



## Project

Our geotechnical experts design enduring bridge foundation under tight schedule

**32,000**

vehicles per day that new bridge supports

## Summary

- The Massachusetts Department of Transportation relied on Haley & Aldrich's geotechnical engineers to design a replacement for a deteriorated bridge built in 1936.
- Our team brought prior site experience, extensive local geological knowledge, and a deep bench of skilled, local geotechnical staff familiar with deep, high-capacity drilled-shaft design and construction.
- In addition, our strong project management approach enabled us to review proposed design solutions and solve challenges quickly while maximizing safety and limiting disruptions.

# Client challenge

The Fore River Bridge, a Massachusetts landmark built in 1936, is a critical element of the state's local highway system that by 2002 had deteriorated beyond the point of restoration. The Massachusetts Department of Transportation (MassDOT) needed a new permanent vertical-lift bridge to carry 32,000 vehicles per day to reduce the commute time between the cities of Quincy and Weymouth. MassDOT's key success metrics for the [bridge construction](#) were safety and limited disruption to public, business, and marine communities.

Haley & Aldrich's contribution to MassDOT's selected design-build team was prior site experience, extensive local geological knowledge, and a deep bench of skilled local geotechnical staff familiar with deep, high-capacity drilled-shaft design and construction.

# Our approach

Haley & Aldrich implemented a staffing plan featuring a strong project manager leading a large, local team of geotechnical experts to support both design and field work. Our one-company team approach pulled together senior-level design and management staff from throughout our firm to review proposed design solutions and project challenges quickly and comprehensively.

We also partnered with the design-build team members to enhance the entire team's ability to resolve challenges throughout each project phase, including construction, to keep the [bridge foundations](#) off the critical path.

# Value delivered

- Provided on-time, as-needed geotechnical design recommendations that met applicable federal and state design requirements yet allowed for innovation and flexibility
- Streamlined the design phase by obtaining the state's water agency approval early and performing a 3-D analysis of the foundation system to demonstrate negligible applied stresses on an existing deep rock water tunnel
- Collaborated with the lead designer, lead contractor, and drilled shaft subcontractor to resolve a casing installation issue through redesign and telescoping casing, avoiding the switch to a new installation method and any project delays as a result

For more information, contact:



[Heather Scranton](#)

Principal Consultant, Geotechnical Engineering