

SPECIAL SECTION/CONSTRUCTION

Pipe Performance Confirmed In City Project

Timing can play a significant role in many aspect of life as the City of Richfield and the (MCES) Environmental Services division of the Metropolitan Council learned recently. The city wanted to upgrade some roads and its storm water system using polypropylene pipe at the same time the MCES was putting in the new sewer lines that included installation of a sanitary sewer interceptor pipeline. "This was an opportunity for us to use the pipe," explained Kristin Asher, P. E., Richfield assistant public works director

The installation of the new interceptor sanitary sewer line in Richfield provided an opportunity to test large diameter polypropylene pipe to solve joint separation in existing concrete storm water and collection systems. Severe weather, salts, alkides, chlorides, soil conditions and freeze/thaw cycles damage the concrete pipeline and separate the joints, allowing infiltration.

Two types of polypropylene pipe from Advanced Drainage Systems, Inc. (ADS) were used. A total of 14,000 feet of ADS HP Storm Pipe and SaniTite® HP in 12 to 36 inch diameters was installed in the project that involved two phases. "We put in the first run in the fall of 2010," explained Robert Hintgen, utilities superintendent for the city. "This was successful, so we went ahead with Phase Two the following spring. The MCES required us to test these gravity flow storm sewer lines to sanitary sewer, watertight standards. This would provide them with the data needed so that the polypropylene pipe could be added to job specifications."

ADS HP Storm Pipe meets the requirements of ASTM D2881 or AASHTO M330 for use in culvert and storm sewer pipe projects. This new specification pertains specifically to HP Storm pipe, 12-inch through 60-inch dual and triple wall. This product offers dual gasket premium joint performance, enhanced pipe stiffness over traditional storm sewer products, provides increased longitudinal beam strength. The advanced polypropylene resin offers superior chemical, stress crack and abrasion resistance.

The pipe is manufactured from impact modified copolymer polypropylene resin. The HP Storm's smooth interior wall promotes excellent flow rates while its corrugated structure maximizes stiffness and strength. The pipe corrugations provide an index for the soil to lock in the pipe joints

and resist movement. All HP Storm pipe diameters feature an extended integral bell and spigot joint with dual gaskets and polymer reinforcement for maximum joint integrity. The pipe is available in 20-foot lengths.

SaniTite HP pipe in 12- to 60-inch diameters provides a smooth interior and exterior wall design supported by a corrugated structural core for stiffness and beam strength to minimize deflection and enhance long-term performance. Exclusive triple-wall design allows for longer uninterrupted sliplining pushing distance with lighter construction equipment. SaniTite HP pipe meets ASTM F2736, ASTM F2764 and exceeds ASTM D3212 for water tightness with dual-gaskets and banded reinforced bell.

"We were looking to alternatives to concrete," Hintgen said. "The freeze and thaw cycles absolutely play havoc with the concrete joints. ADS came to us with their product, we gave it a test and we were pretty pleased with it. The contractor liked it for the ease of installation, plus it's strong and durable. Polypropylene pipe is now included in the city's specifications." Asher added, "the biggest thing was the willingness of the ADS people to come to the job site."

As far as the pipe's performance is concerned, Hintgen said, "After installation, both lines were tested with five percent mandrel deflection and air tested at 3.5 to 4 psi plus we ran a video camera through each. Since the pipe has been installed some four years ago, we have undergone some pretty severe weather cycles and the pipe continues to perform. We have a bunch of road projects coming up in the near future, and we're definitely going to look at it and more than likely put it in.

"I do see this product gaining more popularity in this area of the country," he continued. "The more it gets exposure the more people are going to realize that it's a top of the line product. I'm not going to say concrete is inferior, but I think it has a life span that is not as long, and there are failures at joints where the polypropylene pipe isn't likely to fail."

For additional information call ADS at (800) 821-6710, go to www.ads-pipe.com or Mark Scholle, P.E., ADS, Engineered Products Manager for Minnesota, North Dakota and Wisconsin at 612/296-7692, mark.scholle@ads-pipe.com and Jim Merchlewitz, ADS Twin Cities Metro Sales Manager at 612/387-2413, jim.merchlewitz@ads-pipe.com.

