



The expansion makes provision for 'top-up' chlorination of both the 'low-lift' and 'high-lift' water supplies.



Hanlan Low-Lift Pumping Station Expansion Region of Peel

In July 2001, the Ainley Group was retained to carry out the design of an expansion to increase the capacity of the 'low lift' side of the existing Hanlan Water Pumping Station. Initially, the project included the provision of a fifth 'low-lift' pump and an extension of the existing building.

Subsequently, the assignment was extended to include a sixth 'low-lift' pump to provide redundancy under maximum day conditions. In addition, the assignment was further extended to make provision for 'top-up' chlorination of both the 'low-lift' and 'high-lift' water supplies and piping was designed to accommodate supplying water to York Region in the future.

The project design included a computer analysis of the transient pressures in the distribution mains between the Hanlan Pumping Station and the Beckett Sproule Reservoir and the subsequent design of the large-diameter suction and discharge pipes. The Environmental Hydraulics Group (EHG), a specialist-subconsultant team member on this project, undertook the computer analysis. Eramosa Engineering Inc. designed the system controls to existing region SCADA requirements.

Project Facts

Client: Region of Peel

Scope of Work:

- Expansion design:
 - Increase capacity of 'low-lift' side
 - Include a sixth 'low-lift' pump
 - Provide for 'top-up' chlorination of 'low-lift' and 'high-lift' water supplies.

Key Design Criteria:

- Total Design Flow: 480 ML/d
- New Pump Capacity: 145 ML/d (each pump)
- Motor Size: 1000 kW
- Suction Piping: 1000-mm diameter
- Discharge Piping: 1000-mm diameter
- Suction and Discharge Header: 2100-mm diameter
- Chemical Feed: 112 L/HR (each pump).

Projected Cost: \$5,000,000