CASE STUDY

South Caucasus Pipeline Extension (SCPX) geotechnical investigation

STRUCTURAL SOILS LTD

South Caucasus Pipeline Company Ltd (a subsidiary company of BP plc) contracted Structural Soils (an RSK company) to provide geotechnical investigation services on the 56-km route corridor for the SCPX across Georgia, South Caucasus, between August 2013 and February 2014.

Description of the contract

The geotechnical investigation contract was procured through restricted, BP-prequalified and competitive tender, and was let under bespoke BP conditions of contract. Chicago Bridge & Iron Company NV was the engineer and Structural Soils acted as the principal contractor.

The geotechnical investigation provided information and site characterisation data for the planning, design and construction of a 56-km international gas transport pipeline with major river and road crossings, two new compressor stations (one with a new 16-km access road), temporary and permanent accommodation, and pipeline pigging stations. The work involved varied terrain with significant access, environmental and programme constraints.

The scope of work covered site access, pre-investigation surveys of underground utilities and services, international site establishment, engineering geological mapping, forming exploratory holes in soil and rock, in situ and on-site testing, ground instrumentation and monitoring, geotechnical laboratory testing, and factual and interpretative reporting.

Structural Soils' role in delivering the contract

Structural Soils was the lead contractor and provided geotechnical and engineering geology expertise. We also undertook the drilling, trial pitting, in situ and on-site testing, and geotechnical laboratory testing.

The contract management team

- provided project and programme management
- provided logistics and import and export management
- provided site access, coordination and supervision
- liaised with the client and stakeholders
- managed health and safety, security and environmental issues
- evaluated, procured and coordinated subcontractors
- prepared the draft and final factual and interpretive reports.

Flexibility and collaboration demonstrated in the approach to delivery

The relatively remote and international aspects of this successful project clearly demonstrate the strength, effectiveness and flexibility of Structural Soils' geotechnical investigation management processes and expertise, and its sensitivity in addressing local issues and stakeholders.

Structural Soils mobilised to Georgia with a set scope of works defined at contract award. Shortly after mobilising, we were advised of significant increases in the scope of work, including additional sites in parts of Georgia not visited as part of the site reconnaissance. The change-variation system procedure meant that, although we were advised early of the likelihood of variations in the scope, the final contractual go-ahead was often not provided until a few days or less before the work had to start. This meant we had to have a flexible approach to programming to accommodate any additional work and yet minimise or avoid delays to the original scope of work should the change happen. This was not always easy when the work sites were far apart.

Our flexible approach to the geotechnical investigation was also required daily through frequent communications with the client representatives and field geologist concerning minor variations to the scope or alterations to the objective of a particular investigation location that required immediate action. We were able to maximise efficiency and complete the works on time and on budget. Our client praised our professional approach and attitude, and willingness to take action quickly and highly commended our working relationships with all the Georgia-based client staff.

For further information, please contact:

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