High-Volume Drainage

Storm water runoff system for food distribution center wins industry award

Prinsco's Heather Christensen and Carl Douglass receive the Project of the Year Award from PPI's Daniel Currence, director of engineering, Corrugated Plastic Pipe Div. (left) and Tony Radoszewski, president (right).

By Steve Cooper

One of the greatest challenges for building a 1.6-million-sq-ft ConAgra distribution center was not the building itself, but how to manage storm water runoff. It was determined that handling storm water from both the building's site and nearly 500 acres of nearby land would require a drainage system consisting of more than 11,800 ln ft of pipe.

The design engineer originally specified reinforced concrete pipe (RCP) for this project; however, alternatives were permitted, and the final choice was corrugated high-density polyethylene (HDPE) pipe. Large-diameter HDPE pipe, which has a life expectancy of at least 75 to 100 years, was expected to provide the same or better performance as the RCP; plus, it could be installed using the Class 1 backfill already specified. This saved the entire project more than 8% in total cost and made it possible for the contractor to meet the completion deadline 10 days ahead of schedule.

This commercial construction storm water management project just west of Frankfort, Ind., received the Project of the Year Award from the Plastics Pipe Institute Inc. (PPI), a trade association representing the plastic pipe industry. The pipe manufacturer, Prinsco Inc. (Willmar, Minn.), received the honor during the association's annual meeting in May 2015.

Large-Scale Solution

"Systems of this size typically need a lot of heavy equipment and large crews," said Daniel Currence, P.E., director of engineering for the PPI Corrugated Plastic Pipe Div. "The use of HDPE pipe products allowed the contractor to offer a high-performance storm water management solution with significant savings in material cost and installation time over a comparable concrete system. The lightweight, durable and easy-to-handle nature of HDPE pipe required smaller

More than 2 miles of large-diameter corrugated HDPE pipe were installed.

HDPE pipe connects to concrete aprons to provide an outlet for the system.

installation teams and equipment, reducing the installation costs alone by about 13%."

Approximately 2.25 miles of Prinsco's GOLDFLOW WT watertight corrugated HDPE pipe ranging from 12 to 60 in. in diameter were used.

"HDPE pipe was an ideal solution for this application because it is available in large diameters, accommodates high-volume applications, provides unmatched service life and offers installation efficiencies," said Tony Radoszewski, president of PPI.

In addition, HDPE pipe installation allowed the contractor to finish ahead of schedule. The overall project timeline was tight, so being able to complete installation early translated to improved efficiencies for the entire project and helped to keep it on schedule.

"The structural integrity and service life of the pipe easily met the volume and performance requirements of this project," Radoszewski said. "The additional cost and time savings using HDPE pipe made it an ideal choice for this high-volume conveyance of storm water runoff application. For these reasons, this was indeed a Project of the Year that deserves this recognition." iWWD

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