CASE STUDY

Georgetown Grade Separation Upgrade

Toronto, Canada (2013)

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BACKGROUND

In order to accommodate the transportation needs of Toronto's growing population, the GO Transit authority (regional public transit service for the Greater Toronto and Hamilton Area) decided to raise Strachan Avenue by almost two meters (6.5 ft.) to pass over the rail way, simultaneously the rail corridor will also be lowered up to eight meters (26 ft.) below Strachan avenue. In order to accommodate the lowered rail line they also had to lower the existing approximately 500 meters (1641 ft.) sewage tunnel. The new overpass will be used for bicycle lanes and sidewalks.

For the first phase of the project the team used a surface-applied system to waterproof the sewage tunnel. It was time consuming to install in order to prevent damage when using the slip form system.

SOLUTION

For the next phase of the project the team added Kryton's Krystol Internal Membrane (KIM) Concrete Waterproofing Admixture to the concrete mix. Using KIM eliminated the step of applying a surface-applied system which helped speed up the schedule. KIM also eliminated the concern over damaging the surface membrane when using the slip form or during concrete installation. Approximately 3000 cubic meters (4000 cubic yards) of KIM-treated concrete was used in the construction of the approximately 500 meters (1641 ft.) below grade sewage tunnel. Kryton's Krystol Waterstop System for joints was also used in both the tunnel and tunnel ventilation shafts at Strachan Avenue.

The City of Toronto wanted further assurance and also purchased Kryton's Krystol Assurance five-year extended warranty. This guaranteed the project would be leak-free for five years after completion.

OWNER:
City of Toronto

DESIGN SPECIFICATION:
Aecom Tunnel Group, Hamid Javady M.Sc, P.Eng

TUNNEL CONTRACTOR:
C&M McNally Engineering Corp

CONTRACTOR:
EllisDon

READY-MIX:
CBM Ready-Mix Concrete

DISTRIBUTOR:
Form & Build Supply Inc.

PRODUCTS:
Learn more at **kryton.com**
Krystol Internal Membrane (KIM)
Krystol Waterstop System

Work on the tunnel.

Looking up the tunnel ventilation shaft.

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