



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION IX**  
75 Hawthorne Street  
San Francisco, CA 94105

September 20, 2010

Thomas Keeney  
Project Ecologist, Planning Division  
U.S. Army USACE of Engineers  
P.O. Box 532711  
Los Angeles, California 92053-2325

Subject: Draft Environmental Impact Statement for San Clemente Shoreline Protection Project, Orange County California. (CEQ# 20100289)

Dear Mr. Keeney:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for San Clemente Shoreline Protection Project, (Project), Orange County California. Our review is provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act. Our comments were also prepared in accordance with the provisions of the Federal Guidelines promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA).

EPA recognizes the need to protect our shorelines and supports efforts to minimize erosion. We recommend that the Purpose and Need for this project be expanded to include preservation of the natural environmental features in and out of the water, as well as recreational activities currently favored in the area. EPA believes that consideration of additional alternatives is necessary to demonstrate compliance with the CWA Section 404(b)(1) Guidelines and authorization of the LEDPA.

Based on our review of the Proposed Project 50 foot beach width alternative, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2) (see enclosed "Summary of Rating Definitions"), due to our concerns regarding air quality, impacts to waters of the United States (WUS), biological resources, the source and quality of beach nourishment materials, and climate change. The project's nitrogen oxide (NO<sub>x</sub>) emissions exceed the conformity threshold. Prior to completing the Final EIS, the U.S. Army Corps of Engineers (USACE) should either revise the project so that the emissions no longer exceed the threshold, or complete a conformity determination for the project. Whichever the case, EPA is ready to coordinate with the USACE to avoid project delays. To clarify a point of apparent confusion, off-site mitigation (or offsets) may be included in a conformity determination, but should not be considered in an analysis to determine the applicability of conformity. We are also concerned that the DEIS includes a monitoring plan to assess nourishment needs yet fails to adequately address monitoring or mitigating plans in the context of environmental impacts from fill activities such as loss of surf grass and water quality.

EPA encourages the USACE to include in the Final Environmental Impact Statement (FEIS) the results of a comprehensive biological survey of the San Clemente shoreline. Without such a survey, it is difficult, if not impossible, to accurately evaluate the environmental impacts of the proposed action.

The DEIS states that offshore dredging would be required for the beach fill alternative. EPA encourages the USACE to explore all options to obtain beach nourishment material, including opportunities to use dredged material produced from other USACE projects on the California coast.

In light of climate change and rising sea level, EPA questions the viability of a plan to place sand on a beach over a 50-year period. Reconsideration of the 50 year timeline associated with this project may be necessary to reflect the lifespan of the beach. EPA recognizes the project location is already in a high flood risk area.

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one hard copy and two CD ROMs to the address above (mail code: CED-2). If you have any questions, please contact James Munson, the lead reviewer for this project, at (415) 972-3800 or [munson.james@epa.gov](mailto:munson.james@epa.gov), or me at (415) 972-3521.

Sincerely,

/S/

Kathleen M. Goforth, Manager  
Environmental Review Office

Enclosures:  
Summary of EPA Rating Definitions  
Detailed Comments

Cc:  
Bryant Chesney, NOAA  
Jennifer Wise, USFWS  
Loni Adams, CDFG

**EPA'S DETAILED COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) SAN CLEMENTE SHORELINE PROTECTION PROJECT, ORANGE COUNTY CALIFORNIA. (CEQ# 20100289) September 20, 2010**

Project Purpose and Need

Page 2-6 of the DEIS states that the purpose and need are “to prevent the severe beach erosion that results from winter storms and to prevent damage to adjacent beachfront structures, including the heavily used rail line”. However, the DEIS does not clearly demonstrate whether placement would be a “beneficial use” at the proposed location through the rebuilding of an eroding beach. The DEIS section on the relationship between the sediment budget and long-term shoreline change does not appear to support that the beach is eroding. For example, the DEIS states that the “resultant sediment budget indicates the shoreline is essentially in balance between erosion and accretion” (see Section 4.3.4.3). The table on shoreline change also demonstrates that the shoreline has varied between eroding, accreting, and balanced (see Table 4-10) with the maximum erosion rate of minus 2 feet/year at T-street.

The sediment budget and the long-term shoreline change studies referenced on DEIS p. 4-36 conflict with the more recent studies cited on DEIS p. 4-35 that appear to support the downward trend of beach width in the project location. However, according to the DEIS, it has been eight years since the last study, the most recent beach width being measured in 2002 (Table 4.3-6). Due to the time elapsed, the high variability of beach width in the past, and the appearance of conflicting information with the historical and long-term analyses, we recommend that the FEIS include the results of more recent beach width monitoring in the project location.

Other project purposes include protection of railroad infrastructure from wave erosion. Section 4.6.1.2 of the DEIS states that the Orange County Transportation Authority has placed “riprap along the most critical segment between North Beach and the Marine Safety Building to decrease wave erosion impacts”; however much of this segment is not within the project footprint, and the project area south of the Marine Safety Building has no protecting riprap. The FEIS should address why the project area south of the Marine Safety Building has no protecting riprap. If this area is not considered part of the “critical segment”, the FEIS should explain the purpose and need of including the area in the project.

*Recommendations:*

The FEIS should include an analysis of all existing data to clearly demonstrate a net loss of sediment deposition over the project area, and that local beach profiles show the effects of such erosion and thus are in need of replenishment. The FEIS should also provide clarification of the U.S. Army Corps of Engineers’ (USACE) anticipated erosion rate of 12.8 feet per year (see Section 3.4.2.5) and why this rate is higher than historical erosion rates (-2 ft/year at T-street). For additional clarity, we also recommend that the sediment budget (Table 4-9) and long-term shoreline change (Table 4.3-6) sections include a map and description of the sampling stations, as well as a depiction of shoreline change during each of the represented periods.

The FEIS should include more information on the National Security issues surrounding the single track LOSSAN railroad adjacent to the project area. Page 4-65 of the DEIS states that the Department of Defense has designated this right-of-way as a Strategic Rail Corridor with great significance to National Defense. However, little information is given regarding how or when this determination was made. We note that the Federal Railroad Administration filed a Environmental Impact Statement in 2007 (Final Program Environmental Impact Statement for LOSSAN, Los Angeles to San Diego Proposed Rail Corridor Improvements in the State of California (CEQ# 20070465)) calling for the relocation of the LOSSAN railroad away from the shoreline with plans to run a new line adjacent to Interstate 5.

*Recommendation:*

The FEIS should include the results of consultation with the Department of Defense to ensure that all project alternatives are consistent with current National Security policy.

### Alternatives Analysis

The DEIS includes a no-action alternative and two action alternatives. The two action alternatives include nourishment of the same linear project area but with different beach widths, (50 feet and 115 feet). While the proposed project (50 feet width option) would have fewer impacts from fill activity than the 115 feet alternative, both alternatives would have similar adverse environmental and recreational impacts in the same linear project areas.

*Recommendation:*

The FEIS should include, at a minimum, an additional alternative that reduces the amount of linear project footprint. EPA suggests that an alternative excluding fill south of the Marine Safety Building may meet the needs of the project while greatly reducing adverse impacts to surfing, coral reefs, and surfgrass. The FEIS alternatives analysis should include a reasonable range of practicable alternatives that meet the project purpose and demonstrate the project's compliance with the CWA Section 404(b)(1) Guidelines and selection of the Least Environmentally Damaging Practicable Alternative LEDPA.

### Air Quality

#### *General Conformity*

EPA is concerned that applicability of the general conformity program has not been appropriately addressed in the DEIS. The project area is in Orange County, California. This county is part of a larger area that is not meeting federal air quality standards for ozone. The DEIS states that "The area may request a higher classification" (DEIS Vol. 2 p. 12). In fact, the area was reclassified to extreme nonattainment for the 1997 ozone national ambient air quality standards (NAAQS) on June 4, 2010. For this reason, the area now has a lower applicability threshold for general conformity. The DEIS is not clear that the applicability threshold used for analysis was 25 tons per year (tpy); however, we believe this to be the case, and want to clarify that the required threshold for analysis is 10 tpy. For more information go to:

<http://www.epa.gov/oaqps001/greenbk/gfr2rpt2.html>.

*Recommendation:*

The FEIS should state clearly that the general conformity threshold is 10 tpy. Provide the results of the General Conformity applicability analysis to indicate whether the preferred alternative is above or below this de minimis level. If it is over de minimis, indicate the method that will be used to demonstrate that the project conforms to the applicable state implementation plan (SIP) for the area.

*Air Quality Analysis*

The DEIS reports that the project will have no long-term impacts and a temporary short-term adverse impact to air quality, but does not comprehensively assess the Project's operational and construction direct, indirect, or cumulative impacts to air quality. The FEIS should include a complete description of potential impacts and ways to reduce those impacts. In particular, EPA has concerns regarding the apparent lack of both an air quality impact assessment of fill placement, and a staging area plan that minimizes exposures to sensitive receptors and residents.

*Construction Mitigation Measures*

EPA commends USACE for incorporating mitigation strategies to reduce or minimize air pollutant, paving, and fugitive dust emissions. However, in addition to idling restrictions, proper maintenance of equipment, and the selection of construction equipment based on low emission factors, this Project should incorporate more stringent emission controls for PM and ozone precursors for construction-related activity.

*Recommendations:*

Due to the serious nature of the particulate matter of 10 microns or less (PM<sub>10</sub>) and PM<sub>2.5</sub> conditions in the South Coast Air Basin, EPA recommends that the best available control measures (BACM) for these pollutants be implemented at all times and that the FEIS and ROD incorporate the Construction Emissions Mitigation Plan. We recommend that all applicable requirements under the South Coast Air Quality Management District (SCAQMD) Rules and the following additional measures be incorporated into the Construction Emissions Mitigation Plan.

*Fugitive Dust Source Controls:*

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing, and phase grading operations, where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage, and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

*Mobile and Stationary Source Controls:*

- Reduce use, trips, and unnecessary idling from heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at California Air Resources Board (CARB) and/or EPA certification, where applicable, levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. CARB has a number of mobile source anti-idling requirements. See their website at: <http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal or State Standards. In general, only Tier 2 or newer engines should be employed in the construction phase.
- Utilize EPA-registered particulate traps and other appropriate controls where suitable, to reduce emissions of diesel particulate matter and other pollutants at the construction site.

Administrative controls:

- Identify all commitments to reduce construction emissions and incorporate these reductions into the air quality analysis to reflect additional air quality improvements that would result from adopting specific air quality measures.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction, and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.) Meet CARB diesel fuel requirement for off-road and on-highway (i.e., 15 ppm), and where appropriate use alternative fuels such as natural gas and electric.
- Develop construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify sensitive receptors in the project area, such as children, elderly, and infirm, and specify the means by which you will minimize impacts to these populations. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.

EPA is concerned that the air quality analysis in the DEIS does not include emissions associated with the multiple collection barge trips needed to remove and transport fill from the project site nor does the DEIS appear to include estimates of the number of necessary collection barge trips, distance traveled, and corresponding air emissions.

*Recommendations:*

The FEIS should include a revised air quality analysis and updated emissions comparison to SCAQMD significance thresholds to account for the emissions from the equipment required to transport fill. The FEIS should also commit to additional minimization measures for these emissions.

Water Resources

Although a CWA Section 404 permit is not needed for the proposed action, the project must be in compliance with the CWA Section 404(b)(1) Guidelines. Also, the FEIS and ROD will serve as the basis for future permits that will be needed for maintenance of beach nourishment. Under the proposed action, sand replenishment will have to be done every five or six years to restore the design beach width and those actions may need a permit.

While the project will have impacts to high value marine habitats, including special aquatic sites (defined at 40 CFR 230.3(q-1)), the Section 404(b)(1) Alternatives Analysis (Appendix A) concludes that all impacts are localized and temporary, and therefore, insignificant. There is no discussion of the basis for this conclusion.

As a result of the large volumes of sand being placed on receiver beaches, the proposed project could lead to significant and unavoidable adverse impacts on surface water quality and fisheries from increased turbidity and fill in special aquatic sites. Other short- and long-term threats to water quality include construction-related containments such as oil and hydraulic fluid and increased turbidity that would occur during the future, associated maintenance activities for the proposed project.

*Recommendations:*

The FEIS should include a comprehensive biological survey of the San Clemente shoreline.

The FEIS should address the potential of the project to contribute to elevated turbidity levels. The USACE should consider marine design modifications regarding factors such as location and size, to minimize these environmental impacts.

Additional minimization measures for impacts to the aquatic environment should be discussed in the FEIS. Minimization measures include timing and rate of fill placement. The USACE should commit to placement in fall or winter to better mimic natural shoreline turbidity processes and reduce impacts during high recreational use times, and to develop debris management plans to ensure that the borrow site materials do not deposit trash, or other debris that may be harmful to the ocean environment.

## Source & Quality of Beach Nourishment Materials

The DEIS briefly considers sources of sand such as onshore and offshore borrow sites ( DEIS p. 3-3); however, it then goes on to state, “for this project offshore dredging would be required”. Any opportunities for further minimizing impacts to the aquatic environment by using sand from other USACE permitted projects, or using sources from which the dredging might provide enhancement of environmental, navigational, or recreational conditions should be discussed in the FEIS.

We note that the chemical testing of the sediments in the proposed Oceanside borrow pit occurred several years ago. Due to this lapse of time, additional testing may be necessary. The DEIS did not describe the initial sampling scheme (depth of cores, how many cores) nor whether the cores went down to anticipated dredging depth. Additionally, the table did not provide a chemical reference sample along a beach transect at the proposed receiving site.

The DEIS provides insufficient discussion of the regulatory approval process of material for testing. A Sampling and Analysis Plan (SAP) for tiered testing, pursuant to the Inland Testing Manual should be required for each placement within the beach nourishment program. The SAP should examine the source material and the receiver site sediments and address tiered testing requirements (including grain size and the need for other testing) and be reviewed by the USACE, USEPA, Coastal Commission, and the RWQCB for concurrence prior to any sampling of the materials. All SAP’s and approvals should be reviewed by the interagency dredging group run by the Los Angeles USACE s District (SC-DMMT).

### *Recommendation:*

The USACE should evaluate and discuss in the FEIS the opportunity to coordinate with other projects that may produce suitable material for beach nourishment purposes. The ROD should include a commitment to consideration of opportunistic sources of beach nourishment material prior to each nourishment cycle.

The discussion of the chemical testing of the proposed Oceanside borrow site should be expanded in the FEIS to include pertinent information such as core depth and number of samples.

The FEIS should also describe, and the ROD should commit, to project review through an interagency regulatory approval process (i.e. SC-DMMT) to ensure that the sediments are suitable for ocean placement.

## Biological Quality Surveys and Monitoring

We acknowledge the USACE commitment to a 50 year monitoring period (over the life of the project). As discussed in the DEIS, surveys and monitoring have typically been incorporated into beach nourishment projects. The document cites the San Diego Association of Governments’ (SANDAG) “monitoring data that suggest the San Clemente fill will erode on average at a rate of 12.8 feet per year (3.9 m/yr)”, (p. 3-18). To counter this erosion, the DEIS states that proposed project monitoring would be required to assess replenishment schedules.



However, the document does not sufficiently discuss a biological monitoring plan. This information should be included in order to evaluate the effectiveness of the proposed action in protecting biological diversity/quality.

The monitoring plan should include pre- and post-project dive surveys and benthic community sampling of the borrow site and the receiver site to ensure that each benthic community returns to its pre-project density and structure.

We stress that any monitoring should have appropriate adaptive management to ensure minimal impacts to aquatic resources. The Coastal Sediment Management Workgroup is currently preparing a document outlining practices to minimize impacts to aquatic resources. The adaptive management process should allow for incorporation of these practices and associated principles and any other developments in regional sediment management over the life of the project.

*Recommendation:*

The FEIS should include a detailed description of a survey/monitoring program for the biological impacts of the Proposed Project, and commit to its incorporation as a required project element. The monitoring program should have a clear adaptive management strategy to ensure that the aquatic environment is protected.

### Endangered Species

The DEIS insufficiently evaluates the potential impacts to endangered species. For example, the document states, “No proposed or endangered species are expected to be present on the site” (DEIS p.A-10). The basis for this statement is unclear due to the lack of a complete shoreline biological survey.

*Recommendation:*

The FEIS should include a comprehensive biological survey of the entire project area as well as the borrow site, including a complete review of species that may be affected by the project. The results of consultation with the United States Fish and Wildlife Service and National Oceanic and Atmospheric Administration (NOAA), if appropriate, regarding threatened or endangered species or critical habitat should be included in the FEIS. Beach nourishment activities should avoid the nesting seasons for listed species, such as the least tern.

### Cumulative Impacts

Given that the Project will take place over the next 50 years, the FEIS should include a comprehensive list of other projects in the area that are under construction or planned within that time frame, such as ecosystem restoration opportunities at San Elijo Lagoon, and related cumulative impacts. The DEIS states, “most of the sediment from the project is expected to accumulate on down coast beaches” (p.6-4). The feasibility of periodically replenishing beaches should be analyzed and incorporated in plans for future growth. An analysis of how future

projects, in conjunction with the proposed Project, may cumulatively impact the health of the affected resources should be addressed in this section.

*Recommendation:*

The FEIS should include a comprehensive discussion of all types of reasonably foreseeable projects that may take place in the area during the construction period, such as the LOSSAN Proposed Rail Corridor Improvements, the San Elijo Lagoon restoration, and others, and predict the cumulative impacts on affected resources.

Climate Change

Current research estimates that climate change could cause sea level rise and change the amount, timing, and intensity of rain and storm events. The Pacific Institute has created maps estimating flood risk due to sea level rise in the San Clemente Shoreline area; to see the map go to: [http://www.pacinst.org/reports/sea\\_level\\_rise/hazmaps/San\\_Clemente.pdf](http://www.pacinst.org/reports/sea_level_rise/hazmaps/San_Clemente.pdf)

*Recommendation:*

The FEIS should describe and evaluate projected climate change consequences such as sea level rise, frequency of high intensity storms, and amplified rain events; their effects on the beaches; and how these effects could change re-nourishment plans for the San Clemente Shoreline Protection Project.

Executive Order 11988: Floodplain Management

Per Flood Insurance Rate Maps (FIRM), portions of the project footprint may be in a Zone VE Coastal Flood Zone with velocity hazard with a established base flood elevation (BFE). See FIRM#: 06059C0536J Orange Co Uninc & Inc Areas 12/03/2009. Executive Order 11988 Floodplain Management requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains. For more information go to: [http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/zone\\_ve.shtm](http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/zone_ve.shtm).

*Recommendation:*

The FEIS should discuss any impacts that the Proposed Project may have on the potential for flooding.