



**Environmental  
Hydraulics  
Group**

**Hydraulic Transients (HT)**  
- Water & Sewage

**Project:** Glenmore Pump Station Upgrade –  
Impact on Pressure Zone HT

1996-082

**Location:** Calgary, Alberta

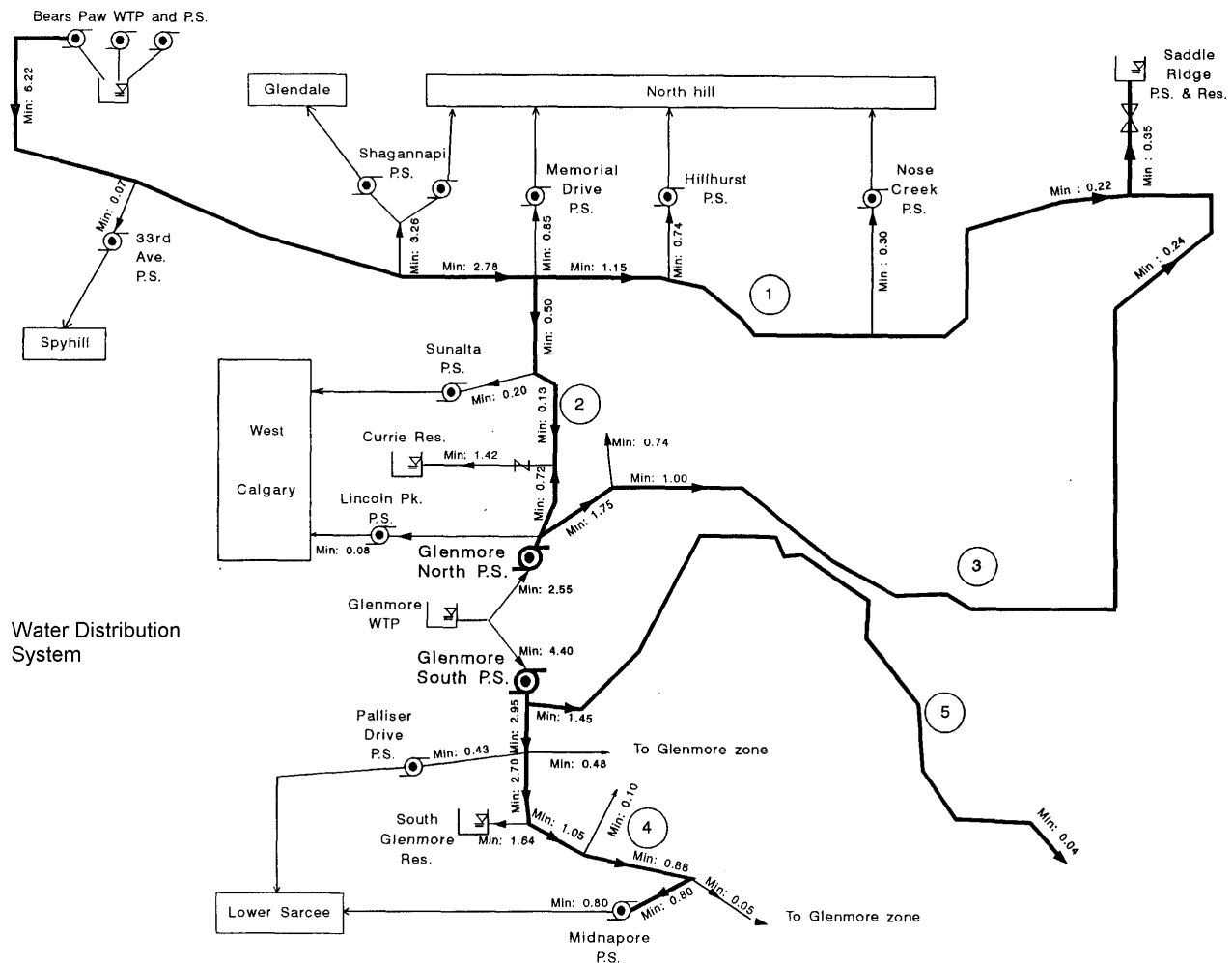
**Client:** Associated Eng. Ltd.

**Completed:** October 1997

**Description:** The Glenmore pressure district was supplied by two major pumping stations, each with a capacity of about 6 m<sup>3</sup>/s. Ten (10) smaller booster stations re-supplied neighbouring pressure zones and five (5) reservoirs helped balance the water supply and demand. The pressure zone served a total population of approximately 400,000 and its water distribution network had over 2,000 pipes.

EHG reviewed existing steady-state network model simulations and studied the water use balance. A hydraulic transient analysis was completed using EHG's computer model: Hammer™. Several constraints were identified throughout the network. A review of the functional wet well design and of general operations was also performed to minimize transients during normal operations.

**Benefit to the Client:** EHG recommended measures to protect the system against power failures and to optimise normal pumping operations.



**Schematic of Water Distribution within Glenmore Zone, Calgary**