Lee INDUSTRIAL CONTRACTING

Need a Custom-Built Rig for a Complex Installation?

WE'VE GOT A SOLUTION FOR THAT.

CASE STUDY

LOCATION:

Metro Detroit, Michigan

DEPARTMENTS INVOLVED:

Project Management, Pipefitting, Electrical, Fabrication & Foundations

Arcadis U.S., Inc., a global design and consultancy organization, was hired by the Great Lakes Water Authority (GLWA) to conduct a five-year corrosion control optimization study (CCOS) of their water system, the largest study of its kind ever undertaken. The study seeks to determine whether the current corrosion control treatment strategy is optimized, or if alternative treatment would improve performance. The study is designed to test orthophosphate, a widely used corrosion inhibitor, in various doses and at different pH levels to determine if further treatment optimization is necessary. Lee Industrial Contracting was hired by Arcadis to construct a total of 40 water testing rigs for the project. Lee's turn-key capability, which simplifies project management, workflow and communications, was the primary deciding factor in Arcadis' selection of Lee as a partner.

Challenge

The project involved 10 different testing locations with four testing rigs at each site. After approval of the spec rig built by Lee, production began using Lee's comprehensive in-house capabilities and mass production methods. The CCOS consisted of several problematic locations, including the Northeast site, which was in a basement with no elevator access. Because of limited access to this location, rigs were constructed on-site instead of being prefabricated at the Lee facility. At other restricted access locations, preconstructed rigs were disassembled, moved into position, and then reassembled.

Results

The testing rigs were constructed using the Unistrut metal framing system, and included pipes and clamps, flow meters, chemical injection ports and flow switches. With Lee's unique self-performing capabilities, fabrication and installation were completed smoothly. Project highlights include:

- ✓ **40 precision water testing rigs designed and fabricated. Because the rigs are self-contained, they can be moved to other sites as needed. With the rig design established and proven, Lee can also quickly fabricate additional, new rigs.**
- ✓ **Utility tie-ins to potable water and sewer lines, and electrical connections at each location including a backflow prevention and pressure reducing station.**
- ✓ **Construction of a protective perimeter wall running the full length of the Northeast site to protect Arcadis, GLWA and Lee personnel from extremely high voltages.**
- ✓ **Installation of a subsurface drain connecting the rigs to the sewer at one of the testing locations including heat trace and insulation.**

As most of this five-year project has occurred during the pandemic, the Arcadis and Lee teams have adapted to rapidly changing COVID protocols, labor shortages and supply issues with minimal delays. Arcadis was well satisfied with Lee's performance on the massive undertaking, especially in the face of pandemic-related challenges and tight security controls, and commented on the team's smooth handling of the ever-evolving environment.