



Pump No. 6 at East Brampton Pumping Station (above)



Pump No. 4 at Herridge Pumping Station



Pump No. 6 at Hanlan Pumping Station (above)

Pump Replacements at Hanlan, Herridge and East Brampton Pumping Stations Region of Peel

In July 2006, the Ainley Group was retained to evaluate and replace/upgrade high lift pumps at the Hanlan, East Brampton and Herridge water pumping stations. The scope of the work included the testing and evaluation of existing high lift pumps, the design for the replacement of one high lift pump at each station and associated mechanical, electrical and SCADA upgrades.

The Hanlan pumping station is equipped with 14 pumps (eight high lift and six low lift). The Herridge pumping station is equipped with 11 pumps (six high lift and five low lift). The East Brampton Pumping station is equipped with eight pumps (four low lift and four high lift). Following hydraulic analyses and pump testing of each of the stations, it was determined that high lift pump No. 6 at the Hanlan PS, high lift pump No. 4 at the Herridge PS and high lift pump No. 6 at the East Brampton PS would be replaced.

The project design included a computer analysis of the transient pressures in the distribution mains conducted by Environmental Hydraulics Group (EHG), a specialist-subconsultant team member on this project. Eramosa Engineering Inc. designed the systems controls to Region SCADA requirements.

The project also included the installation of a new butterfly valve on the discharge header at the East Brampton pumping station, which was not equipped with any isolation valves.

Project Facts

Client: Region of Peel

Scope of Work:

- Increase high lift capacity of Hanlan, Herridge and East Brampton pumping stations by replacing one pump at each station
- Install new 600 mm diameter butterfly valve on discharge header at East Brampton pumping station to provide operational flexibility

Key Design Criteria for Hanlan:

- Total Design Flow: 127.15 ML/d
- New Pump Capacity: 46.2 ML/d
- Motor Size: 597 kW

Key Design Criteria for Herridge:

- Total Design Flow: 51 ML/d
- New Pump Capacity: 21.6 ML/d
- Motor Size: 298 kW

Key Design Criteria for East Brampton:

- Total Design Flow: 130 ML/d
- New Pump Capacity: 58 ML/d
- Motor Size: 669 kW

Construction Cost: \$3,600,000

Engineering Cost: \$400,000