

St. Paul Street: A Precast Retaining Wall Overhaul

Many challenges faced project to create retention system for roundabout

Owner/Customer Name: Rankin Construction
Design/Specifying Engineer: Region of Niagara
Precast Manufacturer: Hy-Grade Precast Concrete
Location: St. Paul Street, St. Catharines, Ontario, Canada
Year Built/Installation Date: Fall 2013

An improvement project was planned for St. Paul Street, a major roadway connecting the towns of St. Catharines and Lincoln, Ontario, Canada. Plans for the improvement included a concrete pile wall intended to protect the roadway from erosion coming off a slope near the highway.

The local contractor, Rankin Construction, approached Hy-Grade Precast Concrete to provide pricing and a proposal for precast panels. The contractor would provide the steel piles and Hy-Grade would supply the precast components.

This project's unique challenge was that the finish needed to match existing simulated ashlar barriers located within a few hundred feet of the wall on a bridge overpass. The barriers, which were cast in place, have been present for over a decade. The formliner used for the cast-in-place bridge barriers was no longer available. Hy-Grade's sales team worked to source out options, including custom formliners or a finish that would complement the barriers. The project owner, Region of Niagara, was very concerned with aesthetics and keeping with the natural-cut stone that is prevalent in the region.

Hy-Grade was able to find a formliner that very closely matched the existing barriers, and the project owner approved the submitted samples.

To minimize roadway closures, the contractor had very limited time on the job site. To make the most of the time available, Hy-Grade's production and the contractor's installation were highly coordinated.

Rankin Construction provided drawings to Hy-Grade with the exact dimensions of the more than 100 panels that would be stacked 1 to 3 pieces high to construct the wall. The panels were numbered, with only a handful of common sizes. Hy-Grade's project management team made as few modi-

fications as possible while creating a production schedule that still maximized table space and met construction deadlines. As panels were produced, they were staged in Hy-Grade's yard not by production order, but instead, installation order. This minimized handling and the possibility of damage.

The wall panels were installed at a rate of approximately 15 per day and the project was completed on schedule. After the panels were installed, the contractor also applied a vandal-resistant coating.

Overall, Region of Niagara and Rankin Construction were completely satisfied with Hy-Grade's precast concrete solution.