



# Outfall Tunnel

## Sanitation Districts of Los Angeles County

**Location:** Los Angeles, California

**Date:** 2020 - 2021

**Structure:** TBM Starter/Tail Tunnel

**Length:** 6.9 miles TBM/60 feet SEM (each)

**Cross-Section:** 23' x 23' ovoid

**Geology:** Lakewood Formation sands

**Cost:** \$630 Million

**Client:** Dragados USA

**Owner:** Sanitation Districts of Los Angeles County



Figure 1. Completed Tail Tunnel top heading.

### Management of Implementation of SEM Excavations:

The County Sanitation Districts of Los Angeles County are planning to add a third treated-effluent outfall tunnel to the two existing outfall tunnels transporting secondary effluent from the Joint Water Pollution Control Plant (JWPCP) in Carson, California to the existing ocean outfall. The new tunnel, referred to as the JWPCP Effluent Outfall Tunnel will be about 6.9 miles long with 18-foot finished internal diameter tunnel constructed with a TBM. The TBM will be launched from a shaft. To create more space for the TBM assembly, the Contractor selected to construct a SEM Starter and Tail Tunnel at the bottom of the launch shaft.

Gall Zeidler Consultants (GZ) provided onsite service with SEM Engineer and SEM Superintendents to manage implementation of the SEM excavation and installation of the shotcrete initial lining in the Starter and Tail Tunnels. Moreover, GZ was responsible for interpretation of monitoring data and geotechnical consulting.



Figure 2. Bench excavation of Tail Tunnel viewed from Starter Tunnel.