

GO Rail Network Electrification Transit Project Assessment Process

Study Summary: Preliminary Environmental Site Gap Analysis (Appendix B)

Scope of the Study

The scope of the GO Rail Network Electrification Transit Project Assessment Process (TPAP) involves electrification of the following GO Transit rail corridors:

1. Union Station Rail Corridor – From UP Express Union Station to Don Yard Layover
2. Lakeshore West Corridor – From just west of Bathurst St (Mile 1.20) to Burlington
3. Kitchener Corridor – From UP Express Spur (at Highway 427) to Bramalea
4. Barrie Corridor – From Parkdale Junction (off Kitchener Corridor) to Allandale GO Station
5. Stouffville Corridor – From Scarborough Junction (off Lakeshore East Corridor) to Lincolnville GO Station
6. Lakeshore East Corridor – From Don Yard Layover to Oshawa GO Station

The Study Area encompasses the GO Transit rail corridors outlined above including the defined vegetation removal zone (i.e., an area extending 7m from the outermost electrified tracks on each side of the corridor) and electrical feeder routes.

The purpose of the Preliminary Environmental Site Gap Analysis study was to review previously completed Environmental Site Assessment studies completed along the rail corridors in order to summarize existing conditions, and areas where potential subsurface contamination was previously identified. The overarching purpose of the gap analysis study is to identify areas requiring further study and data gaps that will need to be addressed during future project phases, i.e., detailed design.

Approach/Methodology

Relevant studies/reports were reviewed including Phase I and II Environmental Site Assessments (ESAs), remediation reports and geo-environmental investigations. To assess the scope and extent of previous assessments and findings, a systematic approach was carried out as follows:

1. Review of each applicable report & mapping relative to the Electrification impact zone (defined as a 7m zone on either side of each corridor to be electrified) along the corridors.
2. Identification and mapping of areas or sections of rail corridors that had not been subject to previous environmental site assessment work (i.e. identification of data gaps); and
3. Where previous studies were completed within the Electrification impact zone, a more detailed review of the reports was conducted to describe and map areas of potential contamination that will require further study.

Summary of Results

Based on the gap analysis study completed along the rail corridors as part of this TPAP, portions of the corridors within the study area have been assessed (approximately 55% of the Overhead Contact System (OCS) Impact Zone have received some form of Environmental Site Assessment (ESA)). However there are significant lengths of the corridors/OCS Impact Zone that have not been assessed based on the documentation reviewed to date. Generally these gaps are summarized as follows:

Union Station Rail Corridor – The majority of this corridor has been the subject of Phase I and II ESAs with the exception of most of the Don Yard Layover. Two sections of 0.8 km and 1 km require ESA work.

Lakeshore West Corridor – This corridor has been the subject of Phase I and II ESA from Strachan Ave (eastern boundary of current study) to 29th St. (west of the Mimico TPS). The corridor west of this point has not been assessed. Approximately 37 km of this corridor have not been subject of ESA. Additional gaps include the Willowbrook Maintenance Facility.

Kitchener Corridor – This corridor has been subject of a Phase I ESA and limited Phase II ESA from Highway 427 (the eastern boundary of the current study) to Highway 407. The corridor west of this point (to Steeles Ave.) has not been assessed, a length of approximately 2.7 km.

Barrie Corridor – This corridor has been subject to very limited assessment work, consisting only of a Phase I ESA that extends from just north of Steeles Ave. up to Bradford, where the 9th Line crosses the corridor. The corridor both south and north of this segment has not been assessed, comprising approximately 48 km of corridor.

Stouffville Corridor – Most of this corridor has been the subject of Phase I and II ESA. A short segment extending north from the Stouffville GO Station to Lincolnville has not been assessed, being approximately 3.7 km long. An additional gap is the segment of line south from Unionville Station to Denison St. which may not have been included in the Phase II ESA.

Lakeshore East Corridor - This corridor has been the subject of Phase I and II ESA from the Don River (western boundary of current study) to Frenchman’s Bay (west of Liverpool Rd.) in Pickering. The corridor east of this point (including the proposed switching yard at Durham (near Brock Road) has not been assessed. Approximately 20 km of this corridor have not been subject of ESA study.

For additional more detailed information, please refer to the Preliminary Environmental Site Assessment Report (which is organized by rail corridor for easy reference) contained in Appendix B.

Mitigation Recommendations and Future Work

Further work is recommended across each of the rail corridors to assess/characterize potential soil and/or groundwater contamination and develop appropriate mitigation measures. As a result, additional Environmental Site Assessment studies including Phase I ESAs, Phase II ESAs, etc. will be carried out by Metrolinx as required along the corridors/Electrification Impact Zone during the detailed design phase. Should these further assessments confirm the presence of subsurface contamination at these sites, recommendations for mitigation¹ will be developed and implemented as appropriate which may include but are not limited to:

- Carry out additional Phase 1 ESA and/or Phase 2 ESA studies as required;
- Where identified, contaminated soils and groundwater will be managed in accordance with applicable environmental legislation (i.e.; Ontario Environmental Protection Act, Ontario Regulation 347, Transportation of Dangerous Goods Act and Regulations, and Ontario Regulation 153/04).
- Remediation and/or implementation of management measures to address contaminated soils and/or groundwater during construction and long term operations and maintenance if required/applicable. Management measures will be carried out in accordance with applicable environmental legislation.
- Implement a site specific health and safety plan for construction workers based on the findings of the subsurface investigations.
- Develop and implement an Excess Materials Management Plan based on the findings of the limited subsurface investigations. The Plan will be available on site during construction.
- Prepare and implement a dust management plan for construction activities based on industry best practice to mitigate impacts through the use of proper controls such as:
 - Periodic watering of unpaved (non-vegetated) areas;
 - Seeding/re-vegetating exposed soil;
 - Periodic watering of stockpiles;
 - Limiting the speed of construction vehicular travel;
 - Covering trucks hauling excess material;
 - Sweeping and/or water flushing of the entrances to the construction zones; and
 - Installing silt fences around site perimeter to prevent dust migration.
- Implement spill management measures as indicated in the Emergency Preparedness and Response Plan.

¹ It should be noted that the mitigation measures and future work listed will also apply to all proposed traction power facilities.

- Although there may be some lubricants and/or fluids associated with construction vehicles and equipment, it is inferred that the equipment will be designed and operated to prevent leaks and thus the potential for contamination is unlikely. In the unlikely event that soil and/or groundwater contamination did occur, proposed mitigation options would include the following:
 - Follow procedures outlined in the Emergency Preparedness Plan;
 - Spill kits will be available on vehicles and in potential spill locations;
 - Spills will be cleaned up as soon as possible and remediation activities will be conducted if necessary;
 - Each site will be equipped with spill containment and/or oil/water separator facilities.