



DSI References



Reference Details

Owner WGW Development, Sumner, WA, USA +++ **General Contractor** SGA Corporation, Shoreline, WA, USA +++ **Contractor** Olson Bros. Excavating, Puyallup, WA, USA +++ **Subcontractor** Northwest Cascade, Inc., Puyallup, WA, USA +++ **Engineers** Theis Engineering, LLC., Helotes, TX, USA

DSI Unit DSI USA, BU Geotechnics, Kent, WA, USA

DSI Scope Delivery of 709 epoxy-coated DYWIDAG #9 Soil Nails and 543 galvanized DYWIDAG #9 Soil Nails



DYWIDAG Soil Nails Allow Construction of Commercial Buildings in Difficult Soil

Canyon Crossing Center, Frederickson, WA, USA

The Canyon Crossing project is located in Frederickson, WA, a rapidly growing suburb of the town of Tacoma, south of Seattle. The project site of approximately 55,000m² will include the construction of a supermarket, six out-parcel buildings and a fueling center. The topography of the site prohibited a project of this size from being constructed without a shoring system. Permanent shotcrete walls with an average height of 14m were constructed along the east and south sides of the area and were stabilized and tied back using DYWIDAG Soil Nails.

A gravel pit previously occupied the project site; consequently, extremely difficult drilling conditions were encountered. Soils generally consisted of 1-2m of fill containing a medium dense mixture of gravel, sand and silt. In addition, the mixture's compression ratio strongly varied in relation to different depths. An unexpected high water table with various impermeable clay lenses added to the special requirements for stabilizing the area.

For stabilizing the shotcrete walls, DSI USA supplied 709 epoxy-coated DYWIDAG Soil Nails for the eastern wall and 543 DYWIDAG Galvanized Soil Nails for the southern wall. The two retaining walls have a surface area of approximately 2,400m². The construction procedure began with the installation of the DYWIDAG Soil Nails. After each row of soil nails were installed and grouted, a 10.2cm thick temporary shotcrete facing was placed at a height of 182cm. The final step of the construction sequence was to place a 20.3cm thick permanent shotcrete face over the entire wall surface. The permanent facing was architecturally carved and textured to resemble natural granite stone.

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