BAY AREA INFRASTRUCTURE

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SFO LONG TERM PARKING GARAGE NO. 2

Location: South San Francisco, California
Client: DLR Group | Kwan Henmi, Nibbi Brothers
Architect: DLR Group | Kwan Henmi
Services: Geotechnical, Earthquake/Seismic

OVERVIEW

As part of the San Francisco International Airport (SFIA) strategic plan to increase long-term parking capacity, SFIA is adding more than 3,000 long-term parking spaces for travelers. Langan provided geotechnical engineering services through design and construction for the new Long Term Parking Garage No. 2, a multi-level above ground parking structure within the Airport's Lot DD.

VTA PARKING STRUCTURES - MILPITAS & BERRYESSA STATIONS

Location: Milpitas, CA
Client: Santa Clara Valley Transportation Authority
Services: Geotechnical

OVERVIEW

Langan is providing geotechnical engineering services for two parking structures at Milpitas and Berryessa stations. The two individual projects each include the construction of a 1,200-space, 432,500 GSF structure constructed with cast-in-place, post-tensioned concrete beams and slabs. The Milpitas Station parking structure will be a 6-level at-grade structure. The Berryessa Station parking structure will be a 3-7 level at-grade structure. Both sites are underlain by clay with interbedded layers of sand.

GOLDEN GATE BRIDGE, NORTH APPROACH VIADUCT SEISMIC RETROFIT

Location: San Francisco, CA
Client: Balfour Beatty Construction
Services: Geotechnical

OVERVIEW

Langan provided geotechnical services during the seismic retrofit of the north approach viaduct of the Golden Gate Bridge. The retrofit included replacing the four steel towers, which supported the approximately 1000-foot-long, six-lane-wide north viaduct approach.

CARQUINEZ SUSPENSION BRIDGE

Location: Crockett, California
Client: Department of Transportation
Services: Geotechnical

OVERVIEW

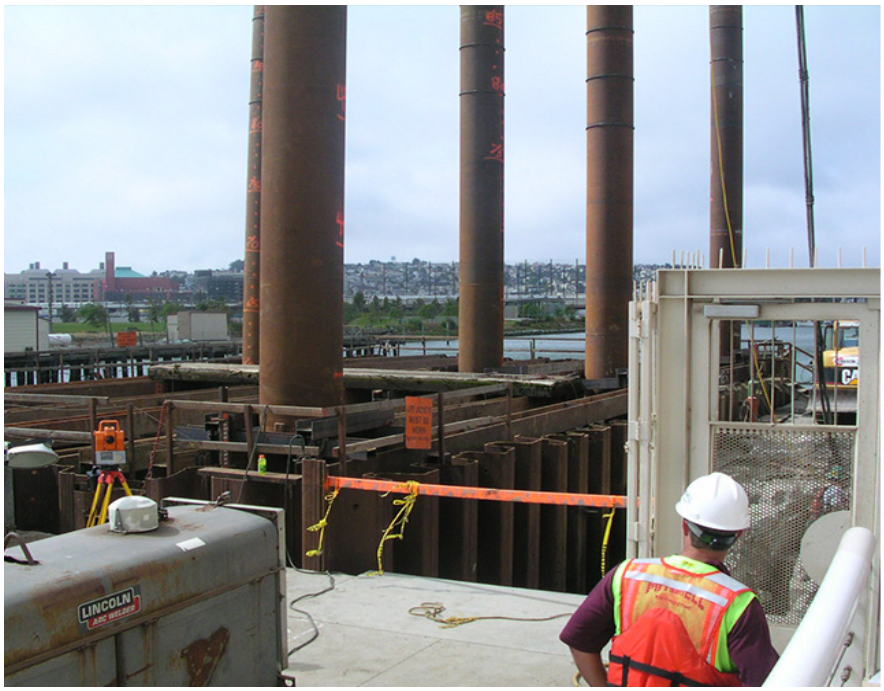
Langan provided geological and geotechnical services for the new Carquinez suspension bridge constructed just west of the existing southbound bridge. The work was performed for the California Department of Transportation (Caltrans).

LAMBERT BRIDGE REPLACEMENT

Location: Sonoma County, California
Client: OPAC Consulting Engineers
Services: Geotechnical, Earthquake/Seismic

OVERVIEW

Langan provided geotechnical services for a new 240-foot pre-stressed concrete open spandrel arch spanning Dry Creek to replace a historical pinned through truss bridge. The new bridge will provide two 11-foot lanes with two 3-foot shoulders, replacing the 16-foot wide single lane bridge. We developed foundation recommendations and seismic design parameters in accordance with Caltrans Standards.



MISSION BAY INFRASTRUCTURE

Location: San Francisco, California
Client: Mission Bay Development Group
Services: Geotechnical

OVERVIEW

Langan is the geotechnical consultant for the majority of the public infrastructure improvements within Mission Bay - a 303-acre redevelopment. Projects neighborhood parks, utilities that tie into the existing City and County of San Francisco utility system (including replacement and rerouting of a 66-inch sanitary sewer force main), new roadways and sidewalks, parks, foundations for light poles and Muni Light Rail System power poles, temporary and permanent pump stations, and jack-and-bore pits under existing roadways.

PINE HILL ROAD BRIDGE REPLACEMENT

Location: Eureka, California
Client: SHN Consulting Engineers & Geologists, Inc.
Services: Earthquake/Seismic

OVERVIEW

Pine Hill Road Bridge crosses over Swain Slough and is a 63-foot long three span timber bridge built in 1955. After being identified as structurally deficient by Caltrans and the Federal Highways Administration, the bridge was replaced with a 70-foot-long reinforced concrete bridge in accordance with the Caltrans Seismic Design Criteria Version 1.7. Since site-specific determination of ground motions was required for design of the new bridge, Langan performed a ground response analysis.

PENITENCIA WATER TREATMENT PLANT

Location: San Jose, California
Client: Santa Clara Valley Water District
Architect: Winzler & Kelly
Services: Geotechnical

OVERVIEW

The Penitencia Water Treatment Plant (PWTP) is owned by Santa Clara Valley Water District. The existing PWTP was built in 1974 and has recently undergone extensive reconstruction. The site is underlain by a deep landslide. Plans are to construct a 3,535 SF, single-story maintenance building that will be made of lightly loaded concrete block or masonry unit. We developed foundation design criteria for the maintenance building and evaluated the potential for geologic hazards such as landslides.