Project

Creative problem-solving and technical excellence enable utility provider to continue delivering reliable service

Almost $1 million

saved during procurement phase by eliminating potential change order

Summary

- Haley & Aldrich's geotechnical team helped our client overcome the challenges of an antiquated utility system.
- A tunnel, co-occupied by the utility company and a large city in New York, housed the client's electrical circuits. The

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company wanted to construct a new tunnel beneath a river.

- We brought all stakeholders together to identify barriers and outline an action plan for design, procurement, and construction, and to reduce overall risk.
- We helped the client avoid costly surprises and safety incidents and save nearly $1 million by eliminating the potential for a change order.

Client challenge

A large city in New York was in the midst of an economic revitalization, which included many large commercial development projects. These efforts put pressure on the city's antiquated electrical system, and the utility provider grew uncertain as to whether its existing systems could meet the increasing demand. Because reliable service delivery was of utmost importance to the company — customer service outages could not be risked — it needed to take action to update its systems.

The utility company and city co-occupied a tunnel crossing beneath the river. The tunnel, which was built circa 1900, housed the utility's electrical circuits, yet due to its size and age, could not be safely serviced or accommodate the distribution system upgrade. To meet customers' needs, the company needed to construct a new tunnel beneath the river, which would house a 20-way conduit bank and connect to two access manholes. The service provider wanted to ensure this complex work was delivered safely, and without surprises.

The company turned to Haley & Aldrich not only due to our reputation for technical excellence intrenchless technology, but also for our ability to find thoughtful solutions to minimize risks and surprises.

Our approach

Haley & Aldrich staff knew that, in order to minimize risks and surprises, all project stakeholders needed to have a shared understanding of the processes for completing the work. Our staff brought the stakeholders together and led a workshop where we identified barriers that could impede success. We also worked with the team to co-develop a strategy to ensure the right people would be involved at the right time during the work. The team also developed an action plan that included the who, what, when, and why for all areas involved in the project including design, procurement, and construction. After the workshop, one attendee noted that "it was a very good meeting — a bit above and beyond."

Post-workshop, Haley & Aldrich staff members brought their technical excellence to bear for the client. We performed test borings and conducted packer testing in the bedrock to measure hydraulic conductivity. We built a model based on the data to assess potential groundwater flow into the shafts during construction. The model predicted flows on the order of 200 to 500 gallons per minute. Considering the potential amount of water flow, we required pressure

grouting prior to shaft construction to reduce the volume of water that would need to be managed. We provided full-time, on-site monitoring during shaft construction, microtunneling, and earthwork. This allowed us to monitor conditions encountered during construction and enabled us to provide on-the-spot guidance to the client.

Value delivered

- Ensured the new tunnel and manholes were constructed with no costly surprises or safety incidents
- Reduced overall risk through a collaborative workshop approach
- Saved nearly $1 million during the procurement phase by eliminating the potential for a dewatering change order

For more information, contact:

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