

1350 mm Diameter Transmission Watermain, Major Mackenzie Drive, Region of York

LEA was retained by the Region of York to provide detailed design, environmental approvals, and contract documentation for a 1350 mm diameter transmission watermain along Major Mackenzie Drive.

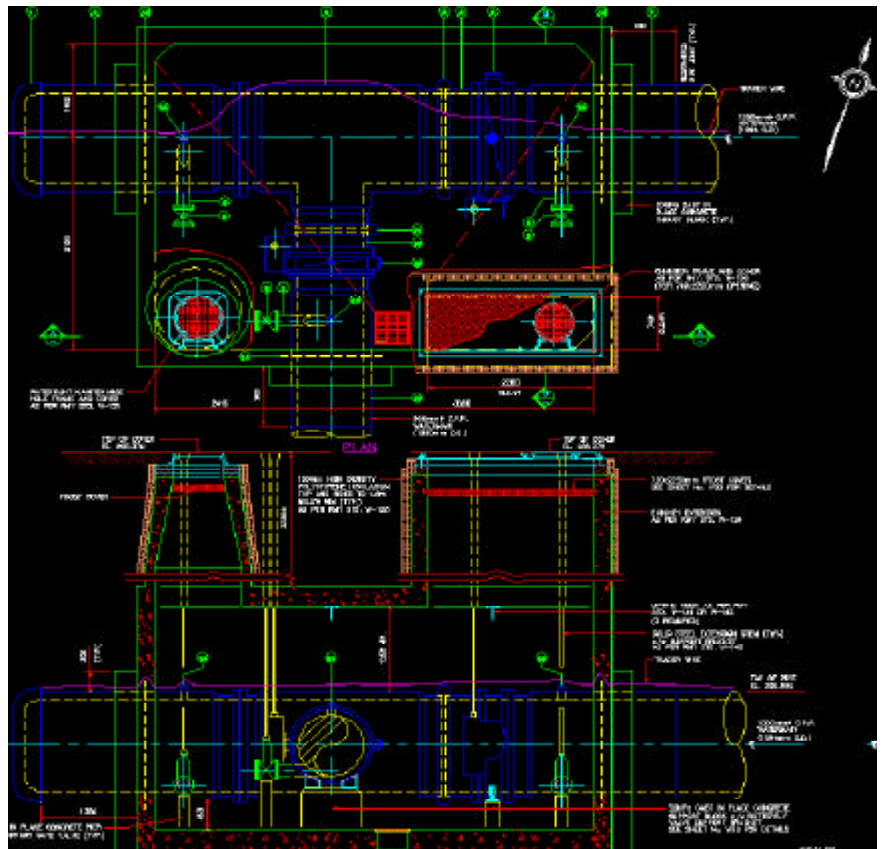
This section of the Major Mackenzie East Trunk between Woodbine Avenue and Kennedy Road represents the first phase of the main east/west spine of the distribution system for the Long Term Water Supply Project.

The water supply will come from Lake Ontario via Peel Region and will be transferred west to east across the Region of York in this 1350 mm diameter watermain. The pipe was designed as prestressed concrete pressure pipe manufactured to AWWA C301 standards. Mechanical restraints were used throughout, in lieu of thrust blocks. Five significant connections were required to service various development areas via the adjacent street system.

Drain valves were installed at all low points in the system, and non-siphoning air valves at all significant high points. A total of eleven large, cast-in-situ valve chambers were required, ranging in size up to 4.5 m x 6.0 m, to accommodate all valves and connections.

There were two significant stream crossings.

Berczy Creek is carried under Major Mackenzie Drive in a large corrugated pipe arch culvert. Because of the depth of the creek below road level, and the proximity of a 6 inch gas main, the watermain is carried through the



embankment fill **above** the creek, with provision for a pre-support system should the Berczy Creek culvert ever require replacement.

Berczy Creek is an environmentally sensitive tributary of the Rouge River. A cofferdam and bypass arrangement with a pump and stilling pond to settle out sump water was developed, to allow the watermain to be installed **below** the Creek.

The estimated value of the 4 km of watermain construction was approximately \$ 9 M (1997\$).

PROJECT SUMMARY

Client:
Region of York

Location:
Region of York, Canada

Services Provided:
**Detailed Design,
Environmental Approvals,
Contract Documentation**