



Foundation construction of the Verizon Center included a mat foundation over the existing WMATA metro line, and a four level deep garage adjacent to the metro.

Verizon Center (MCI Center)

Washington, DC

Foundation Engineering Project Highlights

- Geotechnical site investigation
- Foundation design for sports arena constructed over and adjacent to subway tunnels and a subway station in urban area
- Evaluation of alternate foundations to protect subway structures
- Design of below grade arena and underground parking garage

Mueser Rutledge Consulting Engineers (MRCE) was the foundation engineer for the sports facility built for the Wizards and the Capitals near the center of Washington D.C. The Arena is located over and adjacent to shallow and deep lines of the WMATA metro line at Gallery Place station. MRCE performed a geotechnical investigation, evaluated alternate foundations, and estimated differential settlement of the structure using different foundation types within the structure to accommodate concentrated loads in the vicinity of the subway.

The Arena level is two floor levels below surround grade. A garage over the southern half of the site extends two levels deeper. The deepest part of the structure is supported on a mat foundation while the shallow structures adjacent to the crossing subway are supported on piles and drilled piers.

The impact of the planned construction on the existing station and subway lines was analyzed, and methods to protect the subway structure from construction damage were developed. A monitoring program was planned to verify tolerable movement of the station during construction. Large transfer girders were used to support the load of the arena above the station.

Project location: 601 F Street, NW, Washington, DC 20004