
Jurisdictional Delineation

EXHIBIT NO. 6
APPLICATION NO.
6-15-1975
Jurisdictional Delineation
California Coastal Commission



Source: Aerials Express 2010; SanGIS 2010; TYLin 2010

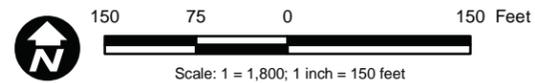


Figure 2.2.5-2
Alternative 2c – Project Design with Waters of the U.S. and State



Legend

- Proposed Permanent Impact Area
- 100 Year Floodplain (Zone AE)
- 500 Year Floodplain (Zone X)

Source: Aerials Express 2010; FEMA 2010

500 250 0 500 Feet

Scale: 1 = 6,000; 1 inch = 500 feet

Figure 2.2.4.1
FEMA Flood Map

EXHIBIT NO. 7 APPLICATION NO. 6-15-1975
Flood Map



Source: DigitalGlobe 2008; AECOM 2010

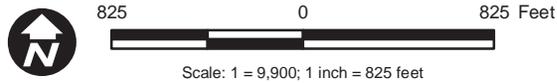
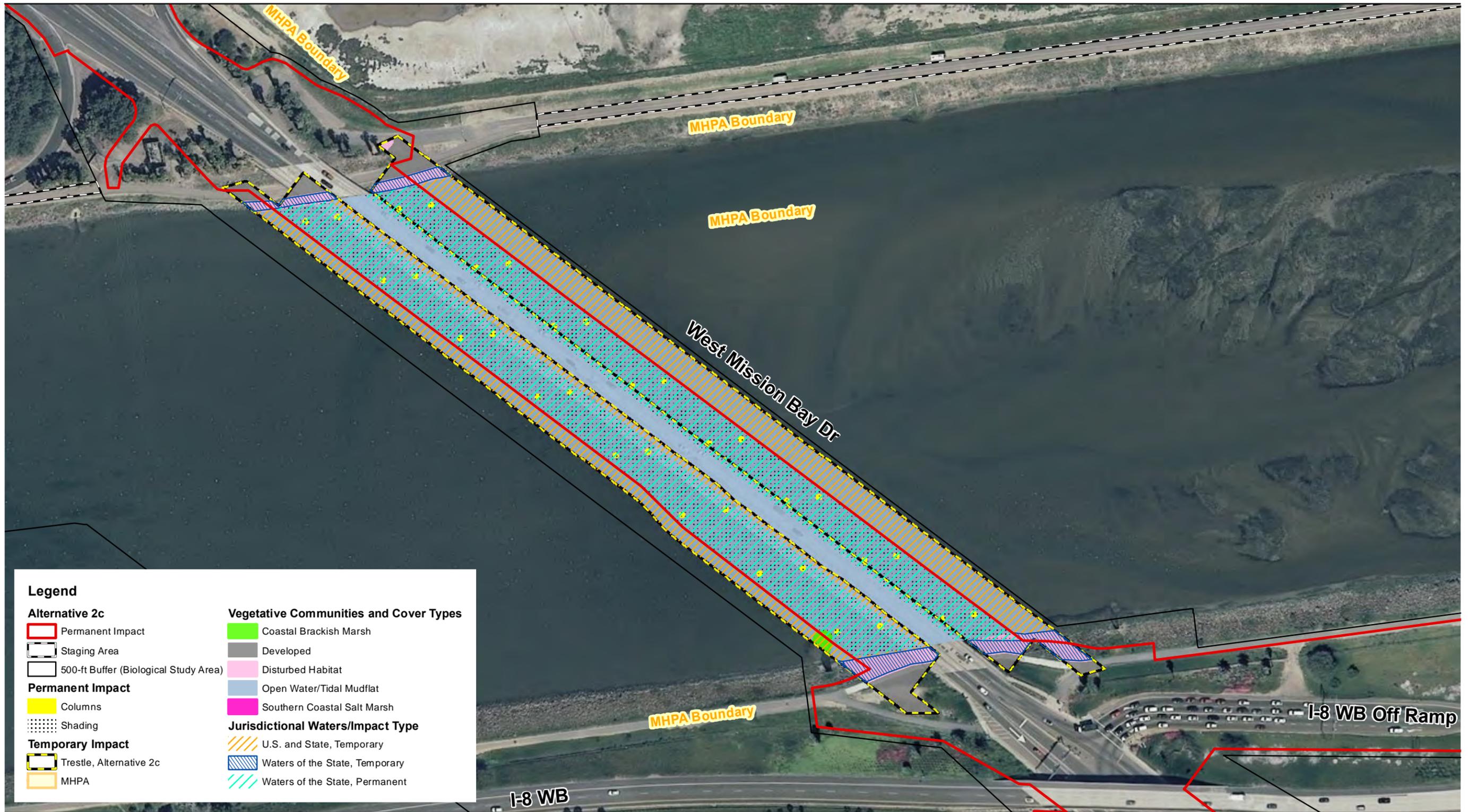


Figure 2.3.9-1
Biological Study Area and Vegetative Corridor

West Mission Bay Drive Bridge Project Environmental Assessment

EXHIBIT NO. 8
APPLICATION NO. 6-15-1975
Biological Study Area
California Coastal Commission



Legend

Alternative 2c	Vegetative Communities and Cover Types
Permanent Impact	Coastal Brackish Marsh
Staging Area	Developed
500-ft Buffer (Biological Study Area)	Disturbed Habitat
Permanent Impact	Open Water/Tidal Mudflat
Columns	Southern Coastal Salt Marsh
Shading	Jurisdictional Waters/Impact Type
Temporary Impact	U.S. and State, Temporary
Trestle, Alternative 2c	Waters of the State, Temporary
MHPA	Waters of the State, Permanent

Source: Aerials Express 2010; SanGIS 2011; TYLin 2010

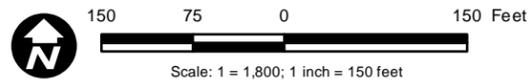


Figure 2.3.10-3
Alternative 2c – Potential Impacts to Waters of the U.S.
Related to Construction of Tempora

EXHIBIT NO. 9
APPLICATION NO.
6-15-1975
Potential Impacts
California Coastal Commission