

## CALIFORNIA COASTAL COMMISSION

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## STAFF REPORT AND RECOMMENDATION

### ON CONSISTENCY CERTIFICATION

Consistency Certification No.	CC-006-11
Staff:	LJS-SF
File Date:	3/10/2011
3 Months:	6/10/2011
6 Months:	9/10/2011
Extended through:	10/7/2011
Commission Meeting:	10/7/2011

**APPLICANT:** North County Transit District (NCTD)

**PROJECT LOCATION:** San Dieguito River Railroad Bridge 243.0, Del Mar, San Diego County (**Exhibits 1 and 2**)

**PROJECT DESCRIPTION:** Replace and install rock rip rap to protect southern railroad bridge abutment

**SUBSTANTIVE FILE DOCUMENTS:** See Pages 10 and 11

**STAFF RECOMMENDATION:** Concurrence. Motion is on Page 5

## **EXECUTIVE SUMMARY**

The North County Transit District (NCTD) has submitted a consistency certification for replacing non-engineered riprap and soil along the south abutment of the San Dieguito River railroad bridge 243.0 in Del Mar (San Diego County) with an engineered and buried riprap structure. Bridge 243.0 serves the Los Angeles to San Diego railroad corridor and the existing rock riprap, scattered pieces of broken concrete, and soil were placed at this location after the 1916 construction of the bridge in order to protect it from flood events in the San Dieguito River. NCTD has determined that the existing riprap at and upstream of the bridge abutment must be replaced with an engineered and buried riprap structure to protect the abutment and railroad track berm from anticipated increased river flows and adverse scouring effects associated with the deepening of the San Dieguito River channel by the Southern California Edison Company (SCE). The ongoing channel deepening is a key element of SCE's San Dieguito wetlands restoration project, approved by the Commission under coastal development permit 6-04-088. The channel deepening is required to provide the necessary tidal prism to ensure the health of brackish and salt water habitats that have been created upstream of the railroad bridge. The results from several engineering studies confirmed that the river channel deepening would adversely affect the bridge and that modifications to the bridge and the southern abutment were needed. In November 2009, the Commission's Executive Director concurred with no-effects determination NE-067-09 submitted by NCTD for retrofitting Bridge 243.0 in advance of the San Dieguito River channel deepening work. Installation of additional bracing and the wrapping of bridge pilings was completed in 2010.

NCTD now proposes to complete the needed bridge protection measures by replacing the non-engineered riprap at the southern abutment of bridge with an engineered and buried riprap structure. The project involves excavating and stockpiling for re-use approximately 2,900 cubic yards (cu.yds.) of riprap and soil at the south bridge abutment and the adjacent upstream slope of the railroad berm embankment below the 5.5-foot highest high tide line (a 7,400 square-foot area), and excavating an additional 224 cubic yards of riprap and soil from uplands above the 5.5-foot highest high tide line adjacent to the eastern side of the railroad track. The approximately 42-foot-wide by 250-foot-long excavated area would then be regraded and compacted at a 1.5:1 slope to a maximum depth of -9.2 feet at the toe of the slope. A filter fabric liner would be installed on the ground surface, and approximately 1,385 cu.yds. of ¼-ton rock riprap (from the excavation stockpile and additional imported rock) would be placed at a thickness ranging between 6.2 feet at the toe of the slope to 3.0 feet at the top of the slope. Approximately 1,739 cu.yds. of soil stockpiled from the excavation work would then be placed on top of, and completely cover, the riprap structure and graded to the approximate contours and groundline that existed prior to excavation. After final grading of the project area, native upland vegetation will be planted on the bank slope above the tidal zone.

Construction of the project would affect wetland habitat and triggers the three-part test of Section 30233(a) and the functional capacity test of Section 30233(c) of the Coastal Act. The project is necessary to protect and maintain existing capacity in the Los Angeles to San Diego railroad

corridor and, as designed with measures to restore temporarily affected wetland and intertidal habitat, will not adversely affect the functional capacity of Los Penasquitos Lagoon. The project is therefore an allowable use and a very minor incidental public facility under both Sections 30233(a) and (c). NCTD examined project alternatives for protecting the abutment but these were either infeasible or increased the footprint and impacts of the project. The proposed riprap is the least damaging feasible alternative to protecting the abutment and maintaining rail operations in this area. The project will not generate any permanent habitat impacts, temporary impacts to wetland and intertidal habitat will be mitigated by restoration to pre-project conditions, and construction best management practices will protect water quality. Therefore, no additional mitigation measures are required and the project is consistent with the wetland and water quality policies of the California Coastal Management Program (CCMP; Coastal Act Sections 30233 and 30230).

## **STAFF SUMMARY AND RECOMMENDATION:**

### **I. STAFF SUMMARY.**

**A. Project Description.** The North County Transit District (NCTD) proposes to replace non-engineered riprap and soil along the south abutment of the San Dieguito River railroad bridge 243.0 in Del Mar with an engineered and buried riprap structure (**Exhibits 1-4**). Bridge 243.0 serves the Los Angeles to San Diego (LOSSAN) rail corridor, which is used by NCTD's Coaster commuter rail service, Southern California Regional Rail Authority's Metrolink commuter rail service, Amtrak's Pacific Surfliner intercity rail service, and Burlington Northern and Santa Fe Railway's freight service. The existing rock riprap, scattered pieces of broken concrete, and soil were placed at this location in the decades after the 1916 construction of the bridge in order to protect the timber trestle bridge from erosion caused by the San Dieguito River, particularly during flood events (**Exhibit 5**). However, NCTD has determined that the existing riprap at and upstream of the bridge abutment must be replaced with an engineered and buried riprap structure to protect the abutment and railroad track berm from anticipated increased river flows and adverse scouring effects associated with the deepening of the San Dieguito River channel by the Southern California Edison Company (SCE).

The ongoing channel deepening is a key element of SCE's San Dieguito wetlands restoration project, approved by the Commission under coastal development permit 6-04-088. The channel deepening is required to provide the necessary tidal prism to ensure the health of brackish and salt water habitats that have been created upstream of the railroad bridge. However, NCTD reports that several engineering studies were conducted to estimate the potential for increased scour along the lower river and the potential for adverse impacts to Bridge 243.0. The results of those studies confirmed that the river channel deepening would adversely affect the bridge and that modifications to the bridge and the southern abutment were needed. In November 2009, the Commission's Executive Director concurred with no-effects determination NE-067-09 submitted by NCTD for retrofitting Bridge 243.0 in advance of the San Dieguito River channel deepening work and the resulting increased river flows that would intersect the timber trestle bridge. The retrofit work included adding longitudinal and transverse wooden bracing to bridge bents, and

treating and wrapping bridge piles and bracing structures. The bridge retrofit work was completed in 2010.

NCTD now proposes to complete the needed bridge protection measures by replacing the non-engineered riprap at the southern abutment of bridge with an engineered and buried riprap structure. The project involves excavating and stockpiling for re-use approximately 2,900 cubic yards (cu.yds.) of riprap and soil at the south bridge abutment and the adjacent upstream slope of the railroad berm embankment below the 5.5-foot highest high tide line (a 7,400 square-foot area), and excavating an additional 224 cubic yards of riprap and soil from uplands above the 5.5-foot highest high tide line adjacent to the eastern side of the railroad track. The approximately 42-foot-wide by 250-foot-long excavated area would then be regraded and compacted at a 1.5:1 slope to a maximum depth of -9.2 feet at the toe of the slope. A filter fabric liner would be installed on the ground surface, and approximately 1,385 cu.yds. of ¼-ton rock riprap (from the excavation stockpile and additional imported rock) would be placed at a thickness ranging between 6.2 feet at the toe of the slope to 3.0 feet at the top of the slope. Approximately 1,739 cu.yds. of soil stockpiled from the excavation work would then be placed on top of, and completely cover, the riprap structure and graded to the approximate contours and groundline that existed prior to excavation. After final grading of the project area, native upland vegetation will be planted on the bank slope above the tidal zone.

NCTD states that the project contractor will undertake work below the high tide line during low water conditions when the area is naturally dewatered, to the maximum extent feasible, and that diversion or blocking of tidal influence and/or dewatering of the construction site will not occur. The contractor may work from barges when working in the river under the bridge for riprap removal, excavation, slope preparation, and riprap placement. Sediment curtains and silt fences will be installed throughout the entire construction period to contain sediment to the immediate work area. All construction staging areas will be located on currently disturbed areas within the NCTD right-of-way and/or on SCE staging areas at the Del Mar Fairgrounds. Construction is scheduled to occur over two to three months during late 2011 before the onset of the rainy season and maximum river flows.

**B. Procedures – Permitting Issues.** The project triggers federal consistency review because it needs a U.S. Army Corps of Engineers (“Clean Water Act Section 404”) permit. The Commission also believes the project is subject to the permitting requirements of the Coastal Act; however, the North County Transit District (NCTD) disagrees with this position. Notwithstanding this disagreement about whether a coastal development permit is needed, the Commission concurs with this consistency certification because it is consistent with the Coastal Act. The Commission further notes that the NCTD has applied for a number a permits for its rail improvement activities in other sections of the coast, including CDP’s No.: 6-03-102-G (Agua Hedionda emergency repairs), 6-02-152 (San Luis Rey River bridge repair), 6-02-151 (Agua Hedionda bridge), 6-02-102 (Del Mar drainage outlets), 6-02-80 (Santa Margarita Bridge repair), 6-01-64 (Balboa Avenue), 6-01-108 (Tecolote Creek), 6-93-60 (Del Mar), 6-94-207 (Solana Beach), 6-93-106 (Carlsbad), and 6-93-105 (Camp Pendleton).

**C. Applicant's Consistency Certification.** NCTD has certified that the proposed activity complies with California's approved coastal management program and will be conducted in a manner consistent with such program.

## **II. STAFF RECOMMENDATION:**

The staff recommends that the Commission adopt the following motion:

**Motion:** I move that the Commission **concur** with NCTD's consistency certification CC-006-11 that the project described therein is fully consistent with the enforceable policies of the California Coastal Management Program (CCMP) and will be conducted in a manner consistent with the CCMP.

### **Staff Recommendation:**

The staff recommends a **YES** vote on the motion. Passage of this motion will result in an agreement with the certification and adoption of the following resolution and findings. An affirmative vote of the majority of the Commissioners present is required to pass the motion.

### **Resolution to Concur with Consistency Certification:**

The Commission hereby **concurs** with the consistency certification made by NCTD for the proposed project, finding that the project is consistent with the enforceable policies of the California Coastal Management Program and will be conducted in a manner consistent with the program.

## **III. Findings and Declarations:**

The Commission finds and declares as follows:

**A. Wetland Habitat/Marine Resources/Water Quality.** The Coastal Act provides the following:

*Section 30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal water and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30233.

*(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:*

...

*(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.*

...

*(c) In addition to other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division . . . .*

The proposed replacement of the non-engineered riprap at and immediately upstream of the south abutment of the San Dieguito River railroad bridge 243.0 with an engineered and buried riprap structure triggers the three-part test of Section 30233(a) of the Coastal Act, as well as the functional capacity tests of Section 30233(c), because the project includes permanent fill in San Dieguito lagoon, and because this lagoon is one of the "priority wetlands" referred to in Section 30233(c). The Commission therefore needs to analyze the project's consistency with the allowable use, alternatives, and mitigation tests of Section 30233(a), as well as the tests of Section 30233(c).

Under the first of these tests, a project must qualify as one of the eight stated uses allowed under Section 30233(a). The Commission has considered minor expansions of existing roads, railroad lines, and airport runways in certain situations to qualify as "incidental public service purposes," and thus allowable under Section 30233(a)(4), but only where no other feasible less damaging alternative exists and the expansion is necessary to maintain existing traffic capacity.

The Court of Appeal has recognized this definition of incidental public service as a permissible interpretation of the Coastal Act. In the case of *Bolsa Chica Land Trust et al., v. The Superior Court of San Diego County* (1999) 71 Cal.App.4<sup>th</sup> 493, 517, the court found that:

*... we accept Commission's interpretation of sections 30233 and 30240... 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.*

The project is clearly necessary to protect and maintain existing rail capacity. NCTD has documented the need to protect the southern bridge abutment from the increased threat of scour and erosion (and ultimately failure of the abutment and bridge) due to the deepening of the San Dieguito River channel taking place as an element of Southern California Edison's upstream wetland restoration project. Moreover, in several recent cases, the Commission has applied the same rationale to transportation modes other than roads (CC-055-05, NCTD, Railroad Bridge Replacement over Agua Hedionda Lagoon; CC-058-02, City of Santa Barbara, modifications to the Santa Barbara Airport; CC-052-05, NCTD, Bridge Replacement and Second Track, Santa Margarita River; and CC-086-03, NCTD, Second Track, San Onofre Area, Camp Pendleton). For example, in reviewing CC-086-03, NCTD asserted, and the Commission found, as follows:

NCTD stated in CC-086-03 the following:

*Allowable Use Test - Coastal Act Section 30233(a)*

*Section 30233(a) does not authorize wetland fill unless it meets the "allowable-use" test. Similar to the Commission decision regarding safety improvements at the Santa Barbara Airport (CC-58-01), the proposed project is an allowable use as an incidental public service because it is necessary to maintain existing passenger service.*

The Commission responded in CC-086-03 as follows:

*The Commission agrees and finds that the project is a limited expansion and is necessary to maintain existing capacity, and can be considered an allowable use as an incidental public service under Section 30233(a)(5).*

In CC-052-05, the Commission found:

*Given this information, the Commission believes the same conclusion for the subject bridge replacement that it relied on in CC-86-03 is warranted, and that the project can be considered a limited expansion and necessary to maintain existing capacity, and, therefore, an allowable use as an incidental public service under Section 30233(a)(5).*

In addition, unlike the above-two cases, the proposed replacement riprap at the southern abutment of the San Dieguito River bridge does not involve additional tracks; the aforementioned consistency certifications are cited to establish that rail line maintenance, including the proposed protection of the existing bridge abutment, can qualify as an incidental public service under Section 30233(a) when it is necessary to maintain existing rail capacity. Furthermore, while San Dieguito Lagoon is one of the "priority wetlands" afforded additional protection under Section 30233(c), which was not at issue in the above-referenced cases, the Commission finds that: (1) the project will not alter or affect the functional capacity of San

Dieguito Lagoon; and (2) even if it considered the project to alter the lagoon, the project can be considered a “very minor incidental public facility” based on the same rationale discussed above and in the Commission’s wetlands guidelines<sup>1</sup> and several past Commission permit reviews. These reviews and guidelines apply the same test for a project that the Commission has determined is necessary to maintain existing capacity to constitute an allowable use under Section 30233, regardless of whether it is being viewed as an “incidental public service” under Section 30233(a), or a “very minor incidental public facility” under Section 30233(c). Thus, the Commission has determined that a limited expansion of an existing transportation facility that is necessary to maintain existing capacity is an allowable use as an incidental public service under either Section 30233(a)(4) and Section 30233(c). Moreover, the project will not adversely affect the functional capacity of San Dieguito Lagoon, another test of Section 30233(c). Therefore, the Commission finds that the project is an allowable use as an incidental public service and a very minor incidental public facility under both Sections 30233(a) and 30233(c) of the Coastal Act.

While the proposed replacement riprap structure is necessary to protect and maintain existing railroad capacity and operations, having reviewed a number of NCTD double-track proposals, the Commission is aware of the potential for a future second bridge across San Dieguito Lagoon. NCTD responded to Commission staff inquiries regarding the potential for the subject riprap project to potentially affect future plans for either double-tracking along the current alignment or relocating the alignment inland away from the Del Mar bluffs via a tunnel alternative. NCTD stated in its reply that a decision regarding alternative second track alignments through Del Mar has not yet been made and that:

*. . . portions of the proposed revetment likely would have to be removed to build a new LOSSAN double track bridge, but that this would not preclude the future LOSSAN double track project.*

*A Project Study Report (PSR) was completed in June 2009 by SANDAG to look at a double track bridge replacement and seasonal rail platform for San Dieguito. If you assume the [Del Mar] Fairgrounds will not give up any of their land for a future double track/tunnel project (they have stated as much), then the alignment of the current bridge is generally the alignment of the future double track bridge in the PSR. However, in all of the eight alternatives considered, the southern bridge abutment is moved to the south about 100 feet or more to help provide additional flood capacity and to reduce impacts to wetlands (the berm under the southern extended part of the bridge would be removed to match the river channel).*

*That would put the future bridge abutment and some piles, if the second track is to the east, within the proposed riprap which is proposed to extend 160 feet south of the existing abutment on the east side. In this case, the riprap in the vicinity of the new piles and abutment would have to be removed prior to construction of the new abutment and piles.*

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<sup>1</sup> The Commission’s wetland guidelines include a footnote for “incidental public services,” which states: [Footnote 3:] “When no other alternative exist, and when consistent with the other provisions of this section, limited expansion of roadbeds and bridges necessary to maintain existing traffic capacity may be permitted.” The footnote for “very minor incidental public facilities” states: “(see footnote #3).”



*The PSR further addresses the issue of future double tracking through Del Mar (See attached pages from the PSR). The tunnel option under I-5 would require a realignment of the southern 500 feet or so of the PSR double track bridge (i.e., the bridge and track (heading south) would begin to gradually turn to the east in the vicinity of the northern bank of the River).*

*It is uncertain where the southern abutment and piles would be for a realigned bridge, but they very well may be within the proposed revetment. In this case, the riprap in the vicinity of the new abutment and piles would have to be removed prior to construction of the new abutment.*

The proposed riprap structure is designed to protect the existing abutment and railroad track berm at the southern end of the Bridge 243.0. Should that riprap not be needed to protect the future alignment of a second track and bridge or a realigned bridge(s) required for a LOSSAN tunnel project, NCTD will remove the riprap. The Commission finds that the proposed riprap project will not prevent any future double-track alignment alternatives along this segment of the LOSSAN corridor from receiving due consideration by NCTD during future project and environmental planning. In addition, the Commission believes that for any second track ultimately proposed across the lagoon, the question of whether a second track and bridge at this location can be found an incidental public service or consistent with Section 30233 as the least environmentally damaging feasible alternative remains an unresolved issue at this time. The Commission will address that question at the appropriate future date.

Concerning the alternatives test of Section 30233(a), NCTD examined two alternatives to the proposed project: the use of articulated concrete blocks instead of rock riprap, and constructing a 2:1 riprap slope in conjunction with a greater volume of rock. The articulated concrete block alternative was rejected by NCTD due to the requirement associated with this material to excavate down to and below the predicted scour level of the river for placement of the concrete blocks in order to properly anchor the structure. As a result, this alternative would require a much larger impact footprint. In addition, NCTD reported that articulated concrete blocks do not function adequately in areas with high water velocities, such as this reach of the San Dieguito River. The initial plan for the riprap structure included a 2:1 riprap slope and a greater volume of riprap for subsequent tumbling down into eroded areas that may develop in the future adjacent to the bridge abutment and railroad track berm. However, NCTD determined that the proposed 1.5:1 riprap slope and the associated reduced volume of riprap would provide adequate protection to the abutment and berm and reduces the project footprint and scope of temporary impacts. The Commission agrees with NCTD that there is no less environmentally damaging feasible alternative for the proposed protection of the Bridge 243.0 southern abutment and berm.

Concerning mitigation, NCTD states that the proposed project will not create any permanent impacts to wetland habitat or marine resources because the engineered riprap will replace the existing non-engineered rock that was installed in the early decades of the 20<sup>th</sup> century and will be buried by soil excavated from the project site. Temporary impacts to the following vegetation communities will occur during excavation, riprap installation, and replacement and regrading of

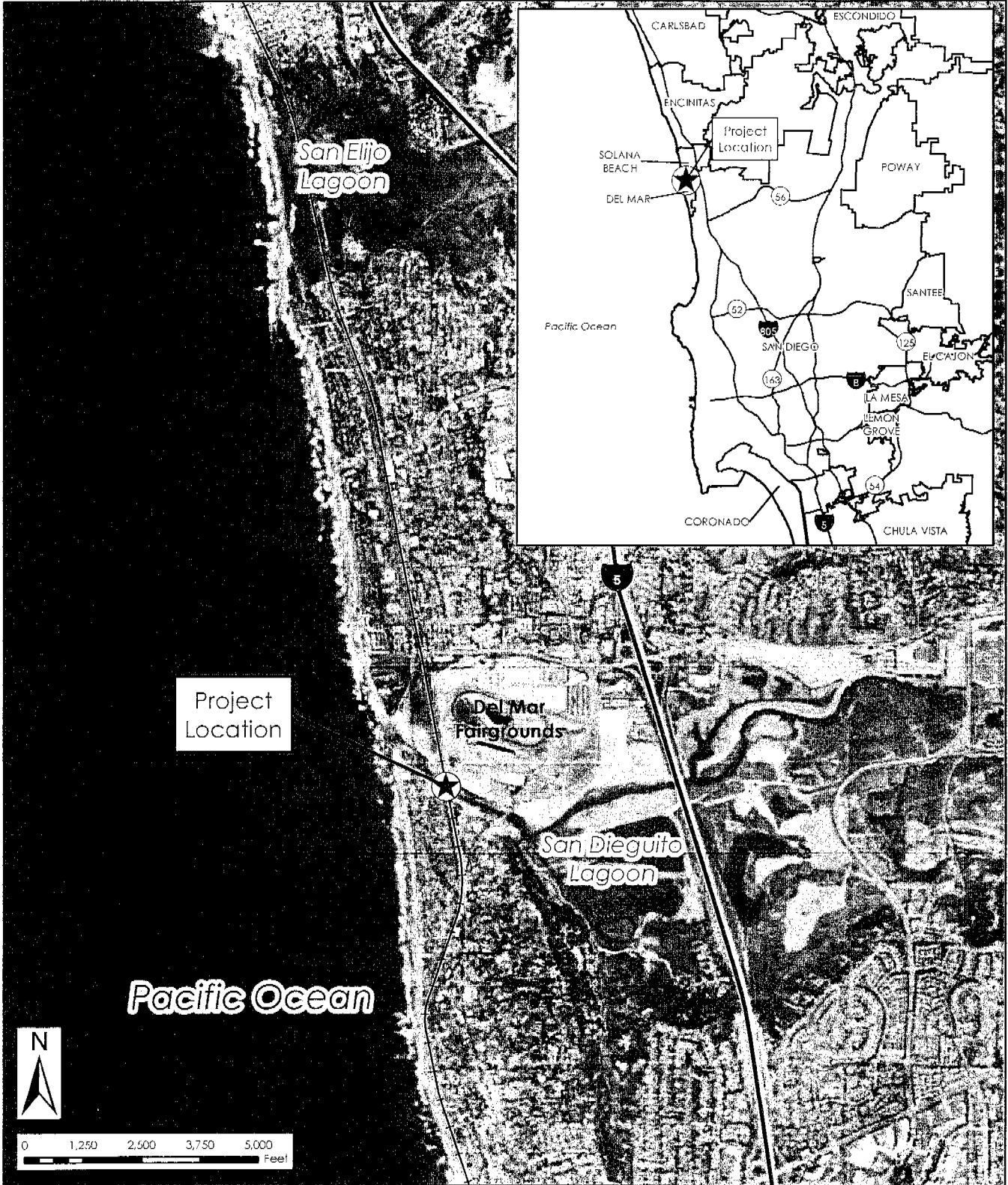
stockpiled soil within the 1.52-acre project area: disturbed habitat with minimal non-native or no vegetation; non-native vegetated habitat; urban/developed habitat (railroad track, ballast); and open water/intertidal (**Exhibits 6 and 7**). The only sensitive habitat that will be temporarily affected by the project is the open water/intertidal area. Approximately 7,400 square-feet of this habitat type (currently comprised of unvegetated sand/mudflats and open water) would be excavated for installation of the buried riprap. This area would be returned to existing grade after backfilling with the stockpiled soil, and the habitat quality would be improved by the elimination of scattered rock and broken concrete that are currently present on the southern bank of the river channel upstream of the railroad bridge (**Exhibit 5**).

To address the temporary construction impacts NCTD will seed the regraded slope above the highest high tide line in the project area with a mix of native upland species comprised of California sagebrush, coyote brush, western ragweed, big saltbush, four wing saltbush, California buckwheat, coast goldenbush, deerweed, and Foothill plantain. A project revegetation plan will include requirements for site preparation, planting procedures, three to five years of monitoring, success criteria, remediation measures and annual reports, similar to what NCTD implemented for its San Dieguito River railroad bridge retrofit project under NE-067-09. The project also includes best management practices to protect sensitive habitat and water quality during and after construction. These measures include undertaking work below the high tide line during low water conditions when the area is naturally dewatered, to the maximum extent feasible; no diversion or blocking of tidal influence and/or dewatering of the construction site; installing sediment curtains and silt fences throughout the entire construction period to contain sediment to the immediate work area; and locating construction staging areas on currently disturbed areas within the NCTD right-of-way and/or on SCE staging areas at the Del Mar Fairgrounds. Because the project will not result in a permanent reduction in open water/intertidal acreage, temporary impacts to this habitat type will be mitigated by restoration to pre-project conditions, and best management practices are included to protect water quality during project construction, the Commission finds that no further mitigation is required under Section 30233. The Commission concludes that the proposed project would not cause significant adverse impacts to wetland habitat, marine resources, or water quality and would be consistent with the wetland and water quality protection policies of the California Coastal Management Program (CCMP; Coastal Act Sections 30230 and 30233).

### **Substantive File Documents:**

1. *Bridge 243.0 Revetment Project, City of Del Mar, San Diego County* (HDR Engineering, Inc., February 28, 2011)
2. *Hydraulic & Scour Analysis Technical Memorandum, Bridge 243.0 Retrofit, San Dieguito River* (HDR Engineering, Inc., November 2009)

3. *Cultural Resource Survey Update, Bridge 243.0 Revetment Project, Del Mar, California* (ASM Affiliates, March 7, 2011)
4. CC-059-09 (NCTD, Replacement of three wood trestle railroad bridges with concrete bridges, Los Penasquitos Lagoon, San Diego County)
5. CC-086-03 (NCTD, Pulgas to San Onofre double tracking at the north end of Camp Pendleton)
6. CC-052-05 (NCTD, Santa Margarita River double tracking project at the south end of Camp Pendleton)
7. CC-055-05 (NCTD, replacement of the railroad bridge over Agua Hedionda Lagoon)
8. CC-004-05 (NCTD, O'Neill to Flores double track project in central Camp Pendleton)
9. CC-008-07 (NCTD, extension of passing track and construction of one replacement and one new railroad bridge over Loma Alta Creek in Oceanside)
10. NCTD CDP's No.: 6-03-102-G (Agua Hedionda emergency repairs), 6-02-152 (San Luis Rey River bridge repair), 6-02-151 (Agua Hedionda bridge), 6-02-102 (Del Mar drainage outlets), 6-02-80 (Santa Margarita Bridge repair), 6-01-64 (Balboa Avenue), 6-01-108 (Tecolote Creek), 6-93-60 (Del Mar), 6-94-207 (Solana Beach), 6-93-106 (Carlsbad), and 6-93-105 (Camp Pendleton).



SOURCE: ESRI, 2011; BRG Consulting, Inc., 2011

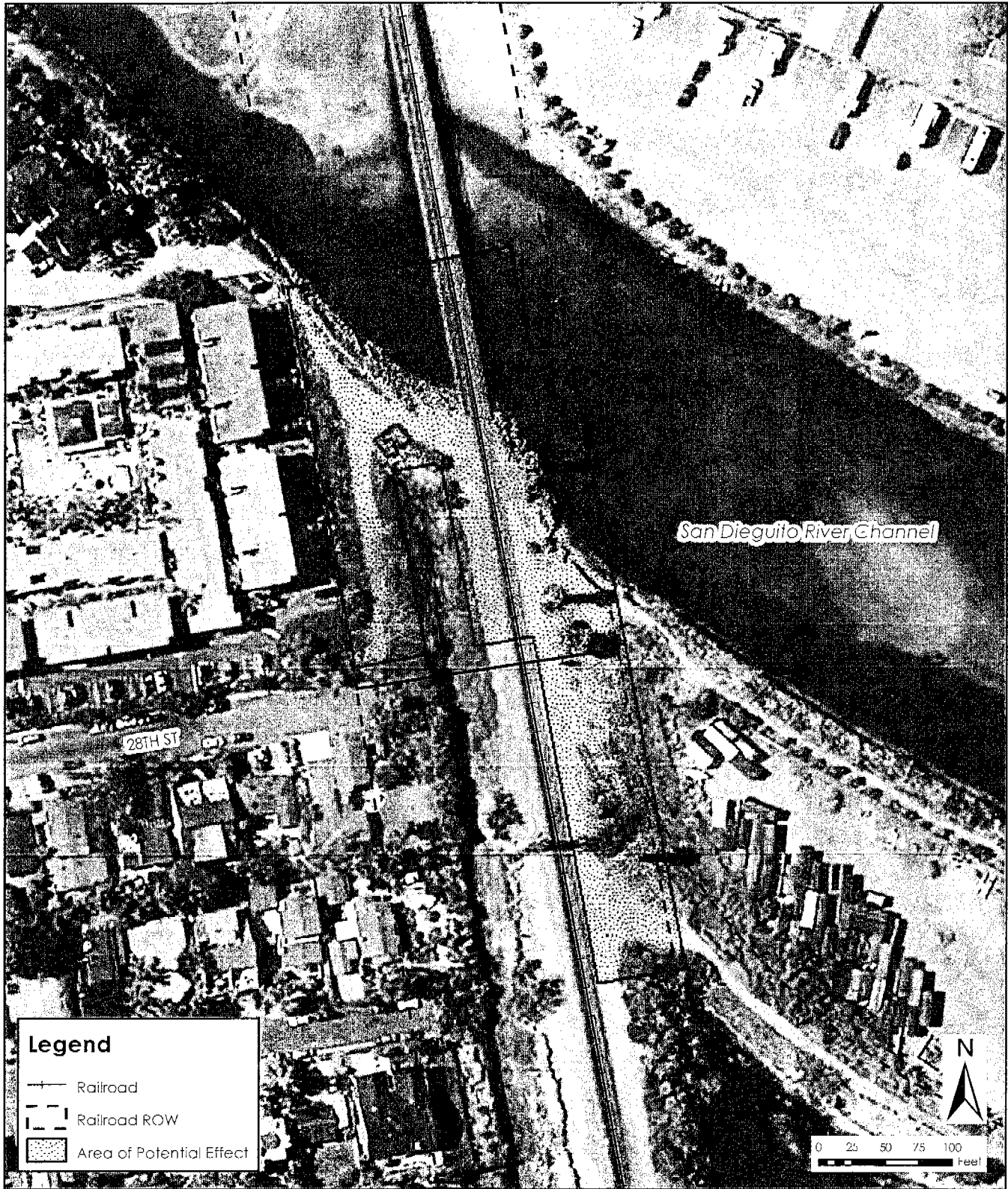
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Bridge 243.0 Revetment

Regional Location

EXHIBIT NO. <b>1</b>
APPLICATION NO.
CC-006-11



SOURCE: ESRI, 2011; SanGIS, 2011; HDR, 2011; BRG Consulting, Inc., 2011

3/2/11


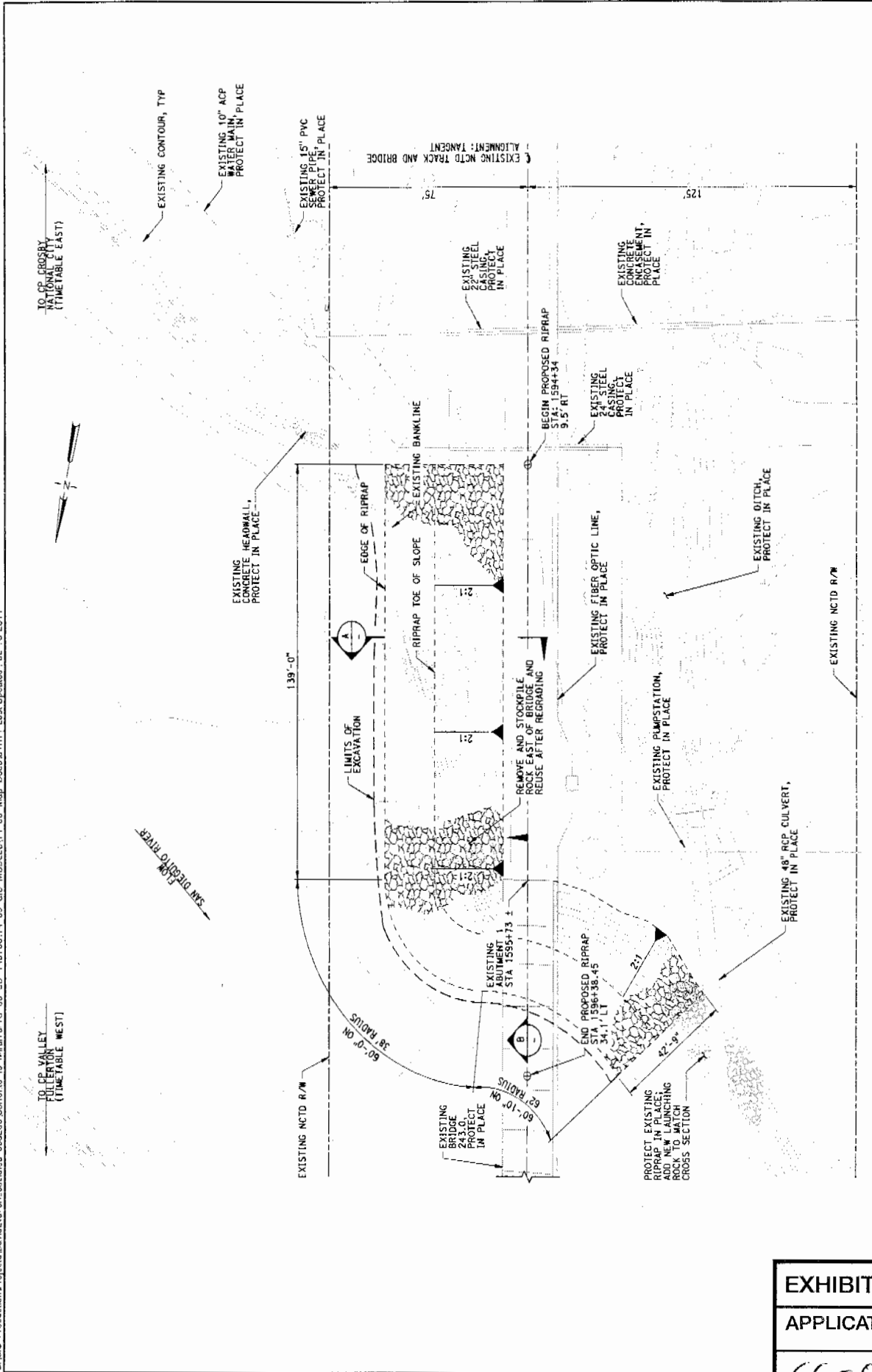
	<p>Bridge 243.0 Revetment</p>
	<p>Area of Potential Effect</p>

EXHIBIT NO. <b>2</b>
APPLICATION NO.
CC-006-11

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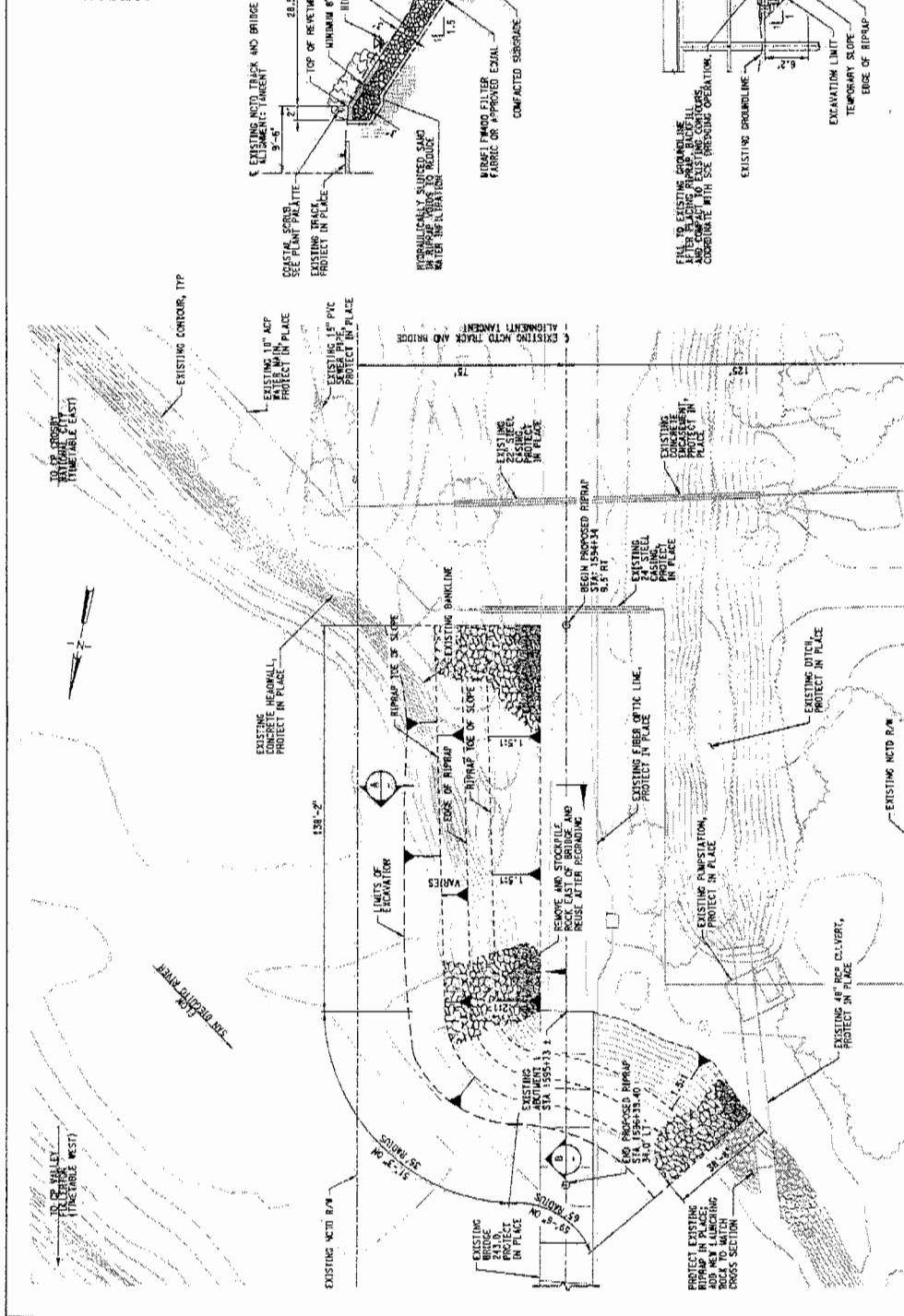
Detail Reveitment Map  
FIGURE 4

NCTD | Bridge 243 |

Many Solutions

EXHIBIT NO. 3
APPLICATION NO.
CC-006-11

SAN DIEGUITO CREEK PLANT PALETTE FOR SHORELINE RETENMENT		
Upland Seed Mix - above elevation 3.0'		
Botanical Name	Common Name	Seed Rate (Pure Live Seed)
Asteroides californica	California sagebrush	0.2 lbs/acre
Baccharis pilularis	coyote brush	0.6 lbs/acre
Artemisia californica	western ragweed	0.2 lbs/acre
Adiplex canescens	big saltbush	4.0 lbs/acre
Eriogonum fasciculatum	California buckwheat	3.0 lbs/acre
Isocoma sphaerocephala	coast goldenbush	2.0 lbs/acre
Lonicera scopulorum	clewweed	1.0 lbs/acre
Plantago erecta	Fanleaf Plantain	5.0 lbs/acre



ESTIMATED QUANTITIES	
ITEM	QUANTITY
RIRAP (1/2\"/>	

**GENERAL NOTES:**  
 1. ELEVATIONS BASED ON MVD 1995 DATUM  
 2. CONTRACTOR TO COMPLETE FILE WRAPPING AND PIC PROTECTION PRIOR TO RIPRAP PLACEMENT  
 3. CONTRACTOR TO TAKE CARE IN EXCAVATING AND PLACING RIPRAP AROUND BRIDGE. ANY DAMAGE TO BRIDGE SHALL BE REPAIRED IMMEDIATELY TO NOTED AND REPAIRED IN ACCORDANCE WITH RFD  
 4. PROTECTION AND RIPRAP INSTALLATION



**BRIDGE 243.0 RETROFIT  
OVER SAN DIEGUITO RIVER  
SOUTH BRIDGE ABUTMENT  
PROTECTION PLAN  
AND DETAILS**

CONTRACT NO. 243.0-BR07  
 REVISION SHEET NO. B OF 10  
 SCALE AS NOTED

DESIGNED BY JSH/BJD  
 CHECKED BY GHS  
 PREPARED BY JSH/PJD  
 APPROVED BY [Signature]  
 DATE 11/25/10

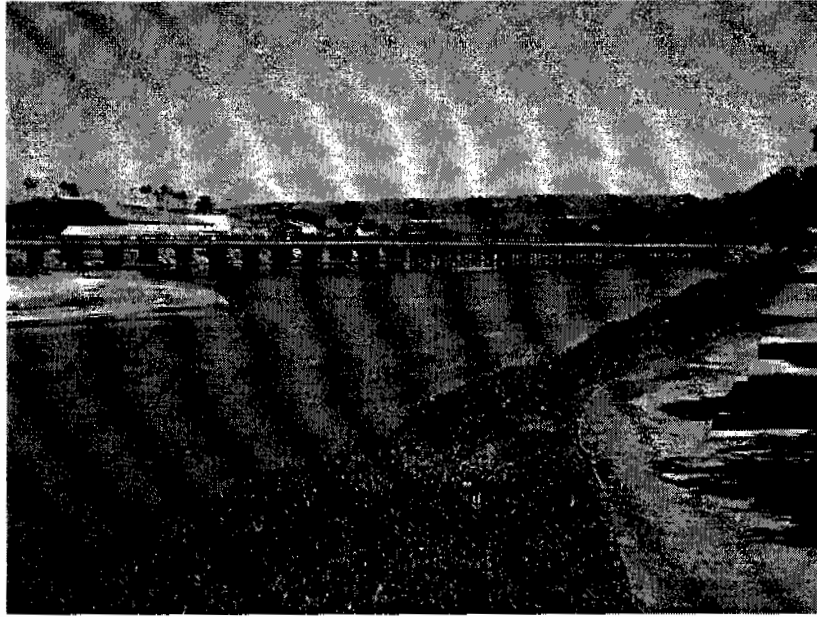
**APPROVED -**

**NCTD**

DATE 11/25/10  
 PROJECT NO. 243.0-BR07  
 SHEET NO. B OF 10

EXHIBIT NO. 4

APPLICATION NO. 22-006-11



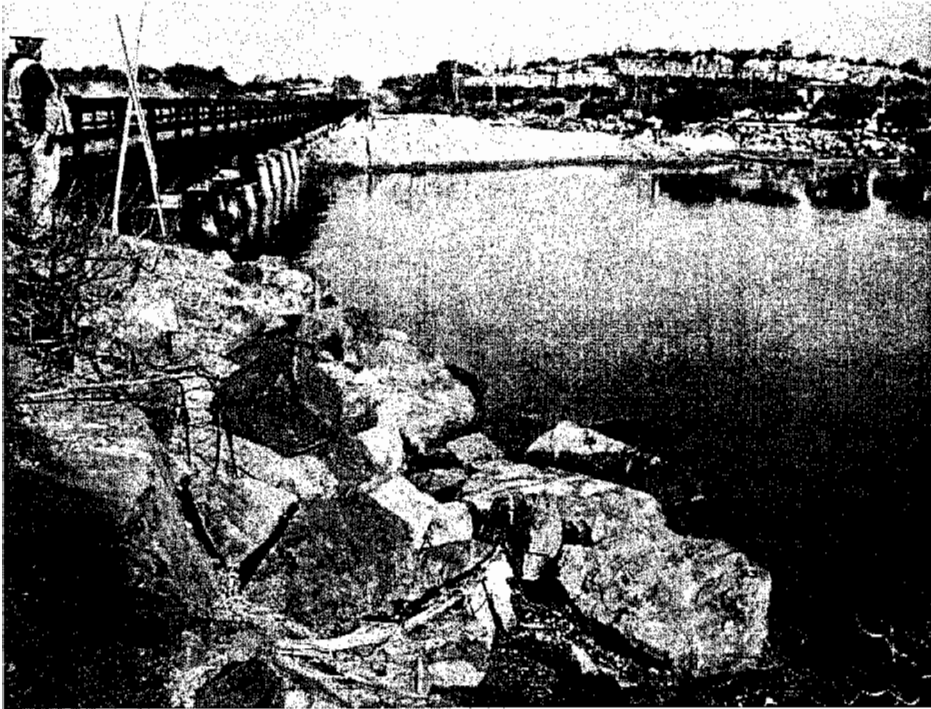
**Figure 1: Bridge 243.0 Looking Upstream** cast towards bridge



**Figure 2: NCTD Bridge 243.0 Southeast Abutment Looking Downstream**  
to the west towards the bridge; this is the project area to be excavated

EXHIBIT NO. 5
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CC-006-11





Photograph 3. Existing rip-rap at south abutment



Photograph 4. Looking southeast from abutment.

project area in lower left corner of photograph

EXHIBIT NO. 5
APPLICATION NO.
CC-206-11



**Photograph 1.** Southern Railroad Abutment looking east.  
project area is on the far side of the railroad bridge abutment



**Photograph 2.** Southern Railroad Abutment looking west.  
this is the project area to be excavated

EXHIBIT NO. 5
APPLICATION NO.
CC-006-11

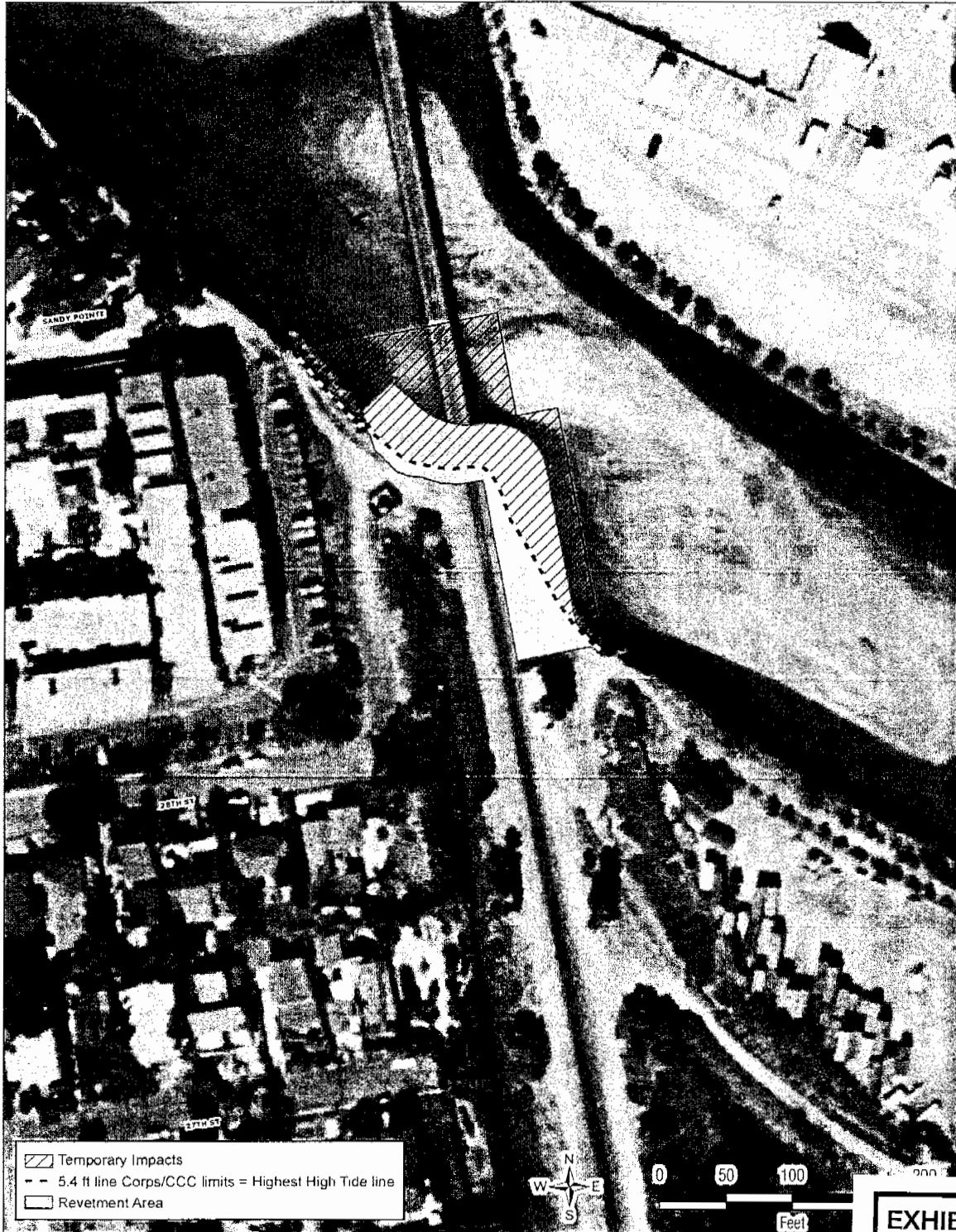


Figure 3. Impacts to jurisdictional areas.

EXHIBIT NO. 6
APPLICATION NO.
CC-006-11

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EXHIBIT NO. 7
APPLICATION NO.
CC-006-11