DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314-1000

CEMP-SPD (1105-2-10a) **APR 15 2012**

SUBJECT: San Clemente Shoreline, Orange County, California

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on coastal storm damage reduction along the Pacific Ocean shoreline in San Clemente, California. It is accompanied by the report of the Los Angeles District Engineer and the South Pacific Division Engineer. These reports are in partial response to the authority contained in Section 208 of the Flood Control Act of 1965 (Title II of P.L. 89-298), which provides for studies to determine the advisability of protection work against storm and tidal waves along the coasts of Washington, Oregon, and California. The Energy and Water Development Appropriations Act of 2000, P.L. 106-60, appropriated the funds for a reconnaissance study to investigate shoreline protection alternatives for San Clemente Shoreline, California. Preconstruction engineering and design activities for this project will be continued under the authority provided by the resolutions cited above.

2. The reporting officers recommend authorization for a plan to reduce coastal storm damages by constructing a beach fill/berm along the San Clemente shoreline. The recommended plan for coastal storm damage reduction includes construction of a 50-foot-wide beach nourishment project along a 3,412-foot-long stretch of shoreline using 251,000 cubic yards of compatible sediment, with renourishment on the average of every 6 years over a 50-year period of Federal participation, for a total of eight additional nourishments. The design berm will be constructed to an elevation of 17 feet MLLW with foreshore slope of 8H:1V (at equilibrium). Material for the beach fill will be dredged from a borrow site identified off the coast of San Diego County. Physical monitoring of the performance of the project will be required annually throughout the 50-year period of Federal participation. The recommended plan would provide coastal storm damage reduction throughout the project reach and would maintain the existing recreational beach. Monitoring of the environmental resources will be required for each construction event. The project is expected to have minimal impacts to environmental resources. A comprehensive monitoring and mitigation plan has been incorporated in the project in the event that impacts to habitat result. The recommended plan is the national economic development (NED) plan for coastal storm damage reduction.

3. The City of San Clemente is the non-Federal cost-sharing sponsor for all features. Based on October 2011 price levels, the estimated total nourishment cost of the plan is $98,100,000, which includes the project first cost of initial construction of $11,300,000 and a total of 8 periodic renourishments at a total cost of $86,800,000. Periodic renourishments are planned at 6-year

[1] This report contains the proposed recommendation of the Chief of Engineers. The recommendation is subject to change to reflect Washington level review and comments from Federal and State agencies.

intervals. In accordance with the cost share provisions in Section 103 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. 2213), the Federal and non-Federal shares are as follows:

a. The Federal share of the project first cost would be $7,350,000 and the non-Federal share would be $3,960,000, which equates to 65 percent Federal and 35 percent non-Federal. The cost of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas (LERRD) is estimated at $11,000, all of which is eligible for LERRD credit.

b. The Federal share of the total renourishment cost would be $43,400,000 and the non-Federal share would be $43,400,000, which equates to 50 percent Federal and 50 percent non-Federal.

c. The total nourishment cost includes $4,460,000 for environmental monitoring, and $8,550,000 for physical monitoring over the life of the project.

d. The City of San Clemente would be responsible for the operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the project after construction. The project is not currently estimated to result in a significant incremental increase over the sponsor's existing beach maintenance activities and costs.

4. Based on a 4-percent discount rate and a 50-year period of analysis, the total equivalent average annual costs of the project are estimated to be $2,180,000, including monitoring. All project costs are allocated to the authorized purpose of coastal storm damage reduction. The selected plan would reduce average annual coastal storm damages by about 97 percent and would leave average annual damages estimated at $36,900. The equivalent average annual benefits, which include recreational benefits, are estimated to be $3,160,000, with net average annual benefits of $978,000. The benefit-cost ratio is approximately 1.4 to 1.

5. The goals and objectives included in the Campaign Plan of the U.S. Army Corps of Engineers have been fully integrated into the San Clemente Shoreline study process. The project includes an annual project monitoring program to reevaluate and adjust the periodic renourishment actions. The study was conducted using a watershed perspective to examine sediment supply changes within the San Juan Creek Watershed. A statistical, risk based model was used to formulate and evaluate the project. The project is intended to address erosion and prevent damages to structures and contents; it is not intended to, nor will it, reduce the risk to loss of life during major storm events. The study report fully describes risks associated with residual coastal storm damages and risks that will not be reduced. These residual risks have been communicated to the City of San Clemente.

6. Along the shoreline of San Clemente, a lack of sediment supply to the shoreline has resulted in chronic, mild, and long-term erosion. Without a coastal storm damage reduction project public properties and structures will continue to be susceptible to damages caused by erosion (including land loss and undermining of structures), inundation (structures), and wave attack (structures, railroad). The project area includes the LOSSAN (Los Angeles to San Diego)

railroad corridor which is a vital link for passenger and freight service and has been designated as a Strategic Rail Corridor by the Department of Defense. As the protective beach lessens over time and is eventually lost, it is expected that storm waves will act directly upon the railroad ballast, significantly threatening the operation of the LOSSAN railroad line. The narrowing beaches are also expected to subject ancillary beachfront public facilities to storm wave-induced damages, and further reduce recreational space on an already space-limited beach. The recommended plan was formulated to maximize coastal storm damage reduction, address potential environmental affects, and minimize cost.

7. In accordance with the Corps Engineering Circular (EC 1165-2-211) on sea level change, the study performed a sensitivity analysis to investigate the economic effects that different rates of accelerated sea level rise could have on the recommended plan. The plan was formulated using a historical or low rate of sea level rise, and the sensitivity analysis used additional accelerated rates, which includes what the EC defines as medium and high rates. The sensitivity analysis indicates that at higher rates of sea level rise, renourishment intervals increase and the reduction of storm damages decreases, but the plans are still justified.

8. In accordance with the Corps Engineering Circular (EC 1165-2-209) on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic and vigorous review process to ensure technical quality. This included an Agency Technical Review (ATR), an Independent External Peer Review (IEPR) (Type I), and a Corps Headquarters policy and legal review. All concerns of the ATR have been addressed and incorporated into the final report. The IEPR was completed by Battelle Memorial Institute. A total of 24 comments were documented. The IEPR comments identified significant concerns in areas of the plan formulation and engineering assumptions that are needed to support the decision-making process and plan selection. This resulted in expanded narratives throughout the report to support the decision-making process and justify the recommended plan. A safety assurance review (Type II IEPR) will be conducted during the design phase of the project. All comments from the above referenced reviews have been addressed and incorporated into the final documents. Overall the reviews resulted in improvements to the technical quality of the report.

9. Washington level review indicates that the project recommended by the reporting officers is technically sound, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land related resources implementation studies and complies with other administrative and legislative policies and guidelines. Also the views of interested parties, including Federal, State and local agencies have been considered.

10. I concur in the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan to reduce coastal storm damages for the San Clemente, California shoreline be authorized in accordance with the reporting officers' recommended plan at an estimated project first cost of $11,300,000 with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of Federal and State laws and policies, including Section 103 of WRDA 1986, as amended by Section 215 of WRDA 1999. The non-Federal

sponsor would provide the non-Federal cost share and all LERRD. Further the non-Federal sponsor would be responsible for all OMRR&R. This recommendation is subject to the non-Federal sponsor agreeing to comply with all applicable Federal laws and policies.

a. Provide a minimum of at least 35 percent of initial project costs assigned to coastal storm damage reduction, plus 50 percent of initial project costs assigned to reducing damages to undeveloped public lands, plus 50 percent of initial project costs assigned to recreation, plus 100 percent of initial project costs assigned to reducing damages to undeveloped private lands and other private shores that do not provide public benefits; and 50 percent of periodic nourishment costs assigned to hurricane and storm damage reduction, plus 100 percent of periodic nourishment costs assigned to reducing damages to undeveloped private lands and other private shores that do not provide public benefits and as further specified below:

(1) Provide 25 percent of design costs in accordance with the terms of a design agreement entered into prior to commencement of design work for the project.

(2) Provide, during the first year of construction, any additional funds necessary to pay the full non-Federal share of design costs.

(3) Provide all lands, easements, and rights-of-way, and perform or ensure the performance of all relocations determined by the Federal Government to be necessary for the initial construction, periodic nourishment, operation, and maintenance of the project.

(4) Provide, during construction, any additional amounts as are necessary to make the total contribution equal to 35 percent of initial project costs assigned to coastal storm damage reduction, plus 50 percent of initial project costs assigned to reducing damages to undeveloped public lands, plus 50 percent of initial project costs assigned to recreation, plus 100 percent of initial project costs assigned to reducing damages to undeveloped private lands and other private shores that do not provide public benefits; and 50 percent of periodic nourishment costs assigned to hurricane and storm damage reduction, plus 100 percent of periodic nourishment costs assigned to reducing damages to undeveloped private lands and other private shores that do not provide public benefits.

b. For so long as the project remains authorized, operate, maintain, repair, rehabilitate, and replace the project, or functional portion of the project, at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable Federal and State laws and regulations and any specific directions prescribed by the Federal Government.

c. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal Sponsor, now or hereafter, owns or controls for access to the project for the purpose of inspecting, operating, maintaining, repairing, replacing, rehabilitating, or completing the project. No completion, operation, maintenance, repair, replacement, or rehabilitation by the Federal Government shall relieve the non-Federal Sponsor

of responsibility to meet the non-Federal Sponsor's obligations, or to preclude the Federal Government from pursuing any other remedy at law or equity to ensure faithful performance.

d. Hold and save the United States free from all damages arising from the initial construction, periodic nourishment, operation, maintenance, repair, replacement, and rehabilitation of the project and any project related betterments, except for damages due to the fault or negligence of the United States or its contractors.

e. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 Code of Federal Regulations (CFR) Section 33.20.

f. Perform, or cause to be performed, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Public Law 96-510, as amended, 42 U.S.C. 9601-9675, that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for the initial construction, periodic nourishment, operation, and maintenance of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the non-Federal Sponsor with prior specific written direction, in which case the non-Federal Sponsor shall perform such investigations in accordance with such written direction.

g. Assume, as between the Federal Government and the Non-Federal Sponsor, complete financial responsibility for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the initial construction, periodic nourishment, operation, or maintenance of the project.

h. Agree, as between the Federal Government and the Non-Federal Sponsor, that the non-Federal Sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, and repair the project in a manner that will not cause liability to arise under CERCLA.

i. If applicable, comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way, required for the initial construction, periodic nourishment, operation, and maintenance of the project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

j. Comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), requiring non-Federal preparation and implementation of floodplain management plans; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c))..".

k. Comply with section 402 of the WRDA of 1986, as amended (33 U.S.C. 701b-12), which requires the non-Federal interest to participate in and comply with applicable Federal floodplain management and flood insurance programs, prepare a floodplain management plan within one year after the date of signing a Project Partnership Agreement (PPA), and implement the plan no later than one year after project construction is complete.

l. Provide the non-Federal share of that portion of the costs of data recovery activities associated with historic preservation, that are in excess of 1 percent of the total amount authorized to be appropriated for the project, in accordance with the cost sharing provisions of the agreement.

m. Participate in and comply with applicable Federal floodplain management and flood insurance programs.

n. Do not use Federal funds to meet the non-Federal sponsor's share of total project costs unless the Federal granting agency verifies in writing that the expenditure of such funds is authorized.

o. Prescribe and enforce regulations to prevent obstruction of or encroachment on the project that would reduce the level of protection it affords or that would hinder future periodic nourishment and/or the operation and maintenance of the project.

p. Not less than once each year, inform affected interests of the extent of protection afforded by the project.

q. Publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the floodplain, and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the project.

r. For so long as the project remains authorized, the non-Federal Sponsor shall ensure continued conditions of public ownership and use of the shore upon which the amount of Federal participation is based;

s. Provide and maintain necessary access roads, parking areas, and other public use facilities, open and available to all on equal terms;

t. At least twice annually and after storm events, perform surveillance of the beach to determine losses of nourishment material from the project design section and provide the results of such surveillance to the Federal Government;

u. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5b), and Section 103(j) of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213(j)), which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until each non-Federal interest has entered into a written agreement to furnish its required cooperation for the project or separable element.

11. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to Congress, the sponsor, the State, interested Federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

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