

# MORGAN CREEK DRAINAGE PUMP STATION

**SURREY, BC**

**CLIENT: MORGAN CREEK HOLDINGS INC.**

Aplin & Martin Consultants Ltd. provided the engineering design and construction management services to this major drainage pump station located in the northeast corner of the Morgan Creek Development at 160 Street and 40 Avenue approximately 400 m south of the Nicomekl River in Surrey.

The facility provides drainage control for the prestigious Morgan Creek development to prevent flooding in the surrounding lowland agricultural area. The pump station design provides a unique solution to the situation that it is physically removed from the retention ponds (inlet) and the Nicomekl River (outlet). Connected by a 200 m long 1050 mm inlet pipe to the retention ponds, weirs in the pump station inlet chamber maintain the minimum pond level at elevation 0.70 m geodetic to achieve a balance between servicing the subdivision and aesthetic purposes. Normally water flows over the weir and by gravity through the 750 mm discharge pipe to the Nicomekl River. During storm events and when the Nicomekl River is high two propeller pumps (350 litres/second each) lift the water through a discharge tube into the elevated discharge chamber to an elevation that allows flow to the Nicomekl River. Flap gates at the bottom of the discharge chamber prevent backflow over the control weirs.



*Morgan Creek Drainage Pump Station*



*Remote Pump Station Intake Located in Retention  
Pond*