

CONNECTICUT  
COMMERCIAL PROJECT OF THE YEAR FINALIST

Conte Company was asked to construct a boardwalk through a wetlands area on an active farm in Connecticut. The property was exceptionally maintained by the grounds staff, who traversed the site daily on UTV's and tractors. The boardwalk would offer another way to navigate more of the property, while also providing the property owner another means of enjoying the picturesque scenery.



Prior to Conte Companies involvement, the owner determined the boardwalk would consist of a pre-fabricated steel frame and an IPE deck. Additionally, the edge of the deck would have a steel curb, and the entire alignment of the boardwalk would be 'S' shaped, a curve with no straight sections. The 380 foot boardwalk was comprised of 51 steel frame sections. Each frame section had a corresponding IPE wood deck section, also pre-fabricated in the factory.

Due to the constraints of the wetlands, the structure was build top-down. Meaning, the pile installation and lifting equipment was sat atop the boardwalk and never touched the wetlands surface. The boardwalk was designed to carry a 10,000 pound vehicle load, which limited the size of the installation equipment. The Conte Team ended up using a CAT 303E excavator with an extended jib boom to install the helical piles. The machine was just large enough to pick up each 850 pound framed section and swing them into place safely.

While the work area was within an extremely well-maintained property, heavy rains limited access. All tractor trailer deliveries were offloaded within the property using a rubber tire telehandler, taking extra care when placing anything on the ground. Since the boardwalk was to be roughly 500 feet into the woods, each boardwalk section and pile cube was brought in one at a time. They used track machines for the heavier material transport.

The material was placed at the foot of one end of the boardwalk, then brought onto a rolling platform. The 'S' curve of the frame meant no two piles or frames would be on the same layout plane. Each pile location was surveyed in advance, and they devised a system to ensure the installation location was within the tolerance to bolt to the steel frame.



Additionally, tree stumps obstructed some of the pile locations. The team carefully removed the stumps and roots where they would affected pile installations. The final fit and finish required incredibly meticulous precision to align the IPE deck and the overall curve of the structure. The pre-fabricated did not always match the steel frames exactly, so the Conte team made field adjustments and modifications where necessary.



Helical piles were the perfect solution as the same machine used for pile installation was also used to install the boardwalk. The bearing soils were relatively shallow in most areas of the boardwalk. To avoid having joints above grade, ECP made custom length lead sections to allow for most piles to be comprised of a single section, without being too long so the limited installation equipment could handle it. By using custom 9 foot sections, the limited equipment was just large enough to install a single section and that section was just long enough to install at most pile locations. Some areas required extensions to reach suitable bearing soils, which were easily added on the fly.