

Detailed Design and Construction for the Replacement of the Failing Sanitary Sewer Crossing Pine Creek in Douglas Park

A while back I was contacted about the sewer crossing Pine Creek in Douglas Park. I am pleased to report that we are connecting the detailed design of a new sanitary sewer, concrete culvert and creek restoration work for Pine Creek in Douglas Park. The total estimated project cost will be estimated at \$800,000.

A portion of the sanitary sewer crossing Pine Creek in Douglas Park, in the City of Pickering, is deteriorating to the point where a possible catastrophic failure could occur. There is the potential of the spillage of raw sewage into Pine Creek and Frenchman's Bay.

Initial investigations focused on replacing the existing sanitary sewer with a syphon design. This alternative would allow for the removal of all culverts and the restoration of Pine Creek to its natural condition. This alternative is in accordance with the Toronto Region Conservation Authority (TRCA) permitting requirements. However, geotechnical investigations showed the existence of shale bedrock that would make the construction of the syphon very difficult and expensive. Based on geotechnical field investigations and contractor tunnelling expertise, the syphon solution for the sanitary sewer creek crossing is not recommended due to potential construction risks. The recommended solution is to replace the existing culverts with an open bottom concrete box culvert and a gravity sanitary sewer crossing above the proposed culvert fill area. While not as preferred to the total removal of all culverts, an open bottom culvert is an acceptable alternative to TRCA.

In order to provide this solution, the design of a new culvert system in accordance with TRCA policies is required. The proposed works will also include the design of a creek restoration plan to restore the creek to its original condition. SRM Associates, due to their extensive experience in the area of the proposed works, was retained to design the original syphon solution.

