

## Enterchange at Ruffin Mill

Chesterfield County, Virginia

McKinney and Company provided Geotechnical and Professional Technical Engineering Services at the site of the Enterchange at Ruffin Mill in Chesterfield County, Virginia. The project was developed to support the construction of two new warehouse structures and two warehouse structure additions. Each new structure has a plan area of about 180,000 sf. Each addition has a plan area of approximately 100,000 sf. The structures consist of a structural steel frame supported on shallow reinforced concrete foundations. The exterior of each structure is precast concrete panel and the floor is a concrete slab on grade.



### Soil Boring and Sampling

The geotechnical investigations were performed to determine the subsurface conditions at the proposed buildings, roadways and parking areas. Services included retrieving soil samples from field exploration and performing testing on selected soil samples in our AASHTO accredited laboratory. Findings of the field investigation, general geotechnical design recommendations, foundation design recommendations, pavement design and construction recommendations were summarized in a final report provided to the client.

### Soils

Soils were evaluated for conformance with project specifications and the geotechnical report for use as structural fill and backfill. McKinney technicians provided full time monitoring and compaction testing of structural fill for building and pavement support and utility backfill including the performance of laboratory moisture density relationships, Atterberg limits, check proctors, and classifications.

### Concrete

McKinney and Company technicians observed the placement of cast in place concrete including the observation and probing of exposed bearing strata, review of the steel reinforcement placed in the foundation and foundation wall elements and concrete slabs, field testing of fresh concrete, and laboratory testing of compressive strength test specimens. Field testing of concrete included slump, percent-air, temperature, and casting compressive strength specimens.

### Structural Steel

McKinney's Certified Weld Inspector monitored the erection, bolting, welding and plumbing of the structural steel elements on site.

### Special Inspector of Record

McKinney and Company served as the Special Inspections Engineer of Record.