



The photo above shows the completed pump station. Construction of the pump house building, piping and the wet well are shown in the photo at the right.



Leitrim Sanitary Pump Station, Forcemain and Gravity Sewer City of Ottawa

Completed in 1989, the Leitrim Master Sanitary Report identified the need for a Sanitary Pump Station. Located in the southern portion of the City of Ottawa, the station was designed to service approximately 4000 residential units, within an area of approximately 600 acres, together with 500 acres of industrial land. An original Predesign Report, undertaken in 1991, was updated in 1995, in conjunction with the preparation of a Schedule 'B' Provincial Class EA.

At the outset of the pre-design assignment, the City's Operations staff indicated that dual forcemains would be desirable for several reasons including minimizing sewage stagnation and standby forcemain capacity. Numerous combinations of dual-forcemain pipe diameters and pump configurations were developed and evaluated, with the aim of determining the most flexible and reliable alternative. The combination of a 300-mm and a future 400-mm forcemain was determined to be the best configuration for initial flows and buildout flows.

Numerous less-than-design flow conditions can be encountered in newly developed areas, such as forcemain and gravity sewer maintenance (cleaning/swabbing), sedimentation, stagnation and odour problems. To address the root causes of these conditions; a potable water flushing system, complete with backflow devices to protect the potable water supply system and a chemical injection system were designed for the new pump station.

Design of the Leitrim Sewage Pump Station was completed in 2001 and construction completed in 2002. The station consists of a single permanent circular undivided FRP wet well equipped with three (3) submersible pumps having a total capacity of approximately 400L/s. The station includes standby power, flow metering, PLC's and level monitoring. The project also included the design and construction of 2 kilometres of 300-mm forcemain and 1.5 kilometres of 600-mm gravity sewer.

Project Facts

Client: City of Ottawa

Scope of Work:

- Preliminary and detailed design
- Construction administration:
 - circular undivided FRP wet well
 - flow metering
 - PLC's and level monitoring
 - 2 kilometres of 300-mm forcemain
 - 1.5 kilometres of 600-mm gravity sewer
 - stand-by power
 - pump house structure
 - landscaping.

Key Design Criteria:

- Dual force mains design for the process piping requested by the client
- Future addition of 400-mm forcemain
- Future addition of chemical additives for odour control.

Project Cost: \$3,000,000 (2002)