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## Huge privacy fence isolates neighborhood from electric substation

Main Line Fence Co. of Cumberland, Maine recently completed a major wood fence project that utilized a 12' tall by 168' long pressure treated privacy fence to block the view of a new \$100 million electric substation located virtually in the backyards of several residential properties.

Handling fence materials of this size and weight is always a challenge, and complicating the situation were the tough Northeast winter weather and rugged terrain.

But the project was completed on time and to everyone's satisfaction, said Main Line Fence estimator and project manager Ryan Cianchette.

"We were contacted by the general contractor to come up with a long lasting solution to complaints from the surrounding residents about the view of the substation," said Cianchette. "It was determined that a 12' tall solid fence would be adequate to restrict the





view and minimize the impact of the new giant structure. The design we came up with has best been described as a 'deck on its side' and consists of 8" x 8" x 16' rough sawn pressure treated posts set in 24" wide by 48" deep concrete footings. The backing rails are pressure treated 2x6s mounted to the posts using galvanized joist

All the vertical members are 5/4" x 6" x 12' pressure treated decking planks, he noted.

Top and bottom trim boards were added, and these serve to improve the look. "Due to the scale of the fence we wanted to try and break up lines as well as keep everything proportional, to try and avoid the fence looking like a giant, utilitarian wall," said Cianchette. "Second, the trim boards help counter any warping and twisting continued on page 11



At top, the 12 foot tall pressure treated privacy fence provides separation of the large electric substation from adjoining residences, and the wood construction blends into the natural Maine landscape. To support the fence, uprights were set in 24" wide x 48" deep concrete footings. Above, 5/4" x 6"x 12' pressure treated deck planks were used for the pickets. At left, Main Line Fence crew members Justin Kinne, Zane Campbell, Ryan Oakes and Scott Golding raise one of the 350 (Main Line Fence Co. photos) pound support posts into place.

#### **Huge privacy fence isolates** neighborhood from substation

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that can occur with pressure treated wood."

It took a crew of five to six men approximately three days to set the huge upright posts, which weighed over 350 pounds each. Over 12 yards of concrete was used to set the uprights.

Of course, bigger fence means bigger difficulties. Cianchette noted site and set by hand with no aid from any mechanical device."

Cianchette said that perhaps the biggest challenge that they had to overcome was the weather. The project was started in the last week in December, obviously a very cold time of year in Maine, and this posed many problems.

Foremost were safety concerns. The ground, trailers, equipment, and everything else becomes very slick and icy at this time of year, not to mention the added strain that working in cold



Main Line Fence crew members were required to haul all materials to the jobsite by hand, including the 12' high pressure treated uprights, weighing in the neighborhood of 350 pounds each. Other complicating factors made the installation especially difficult, including the rugged terrain, rocky and frosty soil, and winter Maine weather. Above, crew members Justin Kinne, Zane Campbell and Scott Golding hard at work.

that the first and most obvious challenge for this project is the massive scale.

"Pressure treated material in general can be labor intensive to work with, now add to that the fact that all material is larger than average," he said. "The height of the fence alone posed challenges and increased safety concerns. Ladders and staging had to be used. The ground is uneven and inconsistent, making safe placement of ladders difficult. And of course there was lots of climbing up and down.

"The next challenge we had to overcome was site access," Cianchette said. "Legally, we could not work from the substation/power company's land, even though they are technically the customer and were paying for the installation of the fence. We had to work from the homeowner's property, and they requested that no heavy machines or equipment be used on their property. This meant that everything had to be done by hand, including carrying in all materials and hauling away excess dirt from the footings.

"With access limited, no power equipment was used to dig the holes, even in the rocky Maine soil," he said.

"Everything was done using Nu Boston manual post hole diggers. With the post holes averaging 24" x 48" and over one-half yard of material per hole, this was no easy task. All posts were carried onto the

weather can entail on workers, he said. The next issue was frost.

"We were fortunate that we had a 'late frost,' resulting in only 6'' - 10''of hard ground frost. In most years that can exceed 24", making digging next to impossible," he stated.

"Also, two storms hit in one week, resulting in almost 24" of snow which only made things more difficult," Cianchette said.

"The next challenge was extreme cold during the day and at night; this can have a big impact on the structural integrity of the concrete," he said. "All the concrete was mixed on site, using ½ yard trailer/portable cement mixers. Some days temperatures with the wind chill were barely above 10 degrees. The portable water jugs would begin to freeze on the surface and become far too cold to mix concrete with. Using a horse trough bucket heater and a generator, we were able to create a portable water heater that easily raised and maintained the water to 70 degrees. We also used admixtures to help with the cold weather application of the concrete."

Principal crew members on the project were Zane Campbell, Ryan Oakes and Scott Golding, as well as Justin Kinne, a 13-year veteran of Main Line Fence and the firm's youngest foreman.

He is the son of 31-year Main Line continued on page 60

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veteran Jack Kinne.

Cianchette is the son of president and general manager Rocky Cianchette, and is the third generation to be involved in the family-owned Main Line Fence, which was established in 1948 and is the oldest and largest fence contractor in the state of Maine.

Other principals in the firm include vice-president Glen York, a 42 year veteran.

The firm does around 500 installations a year, and while the substation job might not have been the most difficult in the company's history, it had to rank near the top due to the conditions encountered.

The roots of Main Line Fence go back to Robbins & White, a structural steel erection company in Portland, Maine which was formed by the partnership of Winston C. Robbins and Lloyd White.

In 1948 Main Line Fence Co. was incorporated as a separate division.

Over the next 20 years, Main Line Fence's operations grew and modernized, while the original Robbins & White steel construction business began to decline.

In 1969 Main Line Fence was acquired by Norris Cianchette, who soon moved operations to a new location in Cumberland, where the company has remained ever since.

In 1986, Norris was succeeded by his son, Rocky, who learned the business from the post holes up.

For more information on Main Line Fence, visit the web site www.mainlinefence.com.



With access to the site limited, no power equipment could be used to dig the holes, even in the rocky Maine soil.



As shown above in a photo of the fence under construction, the backing rails are pressure treated 2x6s mounted to the posts using galvanized joist hangers. Below, the Main Line Fence crew plumbs the upright posts.





Above, one of the 24 in. wide x 48 in. deep footings, all of which had to be dug by hand.



Above, uprights are braced in place while the concrete footings cure. In the background is the electrical substation from which the tall fence is designed to shield the neighborhood.

