

Appendix G  
Ongoing and Anticipated Projects

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# Ongoing and Anticipated Projects

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## Introduction

Existing and anticipated coastal resilience projects were identified the County of Orange (County) and stakeholders and are shown in Figure 1. A short description of each project is provided in the following sections in geographical order from north to south.

## Dana Point Harbor Revitalization Project (DPHP)

Dana Point Harbor Partners, LLC (DPHP), entered into an agreement with the County to operate and redevelop Dana Point Harbor. DPHP is a public-private partnership that includes three real estate development firms: Burnham Ward Properties for commercial redevelopment, Bellwether Financial Group for marina operations, and R.D. Olson Development for hotel redevelopment. Dana Point Harbor is a recreational and commercial marina providing recreational facilities. Periodic maintenance dredging has occurred every 7 to 10 years and is a potential sand source, as described in Section 7.2 of the *South Orange County Regional Coastal Resilience Strategic Plan*.

## West Breakwater Repair (USACE)

The West Breakwater of Dana Point Harbor requires repair to restore the structural integrity and full functionality of the protective breakwater (USACE 2014). Access dredging is required to facilitate the mobilization and use of equipment needed to conduct repairs to the West Breakwater. As currently planned, up to 45,000 cubic yards (cy) would be removed from the Main Channel and West Anchorage of the harbor and placed in the nearshore area to the east of the harbor entrance, offshore of Doheny State Beach (USACE 2023). This project is scheduled to begin in October 2024. Beneficial reuse of dredge material is a potential sand source.

## San Juan Creek Channel (OC Public Works)

As mentioned previously, the lower portion of San Juan Creek was channelized into a concrete-lined trapezoidal channel in the 1960s by the U.S. Army Corps of Engineers (USACE) for flood protection purposes. Historically, fluvial sediment from San Juan Creek that blocked the creek mouth was excavated and placed on Doheny State Beach. The San Juan Creek Stabilization Project aims to stabilize the bed of the San Juan Creek from the ocean to the I-5 crossing as well as the lower Trabuco Creek and provide a 100-year level flood protection. San Juan and Trabuco creeks have suffered from severe sediment degradation as a result of entrainment and urbanization of the watershed. The project would widen the creek to convey the 100-year storm event and at the same time install a number of grade-stabilization structures to prevent ongoing channel incision. The project would be designed to allow the free passage of steelhead through the incorporation of fish

pass structures on all grade stabilizers. The project is currently still in the design and modeling phase and is anticipated for construction in 2030.

### **Doheny Ocean Desalination Project (SCWD)**

The South Coast Water District (SCWD) is planning the Doheny Ocean Desalination Project. The desalination plant with a capacity of 5 million gallons per day would be located on a 30-acre property along the east side of San Juan Creek. Brine wastes from the desalination process would be discharged to the ocean approximately 6,000 feet offshore of Doheny State Beach via the existing South Orange County Wastewater Agency ocean outfall pipeline from the J.B. Latham Wastewater Treatment Plant. The Doheny Ocean Desalination Project is currently in the planning and permitting stage and completion of the facility is anticipated for 2028.

### **Serra Siding Extension Project (Metrolink and OCTA)**

Metrolink, in coordination with the Orange County Transportation Agency (OCTA), is proposing the Serra Siding Extension Project to replace the existing single-track bridge with two single-track bridges in Dana Point. The 1.2-mile siding track would be constructed adjacent to the existing main track from Victoria Boulevard to Beach Road, which runs along Doheny State Beach. The two-track system would improve operational efficiency of passenger services by reducing train delays and increase safety. This project is in the environmental review and preliminary design phase, and a time frame to release the draft environmental document has not been established.

### **Surfside Inn Pedestrian Bridge (OC Public Works)**

Orange County Public Works (OC Public Works) is planning to upgrade or replace the existing Surfside Inn Pedestrian Bridge. The project is located approximately 1 mile south of Dana Point Harbor. The existing bridge spans over the existing railroad and provides pedestrian access from Pacific Coast Highway to Doheny State Beach. The project is currently on hold until a long-term plan to address erosion is in place.

### **Opportunistic Sand Placement at Capistrano Beach**

The County and California Department of Parks and Recreation (State Parks) have begun work on a joint project at Capistrano State beach and the southern portion of Doheny State Beach. Approved by the California Coastal Commission (CCC), construction began in June 2023 to counter coastal erosion and enhance recreation area at the beach. This project includes the transportation of 45,00 cy of clean sand from the Santa Ana River for placement along approximately 2,000 feet of linear beach.

## **Capistrano Beach and Doheny Beach Nature-Based Coastal Resilience Pilot Project (OC Parks and California State Parks)**

Capistrano Beach Park has been damaged by coastal storms and public spaces and facilities are at risk at being lost. The Orange County Parks Department (OC Parks) conducted the Nature-Based Pilot Project Feasibility Study to assess the feasibility of a nature-based approach to shoreline stabilization and enhancement. Two different pilot projects were evaluated, one at the north end and one at the south end of Capistrano Beach Park. Project components included cobble berm, living shoreline (buried cobble berm or vegetated dunes), landward relocation of park infrastructure, beach nourishment, and sandbags or sand cubes. These project components were evaluated at both locations. The North Reach Pilot Project was identified as the preferred project with the following key components: cobble berm, sand berm, vegetated sand dune, beach access paths, and sand fencing (OC Parks 2021).

On November 15, 2022, the CCC approved the plan to implement a nature-based adaptation pilot project along approximately 1,150 feet of beach along both Capistrano County Beach and Doheny State Beach. A fronting beach sand berm will cover the naturally occurring cobble, enhancing wave energy dissipation and reflection to provide flood protection from wave overtopping and future sea level rise projections. A vegetated sand dune will raise the shoreline elevation to minimize inland flooding and capture wind-blown sand to increase the protection effectiveness and enhance the natural flora and fauna habitat. Timing for project implementation is dependent on funding. Grant applications have been submitted for Federal Emergency Management Agency (FEMA), Building Resilient Infrastructure and Communities, National Fish and Wildlife Foundation, and Division of Boating and Waterways funding opportunities.

## **San Clemente Beach Nourishment Project (USACE and City of San Clemente)**

The City of San Clemente approved a project partnership agreement with USACE and State Parks for the San Clemente Beach Nourishment Project, which is anticipated to start in fall 2023 or Winter 2023/2024. The USACE feasibility study (2012) evaluated 10 reaches along the City of San Clemente coastline from Poche Beach to Cotton's Point. In late 2023, this beach nourishment project will initially place approximately 251,000 cy of sand for beach nourishment from Linda Lane Park to T-Street Beach. The beach nourishment area will create a new beach area that is 3,700 feet long and 50 feet wide. Eight renourishment events would occur approximately every 6 years (251,000 cy for the first seven renourishments and 84,000 cy for the eighth renourishment events). The total quantity of sediment required over the 50-year project lifespan through 2073 is approximately 2.1 million cy. Sand will be sourced from north of Oceanside Harbor at Borrow Site 2A using hopper dredging equipment and transported 21 miles to San Clemente. A pipeline will be used to pump the sand from the hopper dredge to the beach. Bulldozers and front-end loaders will be used to spread and rework

the sand placed on the beach. The project would reduce coastal storm damages, eliminate the need for seawall construction to protect the railroad, and increase recreational benefits (USACE 2012) by restoring a wide sandy beach.

### **Nature-Based Adaptation Project Feasibility Study and Shoreline Monitoring Program (City of San Clemente)**

The City of San Clemente completed a Coastal Resiliency Plan in December 2021 and has initiated efforts to begin adaptation projects to advance coastal resiliency in the city. A key goal of the Coastal Resiliency Plan is the protection of public beach, which serves as a natural shoreline protective buffer. The City of San Clemente received a grant to fund the Nature-Based Adaptation Project Feasibility Study from the CCC through their Local Coastal Program Planning Grant program. This study focuses on identifying critical erosion hot spots and opportunities to develop nature-based or green infrastructure pilot projects or strategies. Pilot projects could provide multiple benefits such as sand retention and ecosystem benefits. The City of San Clemente anticipates pilot projects that are environmentally friendly, financially feasible, and approvable through the regulatory permitting process. Possible pilot projects include a sand engine nourishment project, living shoreline, coastal dune system, and cobble berm structure. The study will also facilitate key recommendations from their Land Use Plan and Sea Level Rise Vulnerability Assessment. The Nature-Based Adaptation Project Feasibility Study is being conducted and is expected to be completed by 2025. The City of San Clemente has also re-established their Shoreline Monitoring Program to document and establish baseline conditions of public beaches in South Orange County from 2022 to 2025, as noted previously.

### **San Clemente Opportunistic Beach Sand Replacement Program (City of San Clemente)**

The City of San Clemente previously conducted two opportunistic beach fill projects, which placed 5,000 cy at North Beach in 2005 and 12,000 cy in 2016 with material trucked from a Santa Ana River sediment-clearing operation. The beach fill projects were conducted under separate Coastal Development Permits for a 5-year opportunistic beach sand replenishment program. As part of the efforts for the City of San Clemente to advance coastal resiliency, the city is evaluating the benefits of re-establishing the Opportunistic Beach Sand Replacement Program alone or in conjunction with the County.

### **Railroad Revetment Repair (OCTA and Metrolink)**

Due to the lack of sand, portions of the Los Angeles-San Diego-San Luis Obispo Rail Corridor (LOSSAN Corridor) have been directly exposed to storm waves resulting in erosion along the railroad ballast. Unengineered riprap rock has been placed in segments along the seaward side of the railroad to protect the railroad ballast and tracks. Riprap repairs from storm wave damage

(i.e., adding additional rock) is conducted on an as-needed basis. Visual inspections of the railroad track and riprap protection for damage are also made following extreme high tides and storm conditions. OCTA currently has a Coastal Development Permit for emergency riprap placement.

### **San Clemente Track Stabilization Project (OCTA and Metrolink)**

OCTA and Metrolink have recently completed the installation of ground anchors/tiebacks into bedrock at the base of the coastal bluffs in southern San Clemente near Cyprus Shore. The ground anchors are designed to stabilize a landslide causing movement of the railroad tracks. This emergency repair project has a preliminary projected cost of \$12 million and is being funded by \$6 million from the State Transportation Improvement Program (Caltrans declared a state transportation emergency and allocated \$6 million for the track stabilization project) and \$6 million from the Surface Transportation Block Grant.

The San Clemente Track Stabilization Project constructed two rows of steel ground anchors drilled into bedrock along an approximately 700-foot section of the coastal bluffs in the vicinity of the Avenida de Las Palmera beach access. The first row of 104 ground anchors was installed and secured in January 2023, and the second row of 114 ground anchors was installed in March 2023.

### **South Coast Rail Infrastructure Study and Rail Planning Efforts (OCTA)**

OCTA will initiate a feasibility study in fall 2023 on the LOSSAN Corridor to study beach erosion along Dana Point, San Clemente, and unincorporated areas. OCTA plans to analyze a range of options to protect the railroad corridor in place in the near term (in the next 10 years; i.e., 2024 to 2034) and midterm (in 10 to 30 years; i.e., 2034 to 2064). It is envisioned that the feasibility study will consider a variety of solutions including riprap, revetments, seawalls, and breakwaters, as well as soft solutions, such as beach sand nourishment (with and without sand retention devices), dune restoration, cobble beaches, and hybrid solutions (e.g., cobble and sand beach and dune with buried revetment/seawall). OCTA will seek input from the public and stakeholders during a multiyear study and public engagement process.

OCTA is also planning to conduct additional studies to evaluate additional longer-term options for an 11-mile segment of the railroad corridor including an assessment of potential inland alignments of the rail corridor from San Mateo Creek in the south to San Juan Capistrano in the north, building on data and analysis generated by the previously prepared LOSSAN Environmental Impact Report/Environmental Impact Statement.

### **References**

OC Parks (County of Orange Parks Department), 2021. *Capistrano Beach County Park Nature-Based Pilot Project Feasibility Study Report*. Prepared by Moffatt and Nichol. June 2021.

USACE (U.S. Army Corps of Engineers), 2012. *San Clemente Shoreline Feasibility Study Orange County, California*. U.S. Army Corps of Engineers, San Clemente, California.

USACE, 2014. *Comprehensive Condition Survey and Storm Waves, Circulation, and Sediment Study, Dana Point Harbor, California*. U.S. Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory TR-14-13. December 2014.

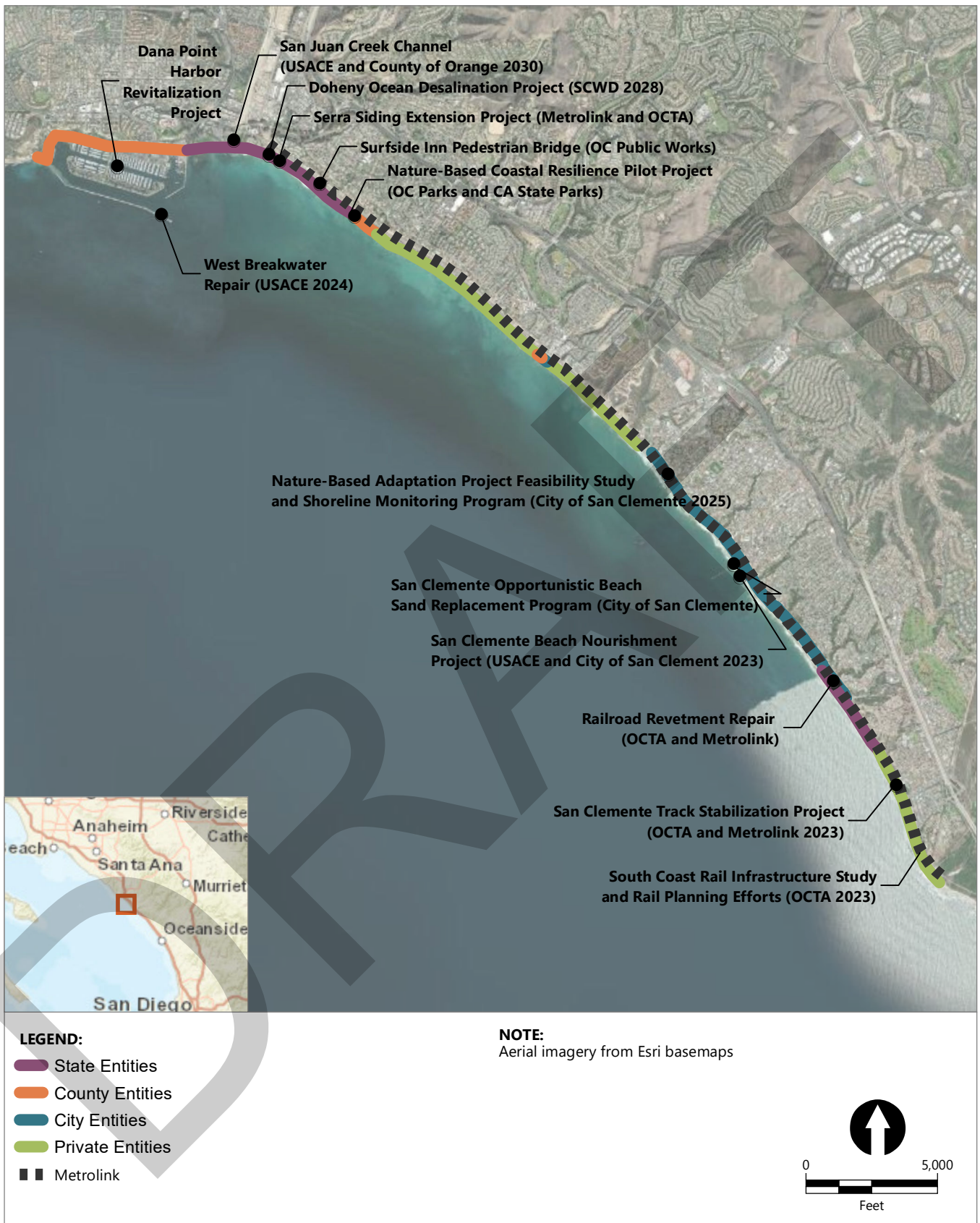
USACE, 2023. *Sampling and Analysis Plan Results Report: Dana Point Harbor 2022 Environmental and Geotechnical Investigation*. Prepared by Diaz-Yourman and Associates, GeoPentech, and Kinnetic Laboratories Joint Venture. February 2023.

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