

Shoring/Soil Nailing

Soil nailing, soldier pile & lagging, secant piling, tangent piling, underpinning - All are methods utilized to successfully retain earthen slopes and neighboring structures adjacent to excavations. Each technique has its advantages and not all methods are appropriate for all sites. Soil conditions, ultimate use of the site and its shoring, schedule, and coordination with other operations such as excavation and form work weigh heavily in the selection of the most appropriate technology. Condon-Johnson & Associates (CJA) is pleased to participate in the pre-engineering assessment of a project to assist in the selection of the most appropriate technology.

CJA has consistently introduced new technology into the field of shoring. CJA performed the first soil nailing project in North America in 1976, and was the first to use soil/cement mixing (DMM) methods in earth retention projects. Tiebacks to depths of 270' and excavation and shoring depths of 114' have been achieved. Using the latest operating equipment, CJA continually looks for opportunities to improve this market sector.

Featured Clients

Metro Seattle	City of Seattle
City of San Francisco	Kiewit Construction
City of Cerritos	Bechtel
Bosa Development	CALTRANS-Hwy 1 Jenner
WSDOT	Dinwiddie Hathaway
Swinerton Walberg	Cressey Development
Lease Crutcher Lewis	ODOT
La Jolla High School Expansion Project	Vance Brown Construction
Modern Continental Construction	

In the field

Underpinning and tiebacks Micropiling
Sheet piling Secant/tangent piling
Internal bracing Slurry walls

Associated Technologies

Nailing