APPENDIX

H

Ground Anchors & Soil Nails

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Case Study- Soldier Pile Wall with Tieback Anchors

Contract No. 04-1S2724  04 - SM - Rte 84 - PM 10.2
Soldier Pile Wall with Tieback Anchors (7.7 km west of Rte 35).
Completed in June 2004. $850,000.00.

Hwy 84 runs through the Santa Cruz Mountains in San Mateo County. The forested hills form a ridge that separates the Pacific Ocean from San Francisco Bay and from Santa Clara Valley. Hwy 84, along with Hwy 1, 9, 17, and 35, are continuously being improved because of unstable slopes and erosion.

Project 04-1S2724 specified a soldier pile wall with tieback anchors. The wall prevents further erosion of the slope adjacent to a creek. The design specified 44 soldier piles with timber lagging. Two rows of tieback anchors are connected to concrete waler. A concrete barrier slab and concrete barrier with chain link fence is on top of the wall.

![Completed Soldier Pile Wall](image_url)

Figure H-1. Completed Soldier Pile Wall
Figure H-2. Soldier Pile Wall – Before and After.
Case Study - Soil Nail Wall

Contract No. 04-1123C4  
04-SM - Rte 1- KP 61.2/62.2  
Soil Nail Wall (South Rock Cut) near Devil’s Slide.  

Description of Work:  
The South Rock Cut Soil Nail Wall project, located in San Mateo County between the City of Pacifica and town of Montara, is part of the overall Devil’s Slide Tunnel and Bridge work.

The large “rock-cut” at the Tunnel’s south portal area is planned to align the highway and to provide adequate site distance. The face of the large rock-cut is designed to match the appearance of existing rock-cuts in the immediate view.

The South Rock Cut wall consists of a soil nail wall. The soil nail wall is composed of two walls separated by a 25m concrete barrier. Total length of walls is 281m (RW No. 2 is 190m long, RW No. 1 is 91m long). The soil nail assembly pay item equals 18,860 meters.

Retaining Wall #2. Shotcrete sculpting at northern end of wall.  

Figure H-3. Soil Nail Wall – Sculpted Facing.
Figure H-4. Soil Nail Wall Construction 1.
Figure H-5. Soil Nail Wall Construction 2.
Figure H-6. Soil Nail Wall Construction 3.