



Polyethylene Pipe Chosen for Use Under Delicate Northwest Estuary/Aquarium



Recently the coastal city of Newport, Oregon, received a new \$20 million wastewater treatment plant. The plant it will replace is located on the opposite side of Yaquina Bay, which the city surrounds. The old plant still is used to pump the treated refuse to its final destination over a mile offshore, so the two plants needed to be connected with two separate pipelines: one line to bring raw sewage to the new plant and one line to carry the finished refuse back to the old plant.

The biggest concern of the project is the environment of the delicate estuary of Yaquina Bay. Previously the home of Keiko the killer whale, of Disney's movie *Free Willy*, the bay is now an aquarium. Tourists are able to view marine life in the bay from under the water in a twelve-foot diameter acrylic tunnel.

Engineers decided the only environmentally safe way to cross the bay was to make two horizontal directional bores under the bay and pull polyethylene pipe back through, one 24-in. and one 20-in., both HDPE, DR 11. "Once PE pipe is fused you don't have any joints," said Joe Guedon of Newport Public Works Department. "It is like one solid piece of pipe going all the way underneath the bay floor and it has the flexibility to move and shift without breaking."

Both bores were just less than 3,000 feet and were performed by Smit Land & Marine Inc. of Houston, Texas. They contracted Mike Phillips of Slayden Construction, based in Stayton, Oregon, to handle their pipe needs. Slayden Construction has done the piping on a number of wastewater plants in the Northwest. Phillips says HDPE pipe is being used more and more in the wastewater business and believes it is more cost effective.

Once it's there it doesn't need repairs and doesn't corrode," said Phillips. "It's a lot faster and saves man hours." Phillips contracted Familian Industrial Plastics Inc., based in Washougal, Washington, to fuse the pipe. They laid the pipe out and fused it together before the bore was performed.

"We used McElroy's TracStar™ 900 to fuse the pipe because of the DataLogger™ feature," said Familian representative Randy Salsberry. "It was a critical link in quality control on this project. The DataLogger gives an instant reading of each fusion and assures us the weld is perfect. If during the pullback the pipe would break at a weld, it would cost us thousands of dollars to redo the bore."

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