

PROJECT PROFILE

Project Basics

Project Name: Santa Clara River and Coast Project

Installation Date: Ongoing

Product Type: Falcon Anchor F80-X-Z, North American Green VMax P550, and ShoreMax Transition Mat

Project Location: Santa Paula, CA

Project Overview

The Santa Clara River flows from Acton, CA to the Pacific Ocean near Oxnard. The problems began in January of 2005 when the rain-soaked Santa Clara River, running parallel to an airport, eroded a jetty adjacent to the runway. Without the jetty the runway was exposed and at risk for structural failure. In February 2007, the river rose again and took with it 155 feet of the 2,650-foot runway, resulting in more than \$5 million in damage.

Officials came to the aid of the airport by helping the owners obtain a grant from the Natural Resources Conservation Service (NRCS) to pay for repairs to the riverbank. As the Santa Clara River is one of the last relatively unaltered rivers in southern California, its restoration and conservation became a high priority area. Specifically as the river hosts diverse habitats supporting 18 threatened or endangered species including riparian dependent bird species, terrestrial wildlife, anadromous fish and rare plants.

All told, this project would be under the jurisdiction of the Santa Clara River and Coast (SCRC) project area, and would need to account in its project scope the restoration of habitat for biodiversity recovery and critical ecosystem services, including floodplain connectivity, in-stream flows, groundwater recharge, carbon sequestration, wildfire risk reduction and sea level rise adaptation. Additionally, the repair needed to restore hydrological function and habitat connectivity while planning for future functionality in the face of a changing climate.

Mission

To achieve the vision a 10-year mission was developed: Conserve and restore the unique ecosystems of the SCRC Project Area to build overall climate resilience and connect people with nature by promoting conservation and stewardship.



Progression of the installation of a permanent erosion control system on the Santa Clara River riverbank slope stabilization project.



PROJECT PROFILE cont.

Restoration

Results of existing studies emphasized the need to seek opportunities for restoring the largest floodplain area possible by acquiring adjacent floodplain properties and setting back contiguous levees to a slope angle effective at minimizing flood risk. Using materials and an over-arching system that would bolster vegetation and habitat establishment were also priorities. When it came to erosion control and surface habitat restoration, permanent erosion control products were analyzed to protect against the hydraulic forces. The Project Engineer contacted Triumph Geosynthetics in Anaheim, CA for an erosion control solution. A multifaceted solution was developed utilizing North American Green permanent turf reinforcement mat: VMax P550, a flexible scour protection product: ShoreMax Transition Mat, and the Falcon Anchor Systems ground anchors: F80-X-Z percussion driven anchors.

Installation

North American Green P550 was installed on the north side of the streambank slope with rebar staples to secure the matting. The ShoreMax transition mat was then placed to cover the P550 on the toe of the slope to normal water mark. The Falcon F80-X-Z anchors were then installed across the entirety of the slope driven to a 3 ft. depth that would create surface and subsurface structural slope stabilization. The channel was backfilled with soil per engineered specifications. The site was not actively vegetated, but because of the nature of the product system, will naturally vegetate with native species as the site ages.



Performance

Since installation, the completed erosion control system including the North American Green P550, ShoreMax, and Falcon F80-X-Z anchors have prevented the area from erosion events, and have set up the area for protection against future storm events. Additional phases of stabilization are expected as the 10 year mission of the SCRC project area continues.



ShoreMax mat installed at toe of slope with ground anchors (left), Permanent P550 TRM placed on slope surface and anchored with PDAs for upper slope stabilization (right).



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