

Jewett Construction Co. Revamps 10-Acre Warehouse Inside and Out

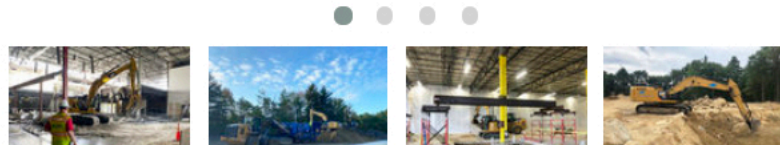
From the Outside Looking In: Storage Facility Requires Substantial Exterior Site Preparation by Jewett Construction Co., Plus Intricate Interior Loading Dock Excavation by J Masterson Construction

PREV

NEXT



The Aulson Company demolishes the interior of a warehouse in cooperation with J Masterson Construction on building/loading dock preparation for general contractor Jewett Construction Co., which is updating the spacious Wilmington, Massachusetts, storage facility.



Jewett Construction Co. is managing the challenging transformation of an outdated but spacious Wilmington, Massachusetts, warehouse into a modern storage facility. The Raymond, New Hampshire, general contractor has been working closely with subcontractor **J Masterson Construction** of Danvers, Massachusetts, to renovate the 411,733-square-foot, single-story masonry building plus mezzanine and the warehouse's expansive parking area. Jewett Vice President **Greg Stewart** is the Principal in Charge of the project, while **Rick Webb** is Project Manager.

Jewett's contract includes the interior demolition of selected portions of the building to prepare it for the addition of new loading docks. Jewett subcontracted this part of the work to **Aulson Company, Inc.**, based in Methuen, Massachusetts. Aulson also cooperated with Masterson on some interior structural concrete demolition.

Steve Souza, Masterson's Project Manager, said they started work at the site in June 2020 and closed the project for winter on December 31. He noted that the project was a complicated one.

Columns Supported

"This is one of the more interesting projects I have been a part of," said Souza. "It involves a new loading dock area, which required supporting existing columns and installing a new foundation below. The exterior site work had a little bit of everything, Versa Lok retaining walls, underground drainage storage system, new parking lot and associated earthwork."

Workers had to dig a trench about 350 feet long to construct the concrete footing and foundation wall for the new loading docks. Aulson was selected to cut the 6-inch reinforced concrete floor slab to allow Masterson to excavate the 8-foot-deep, 10-foot-wide trench.

But before any digging could take place, they had to support the building's roof. The long trench would run directly in line with a row of hollow steel tube columns. A temporary system had to be engineered to pick up the roof loads normally shouldered by the columns. The solution was a simple load transfer system. Two sets of concrete shores were positioned on each side of the proposed trench at a column location, while two short steel channel sections were welded horizontally to opposite sides of the column, forming a temporary bracket perpendicular to the wide flange beam. Then the beam was snugged up to the bracket and leveled with shims at each end at the shores. This created a temporary bridge spanning the incipient trench.

Unexpected Mud Slab

A surprise awaited the crew when Aulson cut the 6-inch structural concrete floor slab. Instead of discovering crushed stone and gravel beneath the slab, they were looking at a mud slab of unknown depth. Usually mud slabs are thin, have no steel reinforcement, and thus little structural value. They're used for any application that calls for a flat, clean, level working or fill-in surface, and are found in subfloors, crawlspaces, sometimes even as a base for a structural slab – but they're most often only 2 to 4 inches thick. Not in this case.

"This mud slab turned out to be 1 to 2 feet thick for the whole length of trench," Souza said. "So after we demolished and removed the top slab, we rubblized the mud slab." For this procedure, they used a **Caterpillar 312** Excavator equipped with a hydraulic hammer to break the mud slab in place into small pieces. And since this structure was a warehouse with a high ceiling, they were able to use a **Caterpillar 316** Excavator to load **John Deere 250C** Off-Highway Trucks and a **Mack GU-713** tri-axle to transport the debris outside the building into stockpiles for further processing. They were also able to squeeze into the warehouse a **Caterpillar 316** with hammer, and an even larger machine – a **Caterpillar 336** with hammer – for certain tasks. According to Souza, the interior work alone took them about four months to complete.

Recycling Excavated Materials

Excavated material from both interior and exterior demolition and site work was processed through Masterson's **Fintec 1107** track-mounted crusher system. This machine incorporates a **Sandvik** primary jaw crusher with a 26-inch-wide feed capability. This was helpful since the site was strewn with large buried boulders. It took less time for Masterson to hammer boulders into larger pieces to feed the **Fintec**, than would be acceptable for crushers without the wide feed capability. Masterson crushed more than 3,000 cubic yards of boulders for recycling at the site.

The contractor also set up a second, rented, **Sandvik** crusher in series with the **Fintec** to produce 1-1/2-inch-minus finished aggregate that could be recycled as base material for concrete sidewalks and the facility's large parking lot. Raw material processed through the crushers included the original parking lot asphalt pavement, which was initially broken by Aulson. **Garrity Asphalt Reclaiming Inc.** of Bloomfield, Connecticut followed this activity. **Garrity** reclaimed the parking lot to a depth of about 12 inches.

Sunshine Paving Corporation did the final asphalt paving of the parking lot. The Chelmsford, Massachusetts, contractor put down 24,000 square yards of a 2-1/2-inch binder course and a 1-1/2-inch wearing course.

Segmental Walls and Stormwater Modules

Other exterior site work included building a long retaining wall, making extensive drainage improvements, and installing a large stormwater detention system.

The wall is one of the **Versa-Lok** segmental retaining walls that are made from high-strength concrete units, dry-stacked, interlocked with pins, and set on granular leveling pads. The mortar-less walls are stabilized with geogrid soil reinforcement and do not require frost footings, according to the manufacturer.

StormTrap, a privately owned company based in Romeoville, Illinois, manufactures the stormwater detention system. The modular, underground precast concrete system is assembled on a precisely engineered stone aggregate base consisting of 3 inches of 3/4-inch angular stone, and 6 inches of 3-inch stone. Masterson used a **Caterpillar 336** Excavator to place the multi-ton modules together.

A Spring Finish

As of this report, Masterson had moved approximately 23,000 cubic yards of earth for both interior and exterior site work. They accomplished this using about 30 pieces of heavy equipment, mostly **Caterpillar**. Masterson's **Steve Souza** said they expected to complete the work this spring.