

Demolition Excellence at an Electricity Plant

Jackson Demolition Service Inc. demolishes multiple units at the retired Gorgas Electric Generating Plant in Parrish, Alabama

By Monica Roselli



Situated at the junction of Baker Creek and the Mulberry Fork of Black Warrior River is the site of the retired Gorgas Electric Generating Plant. Having opened in 1917, the plant was shut down in 2019 in response to clean energy initiatives by its owner, Southern Company.

Bids to demolish units 8, 9 and 10 on the property opened in February 2020, but with a catch: the base scope of the demolition work could not include explosives, only manual demolition means. Soon after the bid period opened, NDA member Jackson Demolition Service Inc. submitted a base bid

but also an alternative proposal that included explosive means that would add value, safety and cost efficiency to the project.

“We were detail-oriented and came in with a good plan,” says Jackson Project Manager Josh Kelly, CSP, SMS. “We showed our commitment to safety and environmental affairs, and we were attentive to the client’s needs and making them successful. This was not just about making money.”

Jackson’s alternative approach was ultimately accepted by the client and work began in June 2020 — just months into the COVID-19 pandemic — on felling two stacks, three boiler

buildings and a silicon controlled rectifiers (SCR) building.

DEMOLISHING THE TALL CHIMNEY

Standing at 750 feet tall, the Jackson crew quickly realized the chimney was too tall and too close to multiple assets on the property to fell in one event. Therefore, the crew needed to develop a new approach to safely remove the structure.

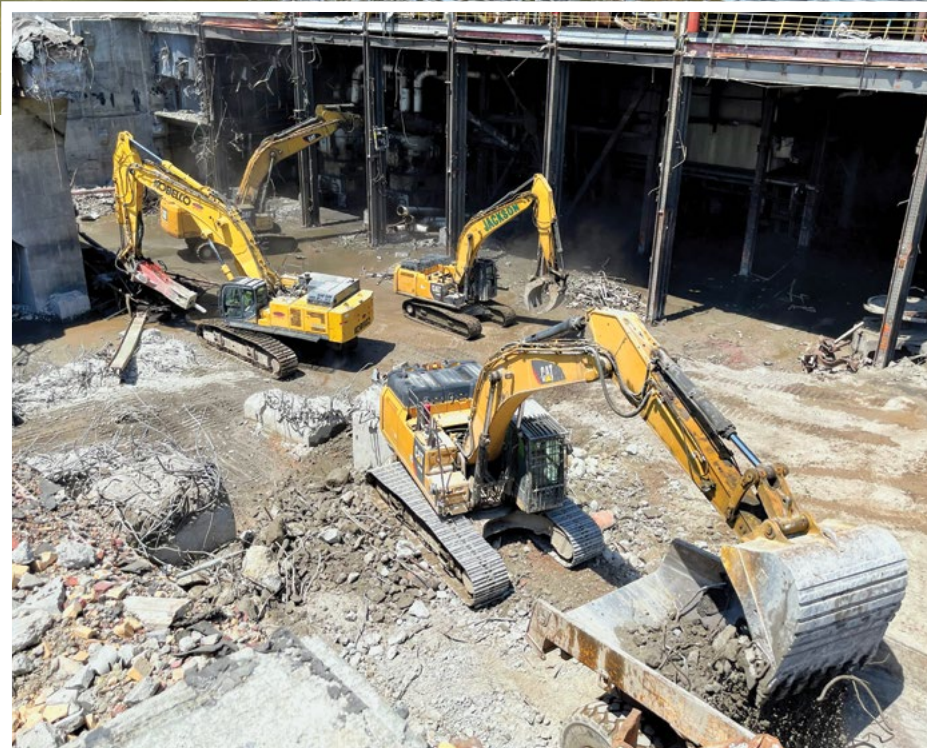
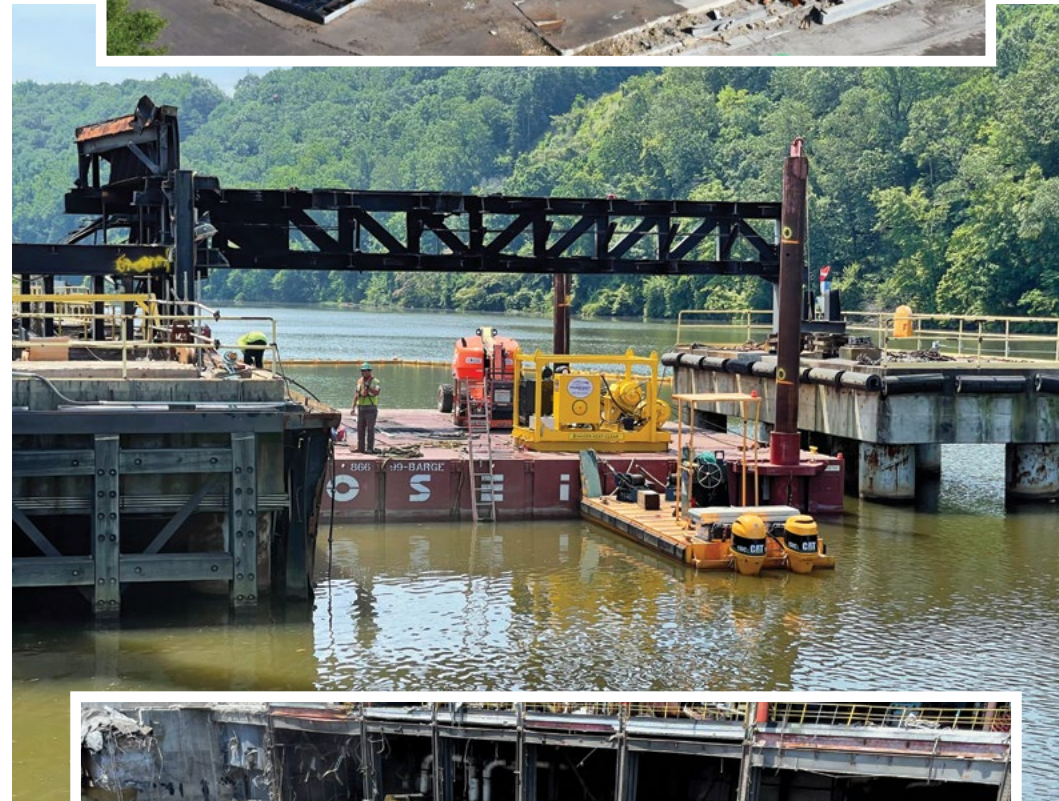
“It was too tall to be felled in one event without potentially damaging critical and live assets such as high voltage power lines and critical transmission and distribution switchyards, which needed to remain energized,” says Kelly. “Additionally, there was a private cemetery within 150 feet of the stack that we needed to be mindful of.”

“With this many people in one relatively small area, especially while running trucks in and out, we had our hands full at times.”

Working from the bottom up and top down, the crew removed the top 380 feet of the fiberglass reinforced plastic (RFP) liner and stack manually/robotically.

“This process took a considerable amount of time as the liner was much thicker than the construction drawings referenced,” says Kelly. “Working from the inside of the stack, the crew sawed sections of the liner free and dropped them down to the ground to be handled for transportation and disposal at an authorized landfill.”

Once the liner was completely removed, the crew installed a Spyder demolition



robot on the top of the stack to begin removing the thick concrete and rebar reinforcements. Scaffolding and robotic demolition proceeded from this point onward, which allowed the team to bring the stack to approximately 380 feet from the ground.

“At this height, the team felt confident the rest of the stack could be safely demolished explosively without impacting the schedule,” says Kelly. “We went to work protecting the switchyard assets, constructing mounds of dirt over 50 feet high along the only road that separated the boilers from the live switchyards. Netting and chain link fencing was also installed on all shot floors of the boiler and SCR building.”

Due to safety concerns involving the switchyard assets during the tall stack’s explosive felling, the three boiler buildings and smaller, 250-foot-tall stack were all explosively felled ahead of time in one event in August 2021. This provided the Jackson team the opportunity to clear the site of scrap and debris in the basement of the boiler and turbine buildings so that the taller stack could be felled toward the basements of these former structures in January 2022.

REMOVING THE STOREROOM BUILDING

Another critical part of the demolition project was removing a 60,000-square-foot storeroom building that was built on over 480 piles directly over Baker Creek, a protected body of water.

“The storeroom building was originally going to be demolished mechanically,” says Kelly. “But the Alabama Department of Environmental Management (ADEM) voiced concerns to the client about debris dropping into the water. Prior to the start of work, at the request of the client, we revised our approach to remove the building so that materials would not fall into the water.”

The new approach required additional controls, cranes, saw cutting and underwater demolition of the piles at the mudline of the creek, but it resolved all concerns from ADEM and the client.

JOB STATISTICS



36 MONTHS

DURATION

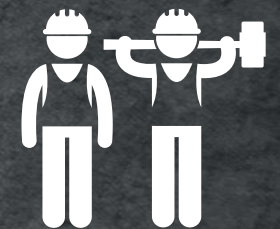


70,000 TONS

METAL RECYCLED

35,000 TONS

CONCRETE RECYCLED



30-60

CREW SIZE



250,000

WORK HOURS

EQUIPMENT USED

- 9 EXCAVATORS WITH SHEARS, GRAPPLES, BUCKETS AND HAMMERS
- 1 40-TON ARTICULATED DUMP TRUCK
- 1 WATER TRUCK
- 1 FUEL TRUCK
- 1 BUS
- 1 SPYDER ROBOT
- 75-TON TO 450-TON CRANES
- VARIOUS AERIAL LIFTS, FORKLIFTS AND SKID STEERS
- BOATS
- SCUBA GEAR
- ENVIRONMENTAL REMEDIATION TOOLS
- CONCRETE CRUSHING TOOLS
- CIVIL CONSTRUCTION RESTORATION TOOLS



THE CHALLENGES

Throughout the project, the crew faced many challenges, particularly with the job site being near major waterways.

“Bakers Creek opens up into the Mulberry Fork River, which is a navigable waterway,” says Kelly. “We not only had to work near, in and over the water, but we had to be careful not to have our work impact the waterway. The removal of a 140-ton barge loader that sat out over the river needed special care to prevent any oils or fluids from being

released from the machines into the water and disrupting the area during dismantlement. The crew ended up utilizing a system of barges in the water and poly sheeting on the deck of the barges to capture materials before they could enter the waterway, along with proper draining and fluids recovery.”

Additionally, the close proximity of each of the structures on the job site posed some logistics challenges as well.

“Managing multidiscipline work in several areas within close proximity



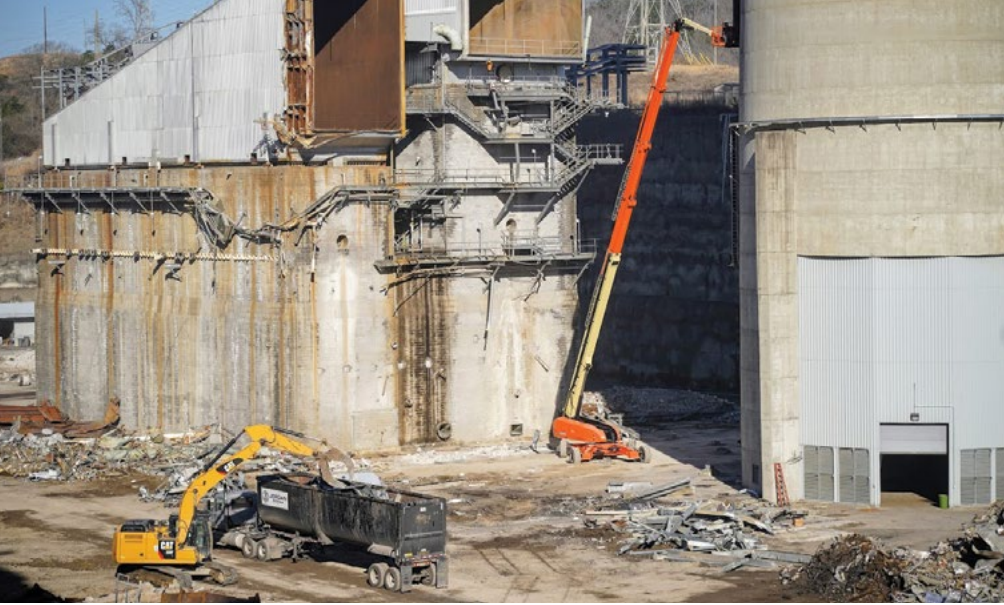


to each other proved to be a significant challenge on this project,” says Terry Polena, Jackson Demolition project manager. “We had 40 workers removing asbestos-containing materials inside the boiler buildings, 25 demolition workers doing day-to-day

tasks, 13 workers removing assets over and under the water and eight workers dedicated to the tall chimney working all at once. With this many people in one relatively small area, especially while running trucks in and out, we had our hands full at times.”

“We showed our commitment to safety and environmental affairs, and we were attentive to the client’s needs and making them successful.”





Despite the challenges and the ever-changing COVID-19 environment, the project was a success according to Mark Ramun, Jackson Demolition's vice president of industrial services.

"The project was very successful, and the client had a great on-site team," says

Ramun. "Collectively we all managed a very complex project, during a global pandemic, without any significant issues or incidents. We were also able to recycle over 70,000 gross tons of scrap, and more than 35,000 tons of 2-inch-minus crushed concrete was recycled on-site as backfill."

The team now looks forward to the next project with the plant owners as the site restoration and civil construction activities on the project conclude.

In February 2023, at the conclusion of the 2023 National Demolition Convention, Jackson Demolition was awarded the 2023 National Demolition Award — Category 3: Projects Over \$2 Million for their work at the Gorgas Plant. ▶



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