

Essa Road Culvert

Client: **City of Barrie**

Year: 2011 - 2012



SERVICES PROVIDED

CCTA was retained by the City of Barrie to complete the preliminary and detailed design of a culvert replacement on Essa Road at the Holly Branch Tributary of Bear Creek. Hydrologic and hydraulic analyses were completed to design a culvert with capacity to convey up to the 100-year design flood frequency in accordance with the City's drainage policies and guidelines for an arterial road having an Average Annual Daily Traffic greater than 10,500. The existing culvert was a 950 mm wide by 750 mm high concrete box culvert in series with a 750 mm diameter CSP culvert extension. The new culvert, a 2400 mm wide by 1200 mm high concrete box culvert was designed along a new alignment that considered the future Essa Road widening and included compensatory creation of fish habitat. Design and construction considered existing services and maintained two-way traffic on Essa Road for the duration of construction. The preliminary design was initiated in September 2011 and construction was completed in October 2012. The construction contract was valued at \$224,200.

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