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Cave Creek Sewer Replacement City of Ottawa

The Ainley Group was responsible for the feasibility studies, final design, preparation of contract documents and tenders and the construction review for the replacement of a portion of the Cave Creek Collector Sewer on Carling Avenue in the City of Ottawa

Approximately 675 metres of 900-mm diameter concrete pipe was installed including the reconnecting of existing sewer and lateral services, while by-pass pumping handled the existing sanitary flow during construction. Due to soil and water chemistry and some contaminated soil, the concrete pipe material was enhanced against corrosion with silica-fume additive and special gaskets in the contaminated area. This was one of the first projects in the city using silica fume for concrete sewer pipe. Due to the large volumes of traffic along Carling Avenue, the project required the development of traffic accommodation programs to ease congestion. Feasibility studies, including hydrologic and hydraulic engineering and cost-benefit analyses, were conducted prior to final design. The studies were used to verify the cost effectiveness of increasing the capacity of this major collector sewer to accommodate future development.

During the design stage, the Ainley Group recommended a change to the initial proposed route, which resulted in significant savings during construction.

Project Facts

Client: Regional Municipality of Ottawa-Carleton

Scope of Work:

- Feasibility Studies: hydrologic, hydraulic, cost benefit
- Pre-design surveys
- Alternative design concepts
- Preliminary design
- Detail design

Key Design Criteria:

- Installation of 675 metres of 900-mm dia concrete pipe
- Reconnection of sewer and lateral services
- Enhancement of concrete pipe with silica-fume additive and special gaskets
- By-pass pumping of sanitary flow during construction.

Project Cost: \$1,180,000 (1995)