

CREATIVE SOLUTIONS ADDRESS UNIQUE SITE CHALLENGES

Cleaning up a vacant former manufactured gas plant site was complicated by the presence of two support structures for the Chicago Skyway (an elevated toll road linking Chicago and northwest Indiana), adjacent property uses and extensive infrastructure. Finding an approach that did not pose risks to these features required extensive planning and adjustments during remediation.



EVERY SITE CHALLENGE HAS A SOLUTION

Infrastructure and obstacles not shown in any records required this design-build team to rapidly develop creative remedies.

PROJECT STATS

CLIENT

Peoples Gas

LOCATION

Chicago, Illinois

TOTAL PROJECT COST

\$12 million

COMPLETION DATE

2016

6

**MONTHS BETWEEN
REMEDiation COMPLETION
AND NFR LETTER ISSUE**

.....

2-4

**MONTHS SAVED
THROUGH INTEGRATED
DESIGN-BUILD APPROACH**

.....

30

**FOOT VERTICAL
CLEARANCE IN
PORTIONS OF SITE**

CHALLENGE

Every former urban manufactured gas plant (MGP) site comes with its share of cleanup challenges. The 96th Street MGP site in far south Chicago near the Illinois-Indiana state line was no exception.

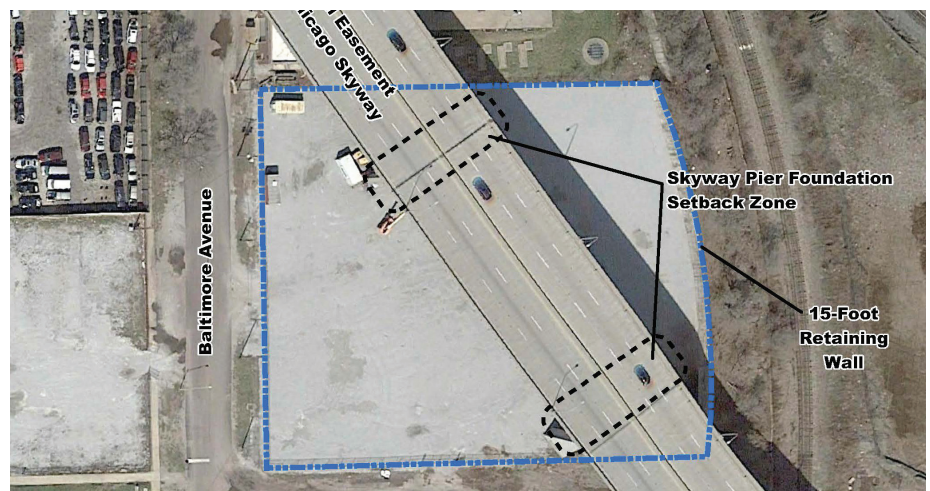
Peoples Gas was eager to clean up the property, but a major obstacle was directly overhead: the Chicago Skyway. This elevated toll road has a 120-foot-wide easement bisecting the site, and two support structures have foundations within the site boundaries. A lack of record drawings and design details for the columns and foundations meant that local permitting agencies had additional concerns about any alterations to the subsurface that potentially could compromise those supports. In addition, a 15-foot retaining wall directly to the east had to be protected.

Developing an approach that would satisfy stakeholders became the first step in a remediation effort that would require creative adjustments throughout project execution.

SOLUTION

We evaluated multiple in-situ remediation methods, including ISS, thermal, ISCO and SISCO, and some proved to be promising. The relevant permitting agencies were skeptical about any treatment that potentially could alter the physical or chemical properties of the soil or groundwater, and thus endanger the Skyway foundations.

The compromise solution was to implement earth retention and containment systems for the 25-foot setbacks around the foundations, combined with deep excavation of the rest of the site. Despite in-depth planning and





extensive approval processes, complications continued to arise during the implementation phase. While driving in the sheeting for the earth retention systems, the team frequently encountered original and temporary foundation systems and structures from the former MGP and older Skyway foundations that had been abandoned in place without documentation at the time. We worked around the obstacles and implemented a creative soldier pile and cribbing inside retention system to box off the large obstructions that were stopping installation of the sheeting. Having an integrated design and construction team helped prevent standby time each time we encountered an obstruction that required all hands on deck.

Excess groundwater at the site needed to be collected, treated

and discharged. Fortunately, the project site was adjacent to an active Metropolitan Water Reclamation District (MWRD) pumping station.

This allowed the team to save money by routing piping directly to the pumping station, instead of constructing a separate manhole and piping. The team's solid relationships with MWRD engineers helped make this possible.

RESULTS

Remediating this former MGP site involved working around and addressing a range of complications, not least of which involved working under the Chicago Skyway. Success was the result of careful planning and creative adjustments during remediation to maximize efficiencies. The integrated design and construction team, the understanding of regulatory requirements, and

the trust-based relationships with all stakeholders resulted in an expeditious, successful remediation.

Upon completion of field work, the Completion Report was submitted to the Illinois Environmental Protection Agency, which returned a draft No Further Remediation (NFR) letter six months later. This was a relatively fast path to closure for a process that typically requires more back and forth between the agency and a project team. The report was successfully packaged by a team with a solid reputation to streamline the final review.

Despite all of the unique site challenges, the \$12 million design-build project was successfully completed on schedule and within budget.



Sheeting design required a multiphase dewatering system, which generated significant quantities of impacted water to be pre-treated.



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