COASTAL CONSERVANCY

Staff Recommendation
April 23, 2026

SAN CLEMENTE NORTH BEACH SAND RETENTION PLANNING PROJECT

Project No. 25-058-01
Project Manager: Sally Gee

RECOMMENDED ACTION: Authorization to disburse up to $2,000,000 to the City of San Clemente for the San Clemente North Beach Sand Retention Planning Project, consisting of preparing technical studies, an alternatives analysis, and preliminary designs, and conducting community engagement for a sand retention project to address coastal erosion along the San Clemente shoreline, in Orange County.

LOCATION: North Beach, City of San Clemente, Orange County

EXHIBITS

Exhibit 1: Project Location Map

Exhibit 2: North Beach Concept Design

Exhibit 3: Site Photos

Exhibit 4: Project Letters

RESOLUTION AND FINDINGS

Staff recommends that the State Coastal Conservancy adopt the following resolution and findings.

Resolution:

The State Coastal Conservancy hereby authorizes a grant of an amount not to exceed two million dollars ($2,000,000) to the City of San Clemente ("the grantee") for the San Clemente North Beach Sand Retention Planning Project, consisting of preparing technical studies, an alternatives analysis, and preliminary designs, and conducting community engagement for a sand retention project to address coastal erosion along the San Clemente shoreline, in Orange County (the "project").

Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Conservancy (Executive Officer) the following:

1. A detailed work program, schedule, and budget.

2. Names and qualifications of any contractors to be retained in carrying out the project.

Findings:

Based on the accompanying staff recommendation and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 3 of Division 21 of the Public Resources Code, regarding the Climate Ready Program.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria.

STAFF RECOMMENDATION

PROJECT SUMMARY:

Staff recommends the Conservancy authorize a $2,000,000 grant to the City of San Clemente (City) for the San Clemente North Beach Sand Retention Planning Project (project), consisting of preparing technical studies, an alternatives analysis, and preliminary designs, and conducting community engagement for a sand retention project to address coastal erosion along the San Clemente shoreline, in Orange County. The project will advance planning of one of the concepts from the San Clemente Nature-Based Adaptation Project Feasibility Study (Feasibility Study).

While beach nourishment has been a key strategy implemented by the City to combat beach erosion, this approach has not led to increased resilience and adequate protection for City infrastructure during coastal storm events. In 2022, the City of San Clemente initiated a process to identify feasible solutions to promote long term resiliency of the City's shoreline by completing beach sand replenishment projects and seeking nature-based resilience options to retain sand. There are several critical erosion hotspots along the City's shoreline which were potential candidate locations for implementation of nature-based solutions that could stabilize the shoreline. The result of this process was the Feasibility Study, completed in late 2025, which assessed three concepts at three different locations. This project will include further planning and analysis of a sand retention project located at North Beach that is based on Concept 1 of the Feasibility Study.

Concept 1 is a multi-benefit, emergent breakwater situated between North Beach and the Capistrano Shores Manufactured Home community (Exhibit 2). The structure is envisioned as an emergent rocky reef, sited offshore parallel to the beach, and made of armor stone material with a "barbell" shape design. The submerged, flared sides of the structure gently slope down around the seaward and side edges to enhance surfing opportunities, and the central/main segment has steeper slopes to dissipate wave energy. The crest along the top of the structure is proposed to be emergent at all times and resilient to future sea level rise. The structure is designed to slow long-shore sediment transport and reduce wave energy to retain sand on the beach. Concept 1 also includes placing approximately 500,000 to 600,000 cubic yards of sandy material on the beach behind the structure during construction. This description of Concept 1 is a preliminary design concept, in which the size, height, and footprint of the structure, as well as the placement area and volume of sand, will be further analyzed as part of the project.

This project includes all of the following activities. The City will conduct technical studies needed to address data gaps and inform future environmental review and permitting, including but not limited to studying sediment supply and transport dynamics, water quality, nearshore biological resources, and surfing conditions. The City will also perform an alternatives analysis to optimize the Concept 1 design in consideration of benefits for biological resources, regional sand dynamics, and the City's approach to address shoreline erosion City-wide. The City will develop preliminary engineering designs and conduct numerical and potentially physical modeling of the design. The City will engage technical advisors, such as regulatory agency staff and topic experts, California Native American tribes, regional stakeholder groups, and the community to refine the designs, address data gaps, and determine project success objectives.

A public outreach program was an essential part of the development of the Feasibility Study to date. This was implemented via general and focused stakeholder group forums in order to assess general reception of concepts, obtain feedback to refine the concepts, and integrate outside ideas into the designs. This public outreach and feedback program will continue as part of the project. Additionally, the City is currently gathering data on who visits San Clemente beaches and identifying if visitors may be travelling to the beaches from disadvantaged communities. As part of the project's public outreach and feedback program, the City will develop and implement strategies to conduct outreach to beach visitors and to connect with visitors from disadvantaged communities during planning.

North Beach is of significant economic and recreational value to the City of San Clemente. A large pay parking lot is situated adjacent to the beach with retail and dining opportunities nearby. Beachside, there are amenities such as fire pits, an access ramp for people with disabilities, restroom facilities, a public safety building, tot lot playground, and both wet and dry utilities. San Clemente's largest train stop is situated adjacent to North Beach and is part of the Los Angeles – San Diego – San Luis Obispo rail corridor. The economic potential this beach holds for the City is second only to the shoreline surrounding the City's nearly 100-year old Municipal Pier and is therefore a targeted area for improving long term coastal resiliency. This project will plan a potential solution to reduce erosion of the shoreline at North Beach and provide added protection of infrastructure on the shoreline.

The project aims to refine designs for a multi-benefit solution to not only address coastal erosion, but also increase coastal access on the beach and in the water, and support new rocky reef and coastal dune habitats. Overall, the project is envisioned to expand opportunities for public recreation and enjoyment, such as surfing around the structure and beach activities with a re-established beach area. The structure is envisioned to create potential for subtidal and intertidal species colonization and use, similar to the San Onofre Nuclear Generating Station's Wheeler Reef modules located further offshore than the proposed structure. In the longer term, establishing a wider beach also sets the stage for potentially implementing dune habitat restoration once the beach has sufficiently widened over time. A widened beach provides an opportunity for shorebirds, native vegetation, and intertidal infaunal and fish species that inhabit sandy beaches to utilize the space. For example, sensitive species such as grunion, threatened or endangered species such as least terns and western snowy plovers, and back beach dune vegetation to expand within their regional distribution range.

Site Description:

The City is the southernmost city in Orange County. The City is located north of Camp Pendleton Marine Corps Base and south of Dana Point and contains five miles of beaches backed by public infrastructure. The City is in the northernmost portion of the Oceanside Littoral Cell. The primary source of sediment has historically been from San Juan Creek located north of the City and from the coastline north of Dana Point. Due to urbanization and upstream flood control and water supply management actions, the Creek delivers almost no sand to the beach. Historically, sand also moved around Dana Point and fed San Clemente from the north, but due to the construction of Dana Point Harbor and its accompanying breakwater, this source of sand was also cut off.

The City owns the portion of the project site located above the mean high tide line. The California State Lands Commission owns the portions of the project site below the mean high tide line. The project includes working with the State Lands Commission to obtain a lease agreement.

Grant Applicant Qualifications:

To date, the City has been awarded five California Coastal Commission grants for various coastal projects including shoreline monitoring, LCP development, the Feasibility Study, an offshore sand search, and beach attendance data collection. The City has a successful 10-year track record of effective grant management with grant deliverables submitted on time and within budget, including timely submittal of grant progress reporting and reimbursement requests.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA:

The proposed project is consistent with the Conservancy's Project Selection Criteria, last updated on September 23, 2021, in the following respects:

Selection Criteria

1. **Extent to which the project helps the Conservancy accomplish the objectives in the Strategic Plan.**

See the "Consistency with Conservancy's Strategic Plan" section below.

2. **Project is a good investment of state resources.**

The California Coastal Commission funded the City's Feasibility Study to identify and evaluate nature-based shoreline resilience options. This project will help refine Concept 1 at North Beach for a sand retention structure combined with beach nourishment to combat critical coastal erosion and increase resiliency of the San Clemente shoreline to sea level rise. The City will work closely with regulatory agencies, California Native American tribes, regional stakeholders, and the community to refine the proposed design.

3. Project includes a serious effort to engage tribes. Examples of tribal engagement include good faith, documented efforts to work with tribes traditionally and culturally affiliated to the project area.

As part of the project, the City will reach out to tribes to obtain feedback on the design and develop a relationship with interested tribes for City projects. As part of conducting the Feasibility Study, the City solicited input from Acjachemen Tribes, and tribal representatives are on the outreach and distribution lists that the City will use in carrying out the project, though tribal engagement with the Feasibility Study was low. The City is committed to increasing tribal engagement as part of the project by continuing to reach out to tribes and trying various contact methods.

4. Project benefits will be sustainable or resilient over the project lifespan.

The project will conduct an alternatives analysis to optimize the Concept 1 design in consideration of benefits for biological resources, regional sand dynamics, and the City's approach to address shoreline erosion City-wide. Additionally, the City will conduct further planning and design in consultation with regulatory agencies and regional stakeholders working on coastal erosion issues. This process will develop a more robust and supported project design.

The project will design features to withstand significant storm conditions and high water levels by applying coastal engineering design methods and results gathered from both numerical and physical models. The features will initially be designed to withstand sea level rise using Ocean Protection Council's 2024 Sea Level Rise Guidelines (or other latest best available science) with the ability to augment them in the future to withstand higher sea levels if needed. This can be achieved by raising the reef and dune crest elevations or adding larger stones to the reef and more sand to the beach and dunes. In the long-term, the City is committed to monitoring the multi-purpose reef structure and widened beach if implemented. Beach elevation profiles behind the structure will be taken to monitor beach performance. Maintenance of the structure will take place on an as-needed basis.

5. Project delivers multiple benefits and significant positive impact.

The project will assist the City in planning a sand retention solution to address critical shoreline erosion. Benefits of the proposed reef structure and widened beach include long term coastal resilience in San Clemente; widening of the sandy beach, enhanced recreational opportunities for visitors and residents; additional rocky intertidal and subtidal habitat; sandy beach habitat for least terns, western snowy plovers, and grunion; and economic resiliency for the City which relies heavily on coastal visitors.

6. Project planned with meaningful community engagement and broad community support.

Throughout the course of the Feasibility Study (2022-2025), an extensive public outreach and feedback program accompanied the development of concept design alternatives. This was achieved through both public meetings and with focused stakeholder groups forums to assess the general reception of concepts, obtain feedback for refinements based on community and stakeholder requests, and integrate outside ideas into the designs. Focused stakeholder groups included the Orange County Transit Authority, Surfrider Foundation, Bring Back Our Beaches

community group, Save Our Beaches community group, the North Beach Community Association, and the Capistrano Shores Manufactured Homes Association.

Seven presentations and/or meetings at San Clemente City Hall were held since the initial design concept ideas were drafted in that effort to garner as much community engagement in the Feasibility Study as possible. Focused stakeholder group meetings generally incorporated an open-discussion presentation with concept designs presented in virtual and large-print format for markup by the group. This feedback was incorporated into the development and selection of the conceptual designs that moved forward. Overall, the outreach process identified strong public support for large-scale City-wide beach nourishment as well as multi-purpose reef sand retention features, specifically shore parallel retention structures in the locations selected for the conceptual designs. Continued public outreach and engagement will occur during the project through an iterative process of feedback and project refinement. The City and project team will continue to collaborate with focused stakeholder groups and hold regular public meetings as the process moves from concept through to implementation. Additionally, the project will include outreach to visitors from disadvantaged communities to San Clemente beaches.

PROJECT FINANCING

Coastal Conservancy	**$2,000,000**
Project Total	**$2,000,000**

Conservancy funding is anticipated to come from a Fiscal Year 2023/24 appropriation from the General Fund to the Conservancy to address "urgent sea-level rise adaptation and coastal resilience needs using nature-based solutions or other strategies" (Budget Act of 2023, Chapter 12, Statutes of 2023 (SB 101) as amended by Chapter 38, Statutes of 2023 (AB 102)). The project is consistent with this funding source because the project will advance planning for a sand retention project at North Beach in San Clemente to design a solution to address critical coastal erosion caused by sea-level rise, and that will increase coastal resiliency, enhance wildlife habitat, and protect public infrastructure.

Unless specifically identified as “Required Match,” the other sources of funding and in-kind contributions described above are estimates. The Conservancy does not typically require matching funds or in-kind services, nor does it require documentation of expenditures from other funders or of in-kind services. Typical grant conditions require grantees to provide any funds needed to complete a project.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The project is consistent with Division 21, Chapter 3, Section 31113 of the Public Resources Code, which establishes the Climate Ready Program and authorizes the Conservancy to address impacts and potential impacts of climate change on resources within the Conservancy’s jurisdiction (Section 31113(a)).

Under Sections 31113(b) and (c), the Conservancy may award grants to public agencies to undertake projects that address sea level rise and other coastal hazards that threaten coastal

communities, infrastructure, and natural resources. Consistent with Section 31113(b), this is a planning project that will address sea level rise and beach and bluff erosion. Consistent with the Section 31113(c)(2) this project will maximize public benefits and reduce flood risk and enhance fish and wildlife habitat through planning for a multi-benefit, emergent breakwater that will potentially support rocky reef habitat and beach nourishment, which will support coastal dune habitats in the future. Consistent with Section 31113(d)(1)(A-B), the project prioritizes natural infrastructure to help a coastal community adapt to climate change by designing an emergent breakwater that could mimic natural rocky reef systems to adapt to climate change, and provides multiple benefits including long term coastal resilience in San Clemente – widening of the sandy beach, enhancing recreational opportunities for visitors and residents, restoration of sandy beach habitat for wildlife, and economic resiliency for the City.

CONSISTENCY WITH CONSERVANCY'S 2023-2027 STRATEGIC PLAN:

Consistent with **Goal 4.1 Sea Level Rise Adaptation Projects**, the proposed project will develop project plans for a multi-benefit, emergent breakwater combined with beach nourishment for shoreline protection against sea level rise.

CEQA COMPLIANCE:

This project consists of preparing technical studies, an alternatives analysis, preliminary designs, and outreach and engagement. Thus, the project involves only data gathering, resource evaluation, planning, and feasibility analyses for possible future actions that have not yet been approved or funded. These activities are statutorily exempt from review under the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations Section 15262, which exempts planning and feasibility studies for possible future actions that have not yet been approved, adopted, or funded and categorically exempt under Section 15306, which exempts data collection and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource. The project will consider environmental factors and will not cause a serious or major disturbance to an environmental resource.

Upon approval of the project, Conservancy staff will file a Notice of Exemption.