



ITT

Water & Wastewater
Case story | Dewatering

14 MGD sewage bypass for City of Kelowna, BC

Needed to replace a 60 inch sewer main.

The city of Kelowna, with a population of 123,500 is the third largest city in British Columbia. Situated on Okanagan lake in the Okanagan valley, its name derives from a native term for "female grizzly bear."



Photo Credit: Tourism Kelowna

Kelowna Marina

With scenic lake vistas and a dry, mild Canadian climate, Kelowna has become one of the fastest growing cities in North America. The appropriate management of such rapid development (and its attendant consequences) is a source of significant debate within the community. Because of the climate and vineyard-filled scenery, it has sometimes been compared to California.

As a part of planned municipal improvements, the City of Kelowna had to replace a 60" sewer main heading to the Kelowna Water and Wastewater Treatment Plant. Before the project was started, a temporary sewer bypass system was installed. After visiting the jobsite, Kamal Singh "Dewatering Specialist" for ITT Water & Wastewater found that the location of the sewer bypass was very confined. He also realized that there was no sump available to hold sewage. The contractor also requested to keep construction roads open for heavy moving equipment. Due to strict environmental checks, there was no place for error or sewage spill.



Diesel driven pumps, check valves and steel piping were used in this bypass.

Kamal Singh proposed to use remote inflated 60" sewer plugs, 2 X 12" Thompson Diesel Driven pumps with check valves, 2 X 12" steel piping to discharge and each pump calculated to deliver 5000 usgpm @ 50 feet of head @ 1600 rpm. The pumps were fed in to a common header, which would allow removal or replacement of the pump under any unforeseen circumstances without affecting other pumps. These pumps had an exclusive ENVIROPRIME® priming system, which prevents blow-by, achieves prime without filling the casing with water.

The 60" sewer trunk was plugged with a remote inflated sewer plug and 2 X 12" suction hose were dropped in the sewer line. A separate 12" port was provided to flush the lines and release the negative pressure from the check valves after the bypass is completed.

Engineered for life

The system was proposed to and rapidly accepted by the contractor. Crews began to put steel piping together, installing the pumps and situating the reducers and increasers.



12 in. steel piping on site

Once installed the sewage bypass system operated flawlessly and at finest levels as forecasted. Within two weeks the contractor was able to replace the 60" sewer main and was highly thankful to ITT Water & Wastewater.

Kamal Singh, ITT Water & Wastewater, Dewatering Specialist,
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Flygt Canada Dewatering division

Created to meet the increasing demands for a full fledged solution driven company, the Dewatering division mandate is to engineer, manage and supply major temporary site dewatering and sewage bypass projects in the municipal, construction, industrial and mining sectors. On-site project supervision, technical expertise and equipment maintenance services are also offered.

Built on Flygt's 50 years of Canadian water handling experience, the Dewatering division specializes in effective and environmentally secure water and wastewater transfer applications such as Sewage Bypass, Excavation Dewatering, Flood Drainage, Surface Irrigation and Mining Dewatering.

Flygt Dewatering also offers a full service rentals program. A complete line of submersible pumps, engine-driven suction pumps, generators, piping and complementary accessories are available for either long or short-term rental. With 14 coast to coast service locations, Flygt is the only nationwide company to offer complete turn-key water handling solutions, expertise and products.