

PROJECT CASE STUDY



U.S. CAPITOL VISITOR CENTER, WASHINGTON, DC

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- Location:
Washington, DC
- Owner:
Architect of the Capitol, Washington, DC
- General Contractor:
Centex Construction, Fairfax, VA
- Technique(s) Utilized:
Anchored Diaphragm Wall, Jet Grouting

Background

Nicholson constructed a 130,000-square-foot reinforced diaphragm wall support of excavation system for the new underground U.S. Capitol Visitor Center (CVC). Nicholson also installed 380 linear feet of jet grout wall at the Senate tunnel and central stairs for the extension of a 75-foot-deep water cutoff around and below existing structures. Jet grout columns were installed for the structural connections between the diaphragm wall and the existing structures for support of excavation and ground water control. During the mass excavation of the CVC site, Nicholson installed over 500 temporary anchors, with capacities up to 375 kips. The anchors were installed using the duplex drilling method to minimize ground disturbance and loss under the building foundations.

The Capitol is founded on spread footings placed on dense water bearing granular and cohesive soils. The continuous cutoff created by concrete diaphragm wall and jet grouting surrounding the entire perimeter of the addition was

selected to limit settlement from dewatering during excavation and control movements of this very important building's foundations. The CVC, built underground 50 feet below current grade, is adjacent to the Capitol's east front. The complex will contain exhibits, orientation displays, theaters, and other facilities.