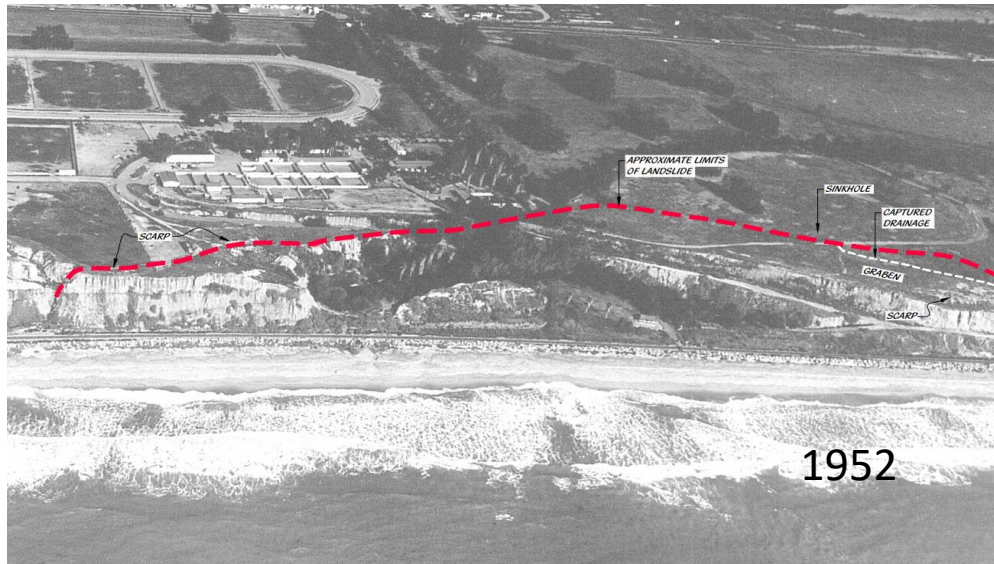


Historical Conditions



Recent Conditions



September 2021 & 2022
Beach erosion and activation of
ancient landslide



November 2022
Beach erosion continues north
of landslide area

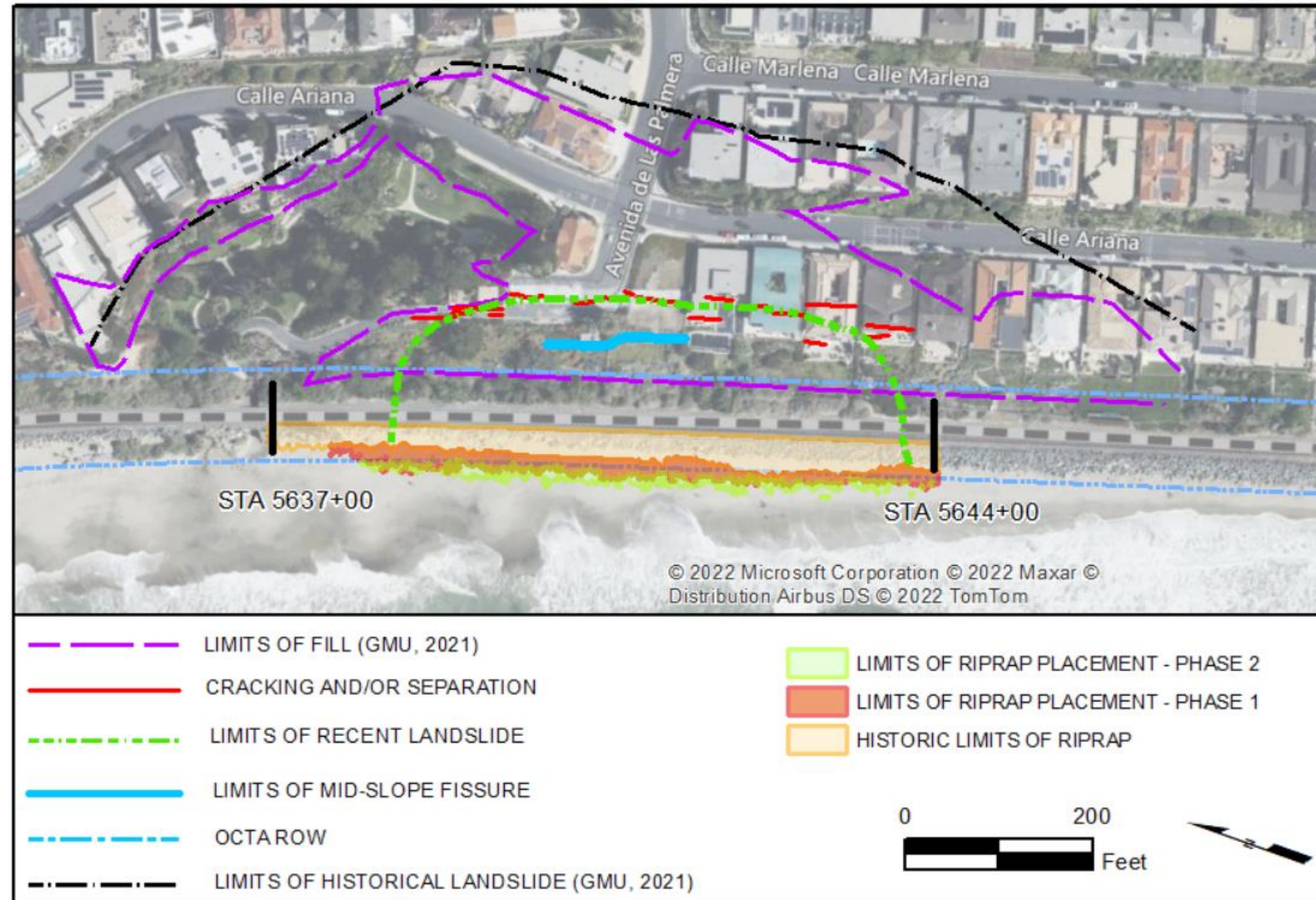
Landslide Background

- September 2021

- Significant beach erosion activated historical landslide
- Tracks moved +28-inches laterally toward ocean
- Passenger train service suspended to stabilize tracks
- Placed +18,000 tons of riprap along 700 feet of track (counteracts mass of slide)
- Monitoring track and slope movement

- September 2022

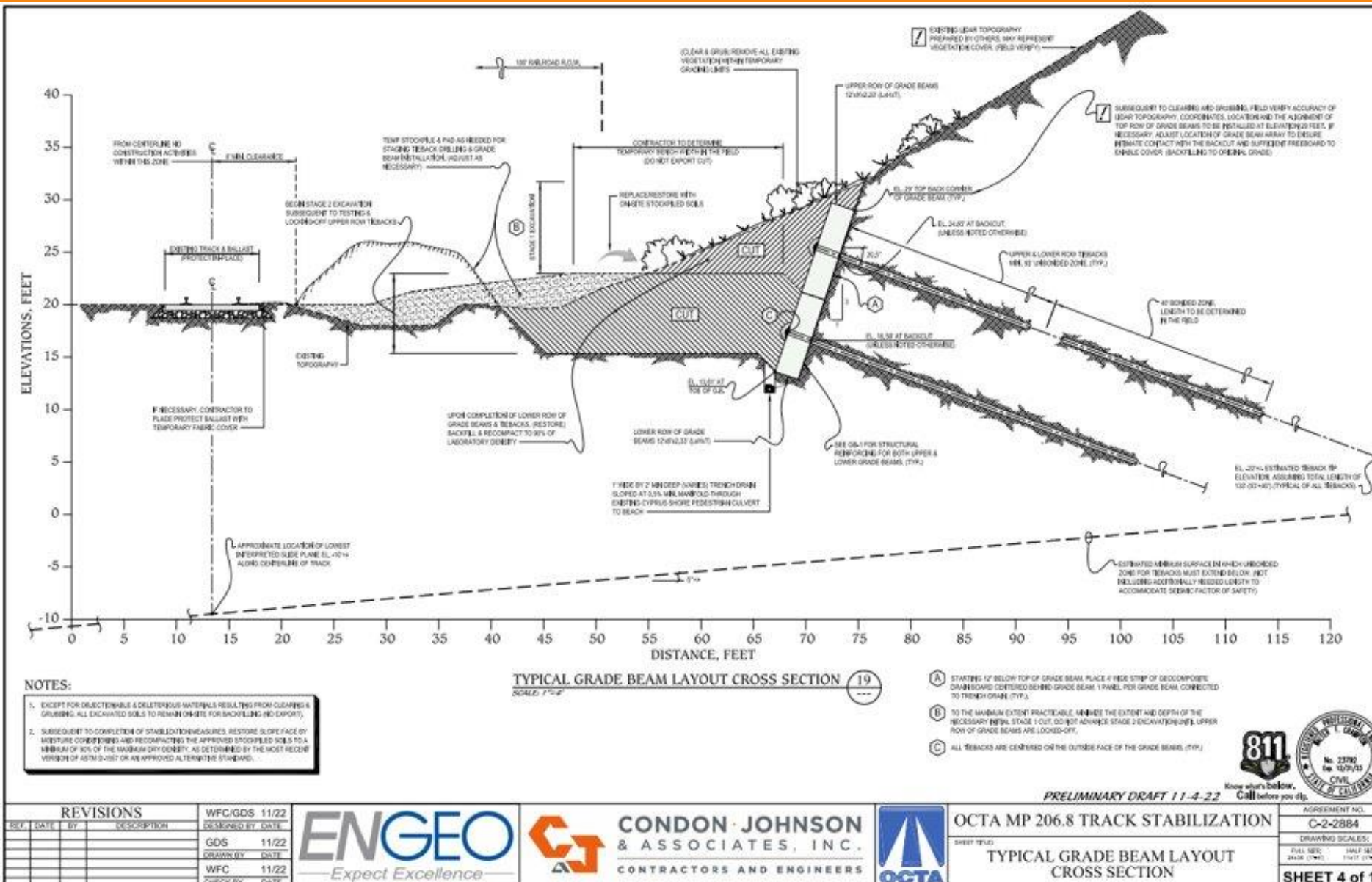
- Additional slope movement due to high tides, waves, and storm surge
- Placed more riprap
- Operating speed reductions
- Assessment of slope movement indicates larger mass of historic slide is beginning to move
- Passenger train service suspended due to continued incremental movement
- Assessed alternatives to stop slide movement



Actions To Date

- October 3, 2022
 - OCTA Board of Directors adopted Resolution No. 2022-075 and authorized the Chief Executive Officer to take all necessary actions to address the emergency need for railroad track stabilization.
 - Executed contract with Leighton Consulting to provide third-party independent geotechnical engineering review of stabilization plan and tieback system design.
- October 14, 2022
 - Executed contract with Condon-Johnson & Associates (CJ) for design and construction of a tieback system to stabilize the slope. CJ began early mobilization and ordered tieback material.
- October 24, 2022
 - All Possession and Use Agreements with private property owners executed for immediate access to and possession of certain surface and subsurface portions of the effected properties where construction will occur.
- November 4, 2022
 - CJ completed clearing and grubbing of tieback construction area. Constructed grade beam test panels in Basilone yard.
- November 10, 2022
 - Began excavation of slope where upper row of grade beam panels and drilling will take place (expected to take up to a week).
- November 11, 2022
 - Final design of tieback system reviewed and approved.

Tiebacks/Grade Beam Section and Elevation



- 220 Tiebacks
- 110 Grade Beam Panels

Completed and Upcoming Activities

Activity	Estimated *
Excavate for 1st level anchors (Completed)	November 15, 2022
Construct 1st level grade beam panels (Completed)	November 15 – December 30, 2022
Install 1st level tiebacks (Completed)	November 21 – December 23, 2022
Test 1st level tiebacks	December 2, 2022 – January 17, 2023
Excavate for 2nd level anchors	January 18 – February 7, 2023
Construct 2nd level grade beam panels	January 25 – February 20, 2023
Install 2nd level tiebacks	February 6 – February 21, 2023
Test 2nd level tiebacks	February 10 – March 3, 2023
Construction closeout	March to July 2023
Regulatory permitting	Ongoing

**Dates are preliminary and subject to change*

Costs Update

- CJ Design-Build base contract: \$6,440,000
 - Construction Change Order (CCO) #1: \$700,602
 - Clear and grub operations, Stormwater Pollution Prevention Plan and implementation, spoils export, water source, permit, use and pipeline, construction survey, temporary construction access, temporary fencing and signage
 - Other CCO's: \$2,000,000
 - Additional design, testing, and monitoring: \$430,000
 - Extended tieback lengths and additional strands: \$1,300,000
 - Addition of trench drain: \$140,000
 - Soil Nail wall shoring: \$130,000
- Metrolink: \$1,500,000 for flagging and rail operations support
- Leighton Consulting: \$50,000 for third party independent geotechnical engineering review
- HDR Engineering: \$800,000 for project/construction management contract amendment

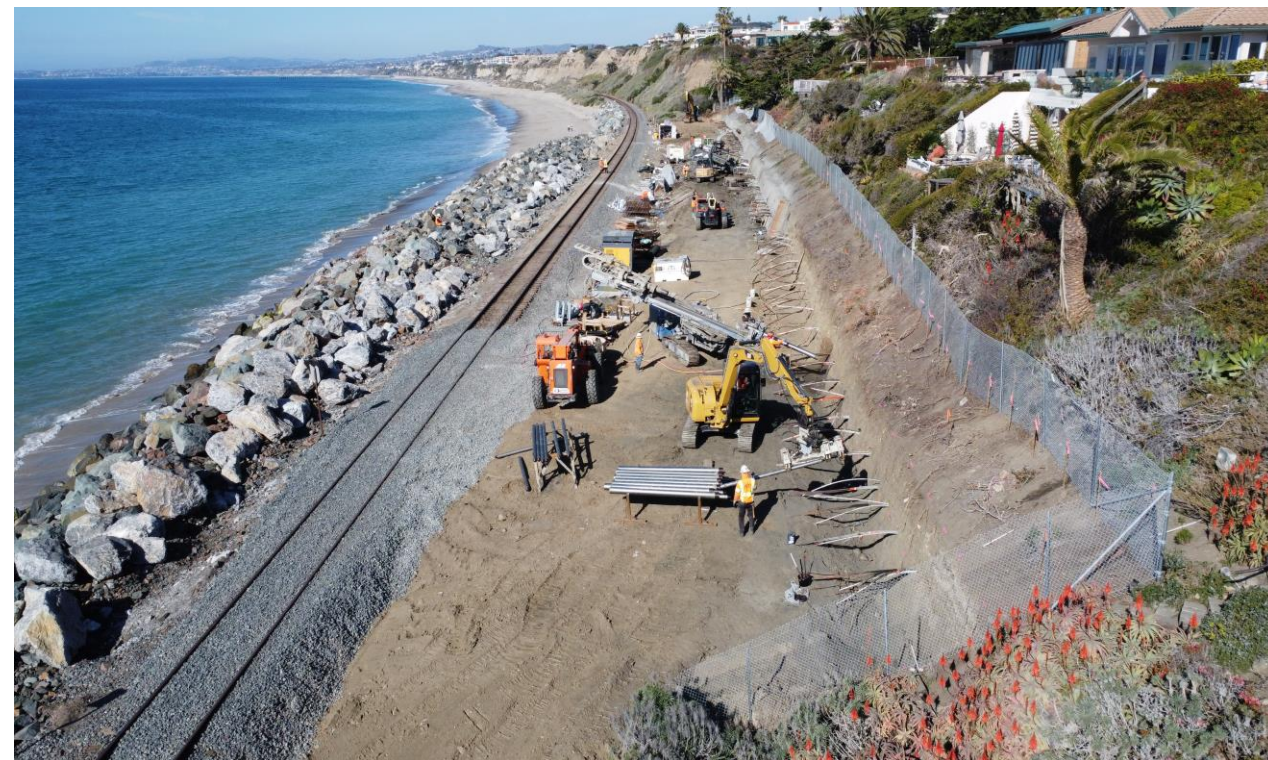
Current estimate of known costs: \$11,491,000

- Costs to-be-determined
 - ROW acquisition (permanent easements)
 - Coastal development permit fees and mitigation costs

Tieback Installation



December 15, 2022



December 19, 2022

First Level Grade Beams and Tiebacks Installed



January 2, 2023