



Kinder Morgan Terminal Edmonton, AB

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| OWNER | Kinder Morgan |
| DESIGNER | Worley Parsons |
| CONTRACTOR | Voice Construction OPCO ULC |
| LOCATION | Edmonton, AB |

The Kinder Morgan Edmonton storage terminal, located in Sherwood Park, Alberta underwent a multi-phase expansion project between 2012 and 2014. The Edmonton Terminal Expansion Project (EETEP) included the addition of 15 merchant tanks bringing the total to 35 tanks with a combined storage capacity of 8 million barrels (1.27 million m³). Upgrades to surrounding infrastructure included the installation of approximately 700 metres of Steel Reinforced Polyethylene (SRPE) pipe to re-direct a watercourse around a new retention pond into the North Saskatchewan River.



TECHNICAL DETAILS

SRPE Pipe: 1372 mm (54 in)
diameter, 700 m (2296 ft) long,
103 kPa (15 psi) joint

The Challenge:

Diversion of the existing watercourse required several elevation changes; therefore the pipe had to be large enough to provide sufficient hydraulic capacity while maintaining structural integrity of the system. A minimum 103 kPa (15 psi) joint integrity was required throughout for leak-free service.

Proper joint alignment during pipeline installation is also key to achieving leak-free service. The contractor was a first-time installer of SRPE pipe, so adequate training and installation procedures were required to ensure proper pipe performance.

**The Solution:**

Armtec proposed using 1372 mm (54 in) diameter SRPE pipe to re-route the watercourse around the retention pond. The smooth interior and large diameter provided sufficient hydraulic capacity to divert flow into the mouth of the North Saskatchewan River. The steel rib reinforcement increased pipe stiffness and improved structural stability for this large diameter pipeline. Watertight service was provided by a bell and gasket joining system rated to 103 kPa (15 psi) with Leakmaster sealant at the manhole connections.

Elevation changes in the pipeline were accommodated using concrete manholes. Connection of the SRPE pipe to the maintenance structures proceeded smoothly with no issues. Installation crews found the pipe easier to work with than typical Reinforced Concrete Pipe (RCP) and the Leakmaster sealant improved the necessary joint performance.

Armtec provided support throughout the project installation including development of the Leakmaster gasket and job-site assistance. This included the recommendation to use a sacrificial piece of pipe to 'push' each pipe section into place, allowing placement to proceed smoothly. Partial backfilling of installed lengths mitigated movement and helped maintain proper pipe alignment.

The rate of placement exceeded expectations for the first-time installer. The SRPE pipe lengths covered six times the length of conventional RCP, reducing the number of joints and overall installation time. The project was completed on schedule with minimal disruption to existing infrastructure.

**Find out how SRPE pipe can be used on your next project.
Contact us today.**



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