



**FERMI LAB - Main Injector F-O Enclosure**  
Batavia, IL

Construction of the new F-O Enclosure required a shutdown of Fermi Lab's accelerator operations until this project was completed. As a result, project schedule was extremely critical. Schnabel Foundation Company was selected as the specialty subcontractor for the required design-build earth retention systems and successfully completed the project with the very tight time constraints.

Earth retention systems were required for the 27.5 to 32 ft. deep cuts for approximately 750 L.F. of the new tunnel enclosure between the existing F-O Service Building and existing MI enclosure and MI-60 Service Building. Since the excavation was located within 2-3 ft. of the face of the existing F-O Service Building, 360 L.F. of secant pile wall (overlapping 3 ft. diameter drill holes at 2.5 ft. on center backfilled with concrete and 18 inch wide flange soldier beams placed at 5 ft. on center) was installed. In addition, bracket pile underpinning was installed to minimize the potential for any movements of this sensitive structure. Away from the F-O Building drilled-in soldier beams and lagging were utilized for the retention system. The earth retention systems were internally braced by one tier of 24 inch diameter pipe struts and walers, which were removed as the completed tunnel structure was backfilled.

Owner: Fermi National Accelerator Laboratory operated by Universities Research Association Inc.

General Contractor: Herlihy Mid-Continent Company

Design-Build Retention Contractor: Schnabel Foundation Company

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