



Carden Quarry Stockpile Tunnel

OWNER

The Miller Group

CONTRACTOR

Nick Carchidi Excavating Ltd.

LOCATION

Brechin, ON

The Carden Aggregate Quarry is located north east of Brechin, Ontario. The Miller Group have operated this 332-hectare site since 1984. The quarry has a permanent processing plant in place and supplies a variety of aggregate materials for internal operations as well as municipal and private projects.

TECHNICAL DETAILS

4,300mm diameter x 67.2m long galvanized round Multi Plate


The Challenge

Miller Aggregates required a new stockpile tunnel for its quarry in Brechin, Ontario. The tunnel would improve operational efficiency and reduce the number of trucks required to transport raw aggregates to the processing plant. To facilitate loading via a conveyor system, the 14.6m high aggregate stockpile would be placed above the tunnel. Three hopper openings along the crown of the structure were specified to allow aggregate entry. Construction was scheduled to begin in late fall. With winter approaching, timely delivery and ease of installation were priorities.


The Solution

Armtec proposed a 4.3m round Multi Plate structure for the project with a total length of 67.2m. The section of the tunnel buried beneath the stockpile was designed with 7mm thick galvanized plates to accommodate the heavy loading of the aggregate materials. The two outer ends of the tunnel were outside the stockpile zone. These plates were specified with a 4mm thickness, optimizing project costs for the customer. The hopper openings along the crown of the tunnel were designed with additional reinforcement to maintain structural integrity. Construction proceeded smoothly and remained on schedule. Armtec offered support throughout each phase of this Design Build project.



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