

*"Group Contractors has proven to be an excellent deep foundation contractor and project partner with the capabilities to deliver the sheet pile and precast pile scope of work on time and under budget."*

**David Brymer, senior subcontracts manager  
S&B Propane BOG Project**

It was fortunate that GROUP had a team working inside Energy Transfer's Nederland, Texas, propane facility when the design team began discussing a new BOG (Burn-Off Gas) unit. Since they were already physically on site, GROUP supervisors and engineers could easily be brought "into the fold" during early design meetings to provide constructability input.

There were numerous pile types and designs being discussed at the time, and engineers needed assurances that the necessary suppliers could be found. The main sticking point – how to design a containment wall so that it could withstand the extreme cold temperatures of the liquids in the facility should there be a spill or leak.

Working as the civil subcontractor to S&B Engineers & Constructors, GROUP assisted the team with selecting pile types and other materials – a process that ultimately saved the owner both time and money. "There was an extreme low temperature requirement, so everything to be designed with a specific concrete mixture that could withstand those temperatures," says Shannon Bergeron, jobsite superintendent for GROUP. "We gave them constructability suggestions and identified potential roadblocks that we might face. We also reached out to our suppliers to make sure that we could get what we needed."

At one point, the team considered having the sheet piles coated in a protective material; and there were other discussions about whether to use auger cast piles or precast piles for the equipment foundations. Each step of the way, GROUP would reach out to suppliers to gather cost data and work through various constructability scenarios to help designers make their selections.

Ultimately, the GROUP team drove 481 precast concrete piles measuring 14 inches square and 50 to 60 feet long as support for equipment foundations; and 868 linear feet of sheet piles encased in concrete to create a 4-foot-wide, 800-plus-foot-long concrete containment wall (to replace an existing earthen berm).





Throughout construction, the project team contended with an extremely tight workspace (the containment wall abutted the plant's main perimeter roadway); and a project timeline that was continuously being challenged.

### **Schedule Disruptions**

When the project kicked off in August 2024, the GROUP team immediately began driving sheet piles for the containment wall, followed shortly by another crew forming and pouring concrete. Designs called for Nelson studs to be welded into the piles as reinforcement. "A Nelson stud gun essentially puts them on the wall," he adds. "In lieu of welding rods, the gun heats the stud up and welds it to the wall."

About 650 cubic yards of concrete were placed for the wall's construction, using a stringently specified concrete mix that could withstand the super-low temperatures of the products produced in the facility. The wall was constructed on the edge of an existing berm, so one side was significantly higher

than the other – 15 feet on one side and 4 feet on the other (along the roadway). Throughout the process, precise sequencing was critical to avoiding delays, as the concrete crew was following closely behind. "Throughout the work, we were closely monitoring the concrete crew and trying to stay ahead of them," Bergeron says.

However, an unplanned maintenance turnaround at the facility forced GROUP to stop work on the wall midway through its construction, then quickly shift their attention to driving the precast piles to maintain workflow. "We would've blocked access for them if we had remained," Bergeron says. "We got our crane out there and started driving precast to allow their turnaround group to complete the work they had to do." Stopping work midstream severely impacted the schedule for three weeks. Rather than jumping back into the wall construction once the turnaround was complete, however, "we decided to just finish out the precast concrete; that way, there wasn't a lot of back and forth."

The GROUP team drove the precast piles to ground elevation, then followed them another 4 feet below ground. "By doing it that way, we didn't have to excavate anything and avoided having a big bath-tubbed hole out there that could fill with water. We also had the natural ground to work from." The work needed to be done quickly, as the S&B project team was waiting in the wings to begin constructing concrete pads and erecting equipment. Collaboration and communication were key to the project's success. "It took a lot of planning to determine where S&B could start,



where they couldn't go, where we could go and where we couldn't," he adds. Once they finished driving the piles, the GROUP team moved back to the containment wall to finish its construction.

Through it all, quality control was a responsibility shared by the entirety of the crew and supervised by the project manager and corporate quality control manager. "We were checking locations, making sure that piles were not heaving, tracking all that information and supplying it back to our office and the field," Bergeron says.

#### **Juggling the Schedule and other Challenges**

There were other schedule disruptions. In the beginning, the driving of the sheet piles progressed more slowly than expected, necessitating that the GROUP team bring in a larger vibratory hammer. "The ground was harder than it showed in the geotechnical reports," Bergeron says. "The material in the berm differed from what the geotechnical report showed, so we had to look at another piece of equipment to punch through that layer so that they would actually drive them."

And since much of the initial work was performed in August and September, hurricanes and tropical storms were ever present threats. A tropical storm did, in fact, come near the site, forcing the team to switch gears and begin site prep work. "Just the threat of a storm coming causes a delay," Bergeron says. "We got the crane booms down to where they were laying on the ground, picked up any loose material and secured our equipment. We also get everything off the ground in case of flooding."

Given the schedule disruptions, the sequence of work was far from linear. "We worked closely with S&B ... beyond what we would on a typical project," Bergeron says. "We planned out where we were going to be and gave them a date when they could start excavating. They had to start excavating on one side of the job where we had already poured the concrete wall ... it required a lot of planning."





Planning was critical to ensure that everyone had work to do, and GROUP tracked productivity using a progress curve.

They also participated in critical stage “in house” meetings at 20 percent, 60 percent and 90 percent complete with S&B and the rest of the team. “During those meetings, we would compare our progress to what we estimated,” he adds. “If something was going south, we caught it early rather than later. That way we could propose a solution ahead of time instead of being reactive. We just pushed everything to completion.”

Technology was central to the process, with the collaboration and quality control efforts relying heavily on Primavera and Procore software. All of the schedules were maintained in P6 and weekly meetings were held with the owner to discuss progress and to perform three-week lookaheads. “On this particular project, the client required a lot of information, so our weekly reports to them were pretty substantial compared to other projects we’ve done,” Bergeron says.

“We would give them a rundown of what was completed the week prior, what we had coming up that week, what we were accomplishing etc., and talk about what we planned for the next week etc.”

It was successful approach – about seven weeks into the project, GROUP began getting ahead of their baseline schedule. “We just continued on that path until completion,” Thompson says. “They had us completing the project on Dec. 22; we wrapped it up two weeks prior.”

Bergeron credits the project’s success to a “truly good plan” and an unprecedented level of collaboration and communication. “We veered off our original plan, then came back and said, ‘All right, we need to stay on schedule. How can we do that?’ It boiled down to putting a good plan together, then working with S&B to keep that work front moving.”