Southland Holdings

Ashbridges Bay Treatment Plant Outfall Tunnel

Location: Toronto

Client: Southland Holdings (Owner is city of Toronto)

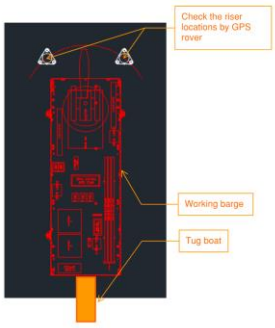
Services: Custom control network, bathymetric survey, offshore layout, caisson layout, shaft control transfer, tunnel auditing

Project Description

This $300 million project for the City of Toronto will replace the current outfall tunnel, which is at the end of its service life. The ABTP is the largest of four wastewater treatment plants in Toronto and treats wastewater from a combined sewer system. Currently, the outfall can handle peak flows of 3,200 megaliters per day. Once complete, the improved outfall will be able to handle up to 3,923 megaliters per day. The project will consist of a seven-meter diameter outfall tunneled 3,5000 meters through rock beneath Lake Ontario's lakebed. Using a Tunnel Boring Machine, the outfall will be excavated to a 16-meter diameter outfall shaft that is 85 meters deep. There will be about 50 risers constructed in line with the tunnel along the diffuser that runs about 1,000 meters and extends from the top of the tunnel to the lakebed. The project is slated for completion in 2023.

GeoVerra's Project Support

GeoVerra is currently performing the verification survey services for Southland Holdings on the construction of a new 3.5km long, 7m diameter, outfall tunnel mined through rock beneath Lake Ontario. The main shaft is 85m deep and 14m in diameter. Additional construction includes 50 in-lake risers extending from tunnel to lake bed. GeoVerra's survey verification services are extensive, including establishment of the Project Geodetic Survey Control Network that comprises a custom transformation between NAD83 and NAD27, establishment of Project Vertical Deep Benchmarks, transfer of control from primary surface monuments to shaft control points, barge positioning, offshore layout of lake risers, topographic site surveys, civil earthworks preparation and grade checks, site construction layout and checks including haul roads, fencing, and buildings, and survey consulting services and recommendations to the City of Toronto and the Owner's Engineer.



Primary Services and Deliverables

- Establishment of the Project Geodetic Survey Control Network that comprises a custom transformation between NAD83 and NAD27
- Establishment of Project Vertical Deep Benchmarks
- Transfer of control from primary surface monuments to shaft control points, barge positioning, offshore layout of lake risers, topographic site surveys, civil earthworks preparation, grade checks
- Site construction layout and checks including haul roads, fencing, and buildings, and survey consulting services and recommendations to the City of Toronto and the Owner's Engineer