Project

Haley & Aldrich increases flood channel capacity with durable, cost-effective infrastructure

Summary

- The Alameda County Flood Control and Water Conservation District needed to upgrade its Laguna Creek flood channel to handle more stormwater and meet Federal Emergency Management Agency (FEMA) 100-year flood control criteria.
- As the county's trusted on-call advisor, we completed a geotechnical study for the project, then managed the civil and structural design.
- Our solution incorporated concrete floodwalls located along the district right-of-way with a smaller footprint than the existing levees, which increased channel capacity.
- The floodwalls and other infrastructure also provided more durable, cost-effective maintenance access.

Client challenge

HALEY ALDRICH

The Alameda County Flood Control and Water Conservation District in Northern California needed to upgrade its Laguna Creek flood control channel to handle more stormwater. This change would better protect local communities, meet FEMA's 100-year flood control criteria, fit within a constrained corridor, maintain access for inspection and maintenance, and work with other city stormwater infrastructure.

Haley & Aldrich had long-term experience in Northern California and as an on-call partner for Alameda County. The county trusted us to design a solution that would meet its needs while delivering within budget and on schedule.

Our approach

The Haley & Aldrich team initially completed a geotechnical study for the project, then managed the civil and structural design throughout bidding and construction. Ultimately, we oversaw a solution that increased capacity in the limited space available as we worked with the contractor to deliver ahead of schedule and within the district's budget.

The existing Laguna Creek channel had wide earthen levees that were vulnerable to erosion. Our solution replaced the levees with concrete floodwalls and an articulated concrete block maintenance corridor, which had a smaller footprint and therefore allowed more stormwater to flow through the channel.

In addition to increasing the capacity of the channel with more durable floodwalls, our team modified existing city stormwater infrastructure to handle the increased capacity. Our design also incorporated three cost-effective bridges providing maintenance access to a district storage area.

Value delivered

- Increased channel capacity, helping Alameda County protect its residents from flooding and meeting FEMA's requirements.
- Provided durable erosion protection and long-term maintenance access using articulated concrete block and cost-effective bridge crossings.
- Supported construction efficiency — the contractor reduced the schedule from three seasons to two.

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