

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

1

21. TITLE AND LOCATION (City and State)

Etna Interchange Rehabilitation Project, Preliminary and Final Design Services
S.R. 0028, Sections A19, A-24 & A34-A37 – Allegheny County, PA

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2012

CONSTRUCTION (if applicable)
2012

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

PennDOT District 11-0

b. POINT OF CONTACT NAME

Mr. Erik Porter

c. POINT OF CONTACT TELEPHONE NUMBER

412 429-4869

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and cost.)

This project involves rehabilitation of the Etna Interchange where S.R. 0028 intersects S.R. 0008 along the Allegheny River. The project entails 5 separate construction phases to complete over 4 miles of limited access highway improvements, widen portions of the project to improve capacity from two to four through-lanes over the full length of project, reconstruct 10 multi-span and 3 single-span bridges, construct more than 5,000 linear feet of new retaining walls, relocate a 60" diameter water main, realign several ramps and improve rockfall protection along an existing cut slope.

Principal Features of Work:

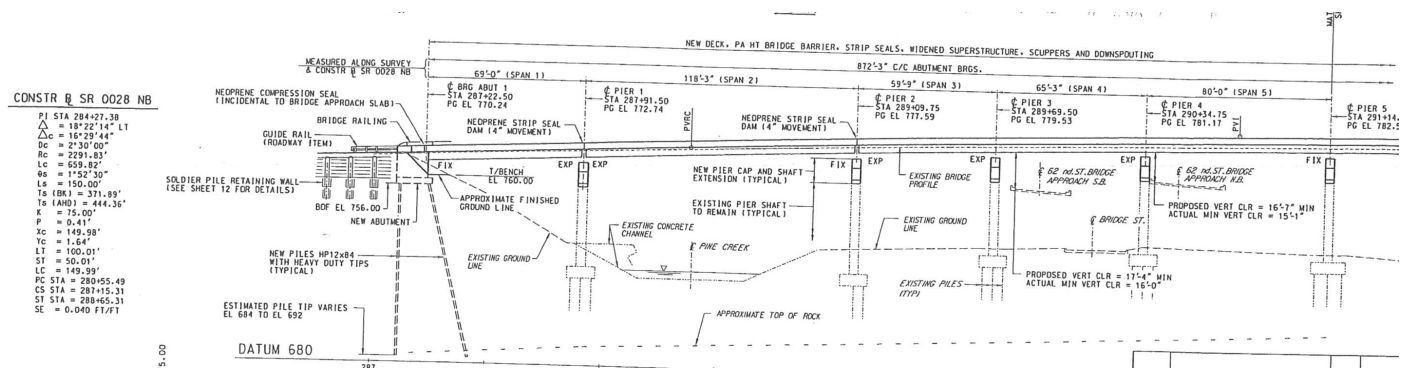
AWK was responsible for geotechnical and hazardous waste services to support preliminary and final design. AWK was also responsible to prepare Also Plans for rockfall mitigation and to provide construction consultation services. These services generally included the following. Geotechnical: AWK has been and continues to be responsible for all geotechnical services for this project.

The following is an overview of principal geotechnical activities performed on this project.

- Administration of 12 separate Subsurface Boring, Sampling and Testing Contracts (SBSTCs) to investigate subsurface conditions. Available information was used to develop a detailed Problem Statement and Draft Exploration Plan (PSDEP) for each construction phase. The SBSTCs entailed more than 20,000 LF of test borings, dozens of test pits to expose existing substructure foundations, and instrumentation to evaluate substructure distress.
- Development and implementation of a geophysical survey program at multiple bridges to determine if existing pile foundations are point-bearing on rock and locate a curved section of 60" water main below a 40-foot high embankment. A combination of seismic tomography (3D imaging), downhole ground penetrating radar and electrical

resistivity methods were used. The results of the survey were presented at the 54th Highway Geology Symposium in 2002 in Burlington, VT. Preliminary geotechnical engineering to determine existing subsurface conditions, assess feasible alternatives and prepare recommendations to support a Step 9 submission.

Geotechnical analyses were completed to support LFD and LRFD design, including settlement and bearing capacity analyses for shallow and deep foundations, downdrag analysis of drilled shaft and driven pile foundations, global stability analysis at retaining walls using PASTABL and Rockfall simulation using the Colorado Rockfall Simulation Program (CRSP)



25. FIRM'S FROM SECTION C INVOLVED IN THIS PROJECT

(1) FIRM NAME

a. AWK Consulting Engineers, Inc.

(2) FIRM LOCATION (City and State)

Pittsburgh, PA

(3) ROLE

Sub-Consultant

(1) FIRM NAME

b.

(2) FIRM LOCATION (City and State)

(3) ROLE