

Monitoring Plan

Project Name:	Georgetown South Service Expansion and Union-Pearson Rail Link
Transport Canada File No.:	
NWPP File No.:	8200-005-6160
Decision Date:	
Proponent/Contractor:	
Project Start Date:	
Project End Date:	
Name of Field Supervisor:	
Email:	
Telephone No.:	
Monitoring Plan Schedule:	Once at the end of detailed design and annually during construction and in the first two years of operation (<i>to be confirmed during detailed design</i>)
Photos required:	Yes <input type="checkbox"/> No <input type="checkbox"/>
PLEASE SEND COMPLETED FORM TO TRANSPORT CANADA SURFACE INFRASTRUCTURE PROGRAMS –AT FAX# 613-990-9639 OR BY EMAIL AT mo.tayyan@tc.gc.ca UPON MONITORING PLAN SCHEDULE.	

Monitoring Plan Table 1 - Mitigation Measures [Site-Specific Measures and non-BMPs] to be Adhered to by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance						
Project Phase	Environmental Components	Mitigation Measures and Commitments to Future Work	Measure Implemented		Photos or Document Number	Date
Construction	Terrestrial Ecosystem (Vegetation and Vegetation Communities, Wildlife, Habitat, Wetlands, Migratory Birds)	<p>1. The Humber River and Mimico Creek valleys will be identified as a 'sensitive area' on contract drawings to restrict contractor activities in the valley. Black Creek is considered less sensitive given that the valley portion within the rail crossing consists of terrafix lined channel and valley slopes; however, the valley upstream (within Keelestdale Park) will be identified as a 'sensitive area' on contract drawings to restrict contractor activities outside of the existing rail corridor.</p> <p>2. A re-vegetation plan will be developed for the portions of the Black Creek, Humber River, and Mimico Creek valleys disturbed by the proposed works.</p> <p>3. Temporary vegetation protection fencing will be installed to protect valley and riparian vegetation adjacent to work areas, specifically woody vegetation located at vegetation unit BC1 at Black Creek, vegetation units HR1, HR2, HR3 and HR5 at the Humber River valley, and riparian vegetation along the northeast bank of Mimico Creek south of Zahavy Way.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Groundwater	<p>4. Any water takings in Ontario that exceed 50,000 litres/day require a Permit to Take Water (PTTW) from the Ministry of the Environment (MOE). This could be either for consumptive use (e.g. dust control, compaction) or non-consumptive use (e.g. excavation dewatering).</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>Water takings in Ontario are governed by the <i>Ontario Water Resources Act</i> and the Water Taking and Transfer Regulation (O.Reg. 387/04). There are three PTTW categories as stipulated under O.Reg 387/04 based on the potential adverse risk that the water taking may pose on the natural environment, groundwater users, and existing permit holders in the area of water taking. There are also various technical requirements and assessments required for the different categories, in addition to whether the water taking is from surface water, groundwater, or both.</p> <p>Construction activities associated with the project such as deep cuts and foundation works have the potential to affect groundwater and surface water resources within the study area. As a result, it is possible that a PTTW will be required for one or more components of the construction works. During detailed design the PTTW requirements for the construction works will be identified in consultation with the MOE. All PTTW applications and supporting documents will be prepared and signed by a Qualified Person in accordance with MOE requirements.</p>				
	Contaminated Properties (including Subsurface Geology and	5. Prior to construction an excess materials management plan will be developed to address proper handling of all excess materials that may be potentially contaminated.	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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	Soils)					
	Noise	<p>6. The following outlines the commitments to future work and the best management practices and mitigation measures to be implemented during construction. These measures apply to both short-term and long-term construction activities.</p> <p><u>Communications</u> Communication with stakeholders (e.g. individual members of the public, ratepayer groups, business associations, etc) will focus on the following activities:</p> <ul style="list-style-type: none"> • Obtaining input on construction mitigation measures that affect the community • Communication of project status and activities • Enquiries/Complaints procedures <p>The following provide additional details on these activities.</p> <p><i>Input on construction mitigation measures</i></p> <ul style="list-style-type: none"> • There will be communications with stakeholders to identify local and site-specific issues so that specific mitigation measures can be developed to minimize effects to the extent possible. This will include discussions on issues such as: <ul style="list-style-type: none"> ○ construction access; ○ temporary road closures; ○ construction schedule; and ○ critical community activities that may be affected. <p><i>Communications of status and activities</i></p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<ul style="list-style-type: none"> A website will be developed to provide ongoing updates to facilitate communications during design and construction. Whenever construction activity will affect a residential or business area, advance notice will be provided to the residents and businesses within the zone of influence. Neighbourhoods will be kept updated on construction duration and progress. Community liaison officers will be available on site for a number of defined construction areas for neighbourhoods to contact with specific information requests. <p><i>Enquiries/Complaints Procedures</i></p> <ul style="list-style-type: none"> Community liaison officers will be available for neighbourhood residents and business to hear and assist with issues that may arise during construction. 				
	Vibration	<p>7. The following outlines mitigation measures to be implemented during construction. These measures apply to both short-term and long-term construction activities.</p> <p><u>Communications</u> Communication with stakeholders (e.g. individual members of the public, ratepayer groups, business associations, etc) will focus on the following activities:</p> <ul style="list-style-type: none"> Obtaining input on construction mitigation measures that affect the community Communication of project status 	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>and activities</p> <ul style="list-style-type: none"> • Enquiries/Complaints procedures <p>The following provide additional details on these activities.</p> <p><i>Input on construction mitigation measures</i></p> <ul style="list-style-type: none"> • There will be communications with stakeholders to identify local and site-specific issues so that specific mitigation measures can be developed to minimize effects to the extent possible. This will include discussions on issues such as: <ul style="list-style-type: none"> ○ construction access; ○ temporary road closures; ○ construction schedule; and ○ critical community activities that may be affected. <p><i>Communications of status and activities</i></p> <ul style="list-style-type: none"> • A website will be developed to provide ongoing updates to facilitate communications during design and construction. • Whenever construction activity will affect a residential or business area, advance notice will be provided to the residents and businesses within the zone of influence. • Neighbourhoods will be kept updated on construction duration and progress. • Community liaison officers will be available on site for a number of defined construction areas for neighbourhoods to contact with specific information requests. 				

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		<i>Enquiries/Complaints Procedures</i> <ul style="list-style-type: none"> Community liaison officers will be available for neighbourhood residents and business to hear and assist with issues that may arise during construction. 				
	Human Health	8. The proposed mitigation measures, for human health implications associated with increased air emissions are the same as those proposed to address potential air quality effects. Please refer to "Air Quality" for details regarding the proposed measures to address potential air quality effects. Implement mitigation measures identified under "Contamination" and "Noise".	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Built Heritage and Cultural Heritage Landscapes	9. Mitigation measures for the direct effects to the bridges is to conduct Heritage Bridge Assessments in accordance with the Ontario Ministry of Culture's Guideline during detailed design so that these features are documented prior to construction. 10. Mitigation for effects to the Humber River River Bridge and Humber River Valley cultural heritage landscape is a commitment to ensure that bridge is widened in a manner that is sympathetic to its existing character (similar to widening the 16 Mile Creek Structure on the GO Lakeshore Line).	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Archaeological Features	11. Based on the proposed design, there are three general areas of archaeological potential where Stage 2 Archaeological Assessment may be	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>required - lands within the rail corridor adjacent to Fort York, the land around the Weston Golf and Country Club adjacent to the Humber River, and the Mimico Creek valley lands (as shown on Figures 4.2.2.2-1 and 4.2.2.2-3).</p> <p>During detailed design it will be determined which of those areas may be directly affected by construction. If they are to be affected, a Stage 2 Archaeological Assessment will be conducted as early as possible prior to construction. Timing for the completion of any Stage 2 Archaeological Assessment work will be subject to field conditions and property access.</p> <p>The project will not affect Fort York; however, should the proposed works encroach upon undisturbed land with archaeological potential in the Fort York ASA, a Stage 2 Archaeological Assessment will be conducted.</p> <p>12. Submit any additional Archaeological Assessments a minimum of 90 days prior to construction to the Ministry of Culture.</p> <p>13. Complete archaeological monitoring during any construction excavations along the rail corridor adjacent to Fort York (see Figure 4.2.2.2-1).</p>				
	Transportation	<p>14. Most of the construction of the new structures and roadways in the Georgetown South Corridor will result in traffic delays and some road closures during construction. In order to partially mitigate these construction effects,</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>proposed traffic staging and management plans will be developed in consultation with the Municipalities during detailed design.</p> <p>Dust suppressant measures, as identified in Ontario Provincial Standard Specification (OPSS) 506, will be used during construction. OPSS 506 outlines the requirements for dust suppressants and their application. In addition, any disturbed lands will be vegetated (e.g. seeded) as appropriate to reduce the potential for dust to develop from exposed soil.</p> <p>As the construction proceeds the proposed traffic management plans may be adjusted based on changes to activity in the surrounding area. The adjacent community will be apprised of initial plans and any future changes as they occur.</p> <p>Other mitigation such as special directional construction signing for local businesses may also be considered when roads have to be closed during construction.</p> <p>Metrolinx will also meet with TTC to coordinate and formulate plans for any required temporary routing changes for services across or along the corridor.</p> <p>15. <i>Union-Pearson Rail Link</i> In order to minimize the disruption caused by the proposals for temporary road closures as a result of the construction of the Union-Pearson Rail Link, extension traffic management</p>				

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		<p>measures will be required and these will have to be coordinated with the GTAA.</p> <p>Additionally, the construction effects to traffic will be reduced by utilizing a number of dedicated construction laydown areas along the length of the spur line as follows:</p> <ul style="list-style-type: none"> • Goreway Drive laydown area – east side of Goreway Drive opposite Zahavy Way. This site has been used by others as a construction laydown area. • Dorman Road/Network Road laydown area – a vacant asphalted area owned by the federal government (on GTAA leased lands). • Laydown area in, or near, GTAA Parking Area 6B. • Two laydown areas within the Airport between Airport Road and the existing Terminal 1 parking structure. <p>Access to these areas will be available from the existing road network.</p>				
	Utilities - Pipelines	<p>16. Consultation with the pipeline owners will occur during detailed design and construction as warranted. All necessary approvals from the pipeline owners will be obtained prior to completing construction in the vicinity of the pipelines, towards ensuring that potential effects are minimized and effectively mitigated both through design and during construction.</p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>		

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	Navigability	17. Abide by all Conditions of Approval that may be identified in the approval under the NWPA; and 18. Ensure debris does not fall into the water during construction.	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Operation / Maintenance	Terrestrial Ecosystem (Vegetation and Vegetation Communities, Wildlife, Habitat, Wetlands, Migratory Birds)	19. For general operations no factor specific mitigation is required. 20. For longer-term maintenance activities that require construction (e.g. rehabilitation of a bridge) similar construction-related mitigation measures and commitments to future work as outlined above and in Table 2 will be employed to protect environmental features.	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Fish and Fish Habitat	21. For general operations no factor specific mitigation is required. 22. For longer-term maintenance activities that require construction (e.g. rehabilitation of a bridge) similar construction-related mitigation measures and commitments to future work as outlined above and in Table 2 will be employed for any maintenance or rehabilitation activities.	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Groundwater	23. All structures in the cut-and-cover sections will be designed as “water-tight” structures to minimize the inflow of water into the structure and permanent changes to the groundwater flow. At the trench in Weston the groundwater table is generally above the level of the tracks and permanent dewatering system will be necessary to control groundwater to the depth of the base of the excavation. The design of	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>the dewatering system will be completed during detailed design. Continuous excavation support walls (e.g., contiguous caisson walls, concrete diaphragm walls, etc.) may be used to minimize flow into the excavations from surrounding soils. Use of a contiguous secant or slurry wall will minimize effects of the ground seepage. Most of the run-off in the area is collected in the sump pits and will be pumped to the municipal sewer system.</p> <p>24. Wherever a pumping station is required (to be determined during the detailed design process) a monitoring system will be in place, so that in case of any train derailment, diesel fuel will be prevented from entering the municipal sewer system. In such a case the pumping system will be shut down for a short period of time.</p>				
	Surface Water	<p>25. During the detailed design stage, an assessment of the receiving capacity of the municipal storm sewers at the outlets from the proposed platform expansions will be undertaken. Stormwater management facilities will be incorporated in the design to ensure, at a minimum, there are no negative effects with respect to water quantity, quality and erosion potential and to meet the City of Toronto Wet Weather Flow Management Guidelines (City of Toronto 2006). Opportunities to enhance water quality at these locations will also be</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>investigated. The use of oil/grit separators and detention storage (e.g. pipe storage, parking lot storage, detention pockets etc.) will be considered where practical.</p> <p>26. During the detailed design stage, a detailed assessment of the proposed ditches along the rail corridor will be undertaken to ensure that there is sufficient capacity in the rail side ditching system for conveyance of flows from the rails and any outside contributing catchment areas. The effectiveness of these ditches with respect to water quality treatment will also be assessed.</p> <p>27. Anti-erosion protection measures will be incorporated into the design of the proposed bridge piers and foundations at the Humber River using information from geotechnical studies and input from a fluviogeomorphy specialist.</p> <p>28. A detailed Drainage and Stormwater Management Plan for the proposed Union-Pearson Rail Link Operations Management Centre (OMC) will be developed as part of design. That plan will be consistent with the goals and objectives of the City of Toronto Wet Weather Flow Management Guidelines (City of Toronto 2006). The Drainage and Stormwater Management Plan will include a number of on-site water quality protection procedures that will ensure contaminated water does not reach receiving water bodies. These</p>				

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		<p>could include, but are not necessarily limited to:</p> <ul style="list-style-type: none"> • exterior cleaning will occur in a cleaning shed (open at each end) with a serial cleaner: water application, soap (acid based) application, scrub brushing and rinsing with full fluid recovery; • the washing bays will include a grey water collection system (no discharge to surface runoff system); • fuelling by trucks from off-site supply depots will occur at a designated OMC location outfitted with an apron larger than individual UPRL vehicles (or train consists, as final design permits), and an associated catch basin system for recovery of any fuel spillage; • catch basins or drip trays will be constructed for capture, retention and retrieval (self-recovery system for recycling residual petroleum products); and • Overall grading will be such that all other overland flows will be directed to oil-grit separators prior to release. 				
	Contaminated Properties (including Subsurface Geology and Soils)	29. Exterior cleaning of vehicles will occur in a cleaning shed (open at each end) with a serial cleaner: water application, soap (acid based) application, scrub brushing and rinsing with full fluid recovery. The washing bays will include a grey water collection system (no discharge to surface runoff system);	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>30. Fuelling of each vehicle will occur daily (one tank per vehicle, with sufficient fuel to operate the vehicle for 24 hours – fuel tank size dependent upon final vehicle selection); however, no fuel will be stored on site. Fuelling by trucks from off-site supply depots will occur in a designated OMC location (at the maintenance facility) outfitted with an apron larger than individual vehicles (or train consists, as final design permits) and an associated catch basin system for recovery of any fuel spillage. This location would be close to the entrance where fuelling can occur in an area isolated from buildings and the main ladder track (vehicle storage) area of the yard, which will provide enhanced safety/security (fuel trucks do not have to travel very far into the operational area of the yard) and minimize access road space dedicated to the refuelling operation. The catch basins or drip trays will be constructed for capture/retention, retrieval (self-recovery system) and recycling of residual petroleum hydrocarbon products.</p> <p>31. Repairs and retrofits to the vehicles that are completed at the maintenance facility will involve self-recovery and recycling of usable material.</p>				
	Noise	32. New acoustical barriers will be placed in select locations (as shown in Figures 5.1.7.2-11 to 5.1.7.2-20) and use of acoustically-absorptive material as part	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

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		<p>of the design for the covered tunnel section between King Street and Church Street are proposed to mitigate potential effects. The height and design of the new barriers will be determined during detailed design.</p> <p>Given that the noise effect assessment was completed for the 15 year Metrolinx planning horizon and, for some areas (specifically north of the Junction), the increase in sound for that horizon year was slightly above the trigger for mitigation, Metrolinx may consider staging the construction of acoustical barriers or providing alternative measures. This decision would be based on when they are warranted by future service levels and subject to technical and economic feasibility.</p>				
	Vibration	<p>33. The effectiveness of mitigation measures has been reviewed and as a result the following vibration mitigation measures are proposed at the locations shown on Figures 5.1.8.2-1 to 5.1.8.2-10.</p> <p>For most of those areas, ballast mats will be provided to mitigate effects. A description of a ballast mat is provided below:</p> <ul style="list-style-type: none"> • Ballast mats – Ballast mats are essentially rubber or rubber composite mats placed directly under the ballast of train tracks to cushion the ballast. This cushioning provides some damping 	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>		

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		<p>and reduces the amount of vibration transferred into the soil. This technique works best for stiff soils.</p> <p>More extensive mitigation is likely required at two, or perhaps three locations, (i.e. the apartment on the northeast corner of Bloor and the bridge, possibly the apartment on the east side of the corridor at Wallace Avenue, and the apartment in the northwest quadrant of the corridor and Lawrence Avenue). The mitigation in these cases would be a floating slab. A description of a floating slab is provided below:</p> <ul style="list-style-type: none"> Floating slab - A trench is constructed and lined with concrete and a heavy concrete slab is constructed within the trench with rubber pads placed beneath the slab. The concrete slab is necessary to provide better low frequency performance than can be achieved by other methods of track isolation. <p>All three of these locations are affected by bringing the tracks noticeably closer to the receivers that are already built at a short setback. The reason for the track offset is to accommodate larger station platforms that allow for services to operate safely and provide optimal passenger convenience.</p> <p>34. Final details regarding the location and design of the proposed vibration</p>				

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		<p>mitigation measures will be determined during detailed design when more detailed geotechnical information will be available (e.g. required thickness of a ballast maps, etc.).</p> <p>35. Implementation of vibration isolation will be carried out at the time of the installation of new track. For purposes of making the treatment economically feasible, the balance of the treatment for the older tracks be carried out as the existing tracks undergo major rehabilitation sometime in the future.</p>				
	Air Quality	<p>36. In addition, to address some of the potential human health risks associated with increased air emissions, the following outline mid-term and long-term mitigation strategies:</p> <p>Mid-Term</p> <p>This will focus on ongoing improvements to the existing rolling stock. The air quality assessment assumed the CN, CP and VIA vehicles were meeting Tier 0 standards and GO vehicles were meeting Tier 2 standards. Overtime, emission standards will become more stringent resulting in reduced emissions from the corridor.</p> <p>On May 17, 2007, GO, CN, CP and VIA signed a Memorandum of Understanding (MOU). The MOU commits to reducing criteria air contaminants and greenhouse gases. Each of the companies have agreed to acquire new and freshly manufactured locomotives that meet applicable EPA</p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>		

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		standards, retire medium horsepower locomotives (2k-3k hp) built between 1973 and 1999, and upgrade / remanufacture high horsepower locomotives (greater than 3k hp) to applicable EPA standards. Long-term Mitigation in the long-term focuses on: <ul style="list-style-type: none"> The Province's commitments to funding and implementing transit projects in the Greater Golden Horseshoe. This will have benefits on regional air quality which will improve local air quality. Other Provincial and Federal initiatives aimed at reducing emissions for industrial and transportation uses. This will have benefits on regional air quality which will improve local air quality. 				
	Human Health	37. The proposed mitigation measures for human health implications associated with increased air emissions are the same as those proposed to address potential air quality effects. Please refer to "Air Quality" for details regarding the proposed measures to address potential air quality effects. Implement the best management practices identified under "Contamination" and "Noise".				
	Transportation	38. No mitigation specific to operation and maintenance is required.	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Accidents and Malfunctions	39. Signage will be in place at controlled entry points to clearly limit access to	Yes	No		

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		<p>authorized vehicles and people only.</p> <p>40. All maintenance activities or any other use of the rail corridor will need to be pre-authorized by GO Transit. All maintenance activities or any other use of the spur line into the airport (use limited to the Union-Pearson Rail Link) will need to be pre-authorized by the Union-Pearson Rail Link operator.</p> <p>41. The following mitigation measures apply to the Union-Pearson Rail Link OMC:</p> <ul style="list-style-type: none"> Exterior cleaning of vehicles will occur in a cleaning shed (open at each end) with a serial cleaner: water application, soap (acid based) application, scrub brushing and rinsing with full fluid recovery. The washing bays will include a grey water collection system (no discharge to surface runoff system); Fuelling of each vehicle will occur daily (one tank per vehicle, with sufficient fuel to operate the vehicle for 24 hours – fuel tank size dependent upon final vehicle selection); however, no fuel will be stored on site. Fuelling by trucks from off-site supply depots will occur in a designated location (at the maintenance facility) outfitted with an apron for fuel truck delivery and catch basins larger than individual vehicles (or train consists, as final design permits). This location would be close to the 	<input type="checkbox"/>	<input type="checkbox"/>		

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		<p>entrance where fuelling can occur in an area isolated from buildings and the main ladder track (vehicle storage) area of the yard, which will provide enhanced safety/security (fuel trucks do not have to travel very far into the operational area of the yard) and minimize access road space dedicated to the refuelling operation. The catch basins or drip trays will be constructed for capture/retention, retrieval (self-recovery system) and recycling of residual petroleum hydrocarbon products.</p> <ul style="list-style-type: none"> Repairs and retrofits to the vehicles that are completed at the maintenance facility will involve self-recovery and recycling of usable material. 				

Completed by:

Signature: _____	Date: _____
Name: _____	
Title: _____	

Monitoring Plan Table 2 - Commitments to Future Work to be Submitted to / Reviewed by Responsible Authorities						
Project Phase	Environmental Components	Mitigation Measures and Commitments to Future Work	Measure Implemented		Photos or Document Number	Date
Construction	Fish and Fish Habitat	42. Notification of DFO, TRCA and MNR as appropriate prior to construction and strict adherence to all conditions on any agency permits that may be required.	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
		43. The details on construction access at the Humber River will be finalized during detailed design in consultation with TRCA/DFO. Most access will be provided via the Golf Course. The use of a temporary Bailey Bridge is recommended from an environmental perspective in preference to the concrete block bridge to access the in-water piers for access to the pier in the water and the pier of the east bank; the Bailey avoids interference with flow and incremental disturbance of the bed to install and remove the blocks. Construction of a temporary access down the east slope to access the east pier is acceptable provided that the risks of erosion/partial slope failure and sediment transfer to the river can be managed and appropriate restoration undertaken to re-instate a stable slope. Recognizing that there are other construction related considerations, the various options will be reviewed further in detailed design to develop the preferred access plan in consultation with TRCA/DFO. This process will involve: <ul style="list-style-type: none"> • Geotechnical assessment of the feasibility of the east access and development of an appropriate 				

Monitoring Plan Table 2 - Commitments to Future Work to be Submitted to / Reviewed by Responsible Authorities						
Project Phase	Environmental Components	Mitigation Measures and Commitments to Future Work	Measure Implemented		Photos or Document Number	Date
		slope and bank rehabilitation plan. <ul style="list-style-type: none"> • Further assessment of the bed conditions to verify stability and content of materials susceptible to downstream migration if the block bridge remains under consideration. • Design of the plan to minimize obstruction of flow to levels particularly during the fall migratory window. • Adherence to the <i>Navigable Waters Protection Act</i> (NWPA) requirements. • Design of a bank rehabilitation plan to re-instate and re-vegetate a stable bank configuration. • Further detailing and addressing of any other potential effects during detailed design once the preferred plan is developed. 				
	Noise	44. The following outlines the best management practices to be implemented during construction. These measures apply to both short-term and long-term construction activities. <u>Technical</u> <ul style="list-style-type: none"> • In detailed design the Responsible Authorities will be provided with information regarding location, method and associated mitigation measures for all locations where pile installation will occur. • In detailed design the Responsible Authorities will be provided with information regarding method(s) of 	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

Monitoring Plan Table 2 - Commitments to Future Work to be Submitted to / Reviewed by Responsible Authorities						
Project Phase	Environmental Components	Mitigation Measures and Commitments to Future Work	Measure Implemented		Photos or Document Number	Date
		rock excavation and associated mitigation measures.				
	Vibration	45. The following outlines the commitments to future work and the best management practices and mitigation measures to be implemented during construction. These measures apply to both short-term and long-term construction activities. <u>Technical</u> <ul style="list-style-type: none"> ▪ In detailed design the Responsible Authorities will be provided with information regarding location, method and associated mitigation measures for all locations where pile installation will occur. ▪ In detailed design the Responsible Authorities will be provided with information regarding method(s) of rock excavation and associated mitigation measures. 	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Archaeological Features	46. Undertake a Stage 2 Archaeological Assessment for works in the identified undisturbed areas. If archaeological finds are discovered, Stage 3-4 mitigation will be undertaken as required in accordance with the guidelines and policies of the Ministry of Culture. Consultation will occur with the Ontario Ministry of Culture and, if applicable, potentially interested First Nations to discussion mitigation strategies if sites are found as part of the Stage 2 Assessments. Copies of the Stage 2 Archaeological Assessments will be provided to Transport Canada and Infrastructure	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

Monitoring Plan Table 2 - Commitments to Future Work to be Submitted to / Reviewed by Responsible Authorities						
Project Phase	Environmental Components	Mitigation Measures and Commitments to Future Work	Measure Implemented		Photos or Document Number	Date
		Canada for their review.				
	Navigability	47. Apply to Transport Canada for approval under the NWPA;	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
		48. Consult with Transport Canada and DFO/TRCA to finalize design, methodology and timing;	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Operation / Maintenance	Noise	49. A Noise Mitigation Plan that outlines where barriers will be placed and the details of these barriers will be provided to the Responsible Authorities prior to construction of these structures.	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
	Air Quality	50. In addition, to address some of the potential human health risks associated with increased air emissions, the following outlines the short-term strategies: Short-Term An air quality monitoring/mitigation program will be developed in consultation with the Ministry of the Environment and Environment Canada during detailed design. It is anticipated that the program will focus on air quality monitoring at worst-case areas (representative receptors with higher levels predicted) to verify the results of the air quality modeling given the very conservative assumptions made during the assessment. It is anticipated that the monitoring results will be made available to MOE, the Responsible Authorities and the general public through the operational phase. Specific details on frequency and how it will be made available will be developed in consultation with the Ministry of the Environment during detailed design and will be provided to the Responsible Authorities	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

Monitoring Plan Table 2 - Commitments to Future Work to be Submitted to / Reviewed by Responsible Authorities						
Project Phase	Environmental Components	Mitigation Measures and Commitments to Future Work	Measure Implemented		Photos or Document Number	Date
		for review and comment.				
	Navigability	51. Should any proposed maintenance work at the Humber River Bridge require approval under the NWPA that approval will be sought and obtained prior to completing the work. In such a case, the following mitigation measures and commitments to future work apply: <ul style="list-style-type: none"> • Apply to Transport Canada for approval under the NWPA; • Abide by all Conditions of Approval that may be identified in the approval under the NWPA; and • Ensure debris does not fall into the water during construction. 	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

Completed by:

Signature: _____	Date: _____
Name: _____	
Title: _____	

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
Construction	Terrestrial Ecosystem (Vegetation and Vegetation Communities, Wildlife, Habitat, Wetlands, Migratory Birds)	<p>52. The bridge structure design will maintain existing wildlife movement opportunities.</p> <p>53. Vegetation clearing zones and vegetation retention zones will be clearly delineated in both the contract documents and in the field to minimize the risk of unnecessary or inadvertent vegetation effects and avoid incidental effects as a result of temporary stockpiling, debris disposal and access. Works zones will be delineated in the field using construction fencing to minimize the area of disturbance and prevent disturbance of adjacent areas.</p> <p>54. Appropriate vegetation clearing techniques (e.g., trees to be felled away from the retained natural areas) will be used to remove vegetation required for the proposed works.</p> <p>55. Erosion and sediment control measures will be designed, implemented and maintained throughout construction. This includes installing sediment and erosion control fencing along the edge of the required working area to protect the edges of all retained natural areas, as well as proper containment and filtering of all construction-generated sediment (whether from dewatering or soil exposure from clearing and grubbing).</p> <p>56. All exposed surfaces will be re-stabilized and re-vegetated as soon as possible following construction, using an appropriate native seed mix.</p> <p>57. All construction-related debris will be contained during construction and cleaned-up and properly disposed of following construction.</p> <p>58. All activity will be controlled so as to prevent entry of any petroleum products, debris or other potential contaminants/deleterious substances, in addition to sediment as outlined above, to natural areas and particularly the Black Creek, Humber River, and Mimico Creek valleys. No petroleum products storage, maintenance or refuelling of equipment will be conducted within these valleys. A Spills Prevention and Response Plan will be developed by the Contractor and spills cleanup materials will be kept on site at all times.</p> <p>59. An environmental inspector will be responsible for ensuring that all environmental mitigation and design measures are properly installed/constructed, implemented and maintained, and appropriate contingency, response plans and remedial measures are in place and implemented if required.</p> <p>60. The Contractor shall not destroy the active nests (nests with eggs or young birds), or wound or kill birds, of species protected under the <i>Migratory Birds Convention Act</i> and/or Regulations under that Act. All works will be complete in compliance with the <i>Migratory Birds Convention Act</i>.</p> <p>61. Where feasible, timing constraints will be applied to schedule vegetation clearing and structure works (where birds may nest on a structure) outside of the breeding bird season (May 1st to July 31st).</p> <p>62. If vegetation clearing cannot be scheduled outside the breeding bird season timing noted above, then an Avian Biologist will be employed to conduct a nest survey in the area to be cleared. The Avian Biologist will have completed a university or college education in a pertinent environmental discipline and shall have experience and/or training in the identification of birds and their nests and eggs as well as the assessment and development of appropriate mitigation measures to address the presence of</p>

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		<p>migratory birds during construction. If active nests of migratory birds are located, then clearing must discontinue until after the breeding bird season (i.e. clearing is allowed August 1st to April 30th). This may involve delays to allow for fledging.</p> <p>63. If structure works cannot be scheduled outside the identified nesting season, ensure that bird nesting preventative measures (such as wire screens or tarps) are implemented to prevent new nesting prior to May 1 and are maintained until July 31st of the calendar year in which they were installed. At a minimum, the preventative measures will be installed at structures where evidence of past nesting was observed. These measures will be periodically checked, and maintained as required, so as not to entrap birds, and removed following construction when no longer needed.</p> <p>64. Remove "inactive" nests (previous season, adult birds are not seen flying in and out of) prior to construction, or prior to undertaking the preventative measures outlined above.</p> <p>65. Any wildlife incidentally encountered during construction will be protected and will not be knowingly harmed. As required, the environmental inspector will capture and release any small wildlife (e.g. turtles, amphibians) stranded within the construction zone.</p>
	Fish and Fish Habitat	<p>15. Implementation of comprehensive sediment and erosion control measures to prevent migration of sediment laden runoff (or other contaminants) from the adjacent construction zones to the bay, including inspection and maintenance. This plan will meet the requirements, guidelines and design standards provided in TRCA's 2006 <i>Erosion and Sediment Control Guidelines for Urban Construction</i>. These measures will include, but not be limited to the following elements:</p> <ul style="list-style-type: none"> • Isolation of the near-water construction zones using standard perimeter silt fencing of areas of the general construction zone that drain directly to the water. The silt fencing will be heavy duty/re-enforced fencing for disturbed areas that are sloping (e.g. embankments, depending on design of widening and direct encroachment; see below re silt curtain) or will collect drainage from relatively large areas. • Temporary isolation of the near-shore embankment fill zones in the Humber River using a 'containment' system that will prevent migration of any fine substrate disturbed during the work. • Proper stabilization and re-vegetation of all disturbed surfaces that drain to the water, prior to removal of sediment and erosion control measures. The erosion and sediment control measures will be left in place and maintained until vegetative cover is established. <p>16. Any temporary dewatering discharge from the work zones will be managed using properly designed, sited and operated temporary settling facilities to filter all discharge water prior to release to river.</p> <p>17. Any fish stranded within the temporary work zones in the Humber River will be removed using appropriate techniques by qualified individuals and released downstream of the temporary work zones.</p> <p>18. Cofferdams will be used to construct the piers in or near the Humber River to isolate the temporary in and near water construction zones and contain temporary in-water disturbance.</p> <p>19. Rehabilitation and construction works on the bridges above the water will be isolated/contained using a</p>

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		<p>temporary protection/containment system (e.g. platforms and /or nets) to prevent release of concrete, particles and construction debris into the water. The containment system will be regularly monitored and material removed. All material will be disposed of off-site.</p> <p>20. Incremental effects potentially associated with finalization of additional design and construction details will be assessed and addressed during detailed design.</p> <p>21. The disturbance and removal effects to riparian vegetation based on the final construction and access details will be quantified during detailed design, and an appropriate replacement plan developed in consultation with TRCA. Options for replacement of riparian vegetation (given potential constraints on active bank and slope areas at the Humber River and hardened surfaces at the other crossings) include the open floodplain area at Mimico Creek west of the alignment and immediately south of Zahavy way. This land is owned by the TRCA.</p> <p>22. Only clean materials free of fine particulate matter will be placed in the water for any temporary construction containment measures (e.g. coffer dams will be constructed of sheet piling, 'pea gravel' bags, or other clean material) or permanent works (e.g. rock protection if required).</p> <p>23. No equipment shall ford or otherwise enter any of the watercourse except as specified herein or unless authorized by MNR or TRCA.</p> <p>24. Defined construction access areas, as well as non-access/protected areas adjacent to the water where construction access is not permitted will be delineated to prevent unnecessary or inadvertent disturbance.</p> <p>25. Control of all activity so as to prevent entry of any petroleum products, debris or other potential contaminants/deleterious substances, in addition to sediment as outlined above, to the watercourse. No storage, maintenance or refuelling of equipment will be conducted near the watercourse. A Spills Prevention and Response Plan will be developed by the Contractor and kept on site at all times.</p> <p>26. Location of all temporary storage/stockpile areas, maintenance and refuelling areas, and other temporary construction areas a safe distance from the water (minimum 30 m) and on flat ground that does not drain directly to the water. These areas will be properly contained. No storage, maintenance or refuelling of equipment or stockpiling of erodible material will be permitted near the water.</p> <p>27. Removal and proper disposal of all construction-related debris and excess materials following construction.</p> <p>28. Specification of appropriate containment measures to prevent construction debris associated with the construction of the new and widened structures from entering the channel. Any material that is inadvertently dropped into the watercourse will be retrieved carefully with minimal disturbance to the channel bed or banks</p> <p>29. Inspection of all in-water and near-water construction activities and mitigation measures. The environmental inspector will be responsible for ensuring the sediment and erosion control measures are functioning and all of the mitigation measures are being properly implemented. Post construction</p>

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		monitoring will also be conducted to ensure vegetative cover is re-established prior to the removal of the silt fencing.
	Species of Special Concern	30. No mitigation measures are proposed specifically to address potential effects to species at risk since no species at risk are believed to occur within the study area. However, with the implementation of the mitigation measures identified under "Terrestrial Ecosystem" and "Fish and Fish Habitat", potential for adverse effects to any flora or fauna will be mitigated.
	Surface Water	31. Detailed sediment and erosion control plans will be prepared, implemented and monitored in accordance with <i>The "Greater Golden Horseshoe Area Conservation Authorities' Erosion and Sediment Control Guideline for Urban Construction"</i> December, 2006 for construction throughout the Study Area.
	Contaminated Properties (including Subsurface Geology and Soils)	<p>32. All contaminated materials will be handled in accordance with applicable provincial/federal legislation, regulations and standard policies and procedures. For example, contaminated soils will be managed per O.Reg. 347 which is a regulation under the Ontario <i>Environmental Protection Act</i>. O. Reg. 347 identifies hazardous wastes through a series of listings and tests and outlines requirements for on-site handling, mixing, and processing of waste, on-site storage of hazardous and liquid industrial wastes, and the requirements for waste disposal sites and waste management systems.</p> <p>33. All works will be completed in keeping with the waste management measures noted in Table 1.4.4-1.</p> <p>34. In addition, the contractor(s) that complete the construction works will be required to have a suitable site specific health and safety plan, spills management plan, and be prepared to respond to spills in a timely and effective manner.</p>
	Noise	<p>35. The following outlines the best management practices to be implemented during construction. These measures apply to both short-term and long-term construction activities.</p> <p><u>Technical</u></p> <ul style="list-style-type: none"> • All equipment used must adhere to guidelines as placed in MOE's NPC115 guidelines for construction equipment. • Whenever possible work zone and time will adhere to local municipal noise bylaws. Please refer to Section 5.2.7.3 for details regarding Metrolinx's policy regarding adhering to municipal approval requirements. The majority of the work will be conducted during business hours (Monday to Friday 7 am to 7 pm). • In the event that construction is to occur overnight or on weekends, effort will be made to minimize potential effects on residents. • In rail corridors, night work is often required for activities such as track shifts or bridge span installation. As such, every effort will be made to minimize effects on the neighbourhood during night work • Trains passing construction zones are required to use bell and whistle by construction personnel and equipment for safety reasons. This will be minimized as much as practicable.

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		<ul style="list-style-type: none"> • If piling is required, the type of pile installation required will be determined during detailed design. Wherever soil conditions allow, driven piles will not be used. If driven piles are required various methods will be assessed during detailed design to minimize noise while at the same time considering cost and length of time for construction. • Where rock excavation is required (through Weston) various methods for excavation and noise control will be assessed during detailed design to minimize noise while at the same time considering cost and length of time for construction.
	Vibration	<p>36. The following outlines the commitments to future work and the best management practices and mitigation measures to be implemented during construction. These measures apply to both short-term and long-term construction activities.</p> <p><u>Technical</u></p> <ul style="list-style-type: none"> • Vibration levels will be monitored on a continuous basis for operations that cause particularly notable vibration. This will be especially important in areas that are dominated by fine, sandy soils. The vibration monitoring plan will be determined during detailed design. • When vibration levels are anticipated to exceed 5mm/s, foundation and structural element inspections will be carried out on nearby dwellings to determine an inventory of existing conditions. Those inspections will be carried out prior to the commencement of construction. • All equipment used must adhere to guidelines as placed in MOE's NPC115 guidelines for construction equipment. • Whenever possible work zone and time will adhere to local municipal noise bylaws. Please refer to Section 5.2.7.3 for details regarding Metrolinx's policy regarding adhering to municipal approval requirements. The majority of the work will be conducted during business hours (Monday to Friday 7 am to 7 pm). • In the event that construction is to occur overnight or on weekends, effort will be made to minimize potential effects on residents. • In rail corridors, night work is often required for activities such as track shifts or bridge span installation. As such, every effort will be made to minimize effects on the neighbourhood during night work • Trains passing construction zones are required to use bell and whistle by construction personnel and equipment for safety reasons. This will be minimized as much as practicable. • If piling is required, the type of pile installation required will be determined during detailed design. Wherever soil conditions allow, driven piles will not be used. If driven piles are required various methods will be assessed during detailed design to minimize noise while at the same time considering cost and length of time for construction. • Where rock excavation is required (through Weston) various methods for excavation and noise

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		control will be assessed during detailed design to minimize noise while at the same time considering cost and length of time for construction.
	Air Quality	<p>37. To mitigate potential effects associated with emissions from construction equipment, the Contractor will be required to keep equipment in good operating conditions and will be asked to avoid unnecessary idling of equipment. The use of well-maintained equipment will ensure that combustion emissions are kept to a minimum. The machinery to be used for this project is conventional in design and equipped with manufacturer installed emission control equipment. This will be included in the contract documents.</p> <p>38. To mitigate potential air quality effects resulting from the creation of dust during construction, dust suppressant measures, as identified in Ontario Provincial Standard Specification (OPSS) 506, will be used during construction. OPSS 506 outlines the requirements for dust suppressants and their application. In addition, any disturbed lands will be vegetated (e.g. seeded) as appropriate to reduce the potential for dust to develop from exposed soil.</p>
	Direct Property Effects – Federal Lands	<p>39. Contractor(s) will be required to minimize any inconvenience caused by construction activities to adjacent properties. As noted under “Vibration”, a vibration monitoring program will be developed in detailed design for implementation in construction. In particular:</p> <ul style="list-style-type: none"> • Vibration levels will be monitored on a continuous basis for operations that cause particularly notable vibration. This will be especially important in areas that are dominated by fine, sandy soils. • When vibration levels are anticipated to exceed 5mm/s, foundation and structural element inspections will be carried out on nearby dwellings to determine an inventory of existing conditions. Those inspections will be carried out prior to the commencement of construction. If property damage claims are received, the monitoring program may be utilized during claim resolution. <p>40. Temporary access roads will be provided at all times during construction. Detailed arrangements for temporary accesses will be made during the detailed design stage.</p>
	Human Health	<p>41. The proposed best management practices for human health implications associated with increased air emissions are the same as those proposed to address potential air quality effects. Please refer to “Air Quality” for details regarding the proposed measures to address potential air quality effects. Implement the best management practices identified under “Contamination” and “Noise”.</p>
	Archeological Features	<p>42. Should buried archaeological deposits be found along any section of the corridor during construction activities, the Ministry of Culture and any relevant First Nations will be notified immediately.</p> <p>43. In the event that human remains are encountered during construction activities the Ministry of Culture, the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations, the Peel Regional Police and any relevant First Nations will be notified immediately.</p>

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		44. Potentially interested First Nation communities will be notified of the discovery of any archaeological remains, human remains or burials that may be of First Nation interest.
Operation / Maintenance	Terrestrial Ecosystem (Vegetation and Vegetation Communities, Wildlife, Habitat, Wetlands, Migratory Birds)	45. For general maintenance best managements practices will be employed (e.g. minimize use of pesticides, complete in works compliance with the <i>Migratory Birds Convention Act.</i>).
	Fish and Fish Habitat	46. For general maintenance best managements practices will be employed (e.g. minimize use of pesticides, do no refuel within 30m of a watercourse).
	Species of Special Concern	47. Similar construction-related measures as outlined in 'Construction – Terrestrial Environment' and 'Construction – Fish and Fish Habitat' will be employed for any maintenance or rehabilitation activities.
	Contaminated Properties (including Subsurface Geology and Soils)	48. Potential contaminant concerns may be observed as part of regular maintenance and inspection activities. If potential areas of contamination are identified during operations and maintenance further investigations will be completed to determine if contamination is present and what remedial action is necessary. All contaminated materials will be handled in accordance with applicable provincial/federal legislation, regulations and standard policies and procedures. All works will be completed in keeping with the waste management measures noted in Table 1.4.4-1 . 49. All operators along the rail corridor will have a site specific health and safety plan, spills management plan, and be prepared to respond to spills in a timely and effective manner.
	Noise	50. Worst-case maintenance noise levels have the potential to be quite loud during some short periods of time. During maintenance activities the best management practices identified in the mitigation section for construction will be implemented.
	Vibration	51. Worst-case maintenance vibration levels have the potential to be quite notable during some short periods of time. During maintenance activities the best management practices identified above for construction will be implemented as appropriate.
	Air Quality	52. Operational and maintenance impacts will be managed through the use of best management practices such as those identified for construction works (e.g. dust control, operation of equipment in good working order, minimizing idling).

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
	Direct Property Effects – Federal Lands	53. For temporary access for corridor maintenance purposes, agreements with adjacent property owners would be required.
	Human Health	54. The proposed best management practices associated with increased air emissions are the same as those proposed to address potential air quality effects. Please refer to “Air Quality” for details regarding the proposed measures to address potential air quality effects. Implement best management practices identified under “Contamination” and “Noise”.
	Built Heritage and Cultural Heritage Landscapes	55. The implementation of mitigation measures is primarily focused on the construction stage when direct effects could occur. As noted above, the disruption effects to identified cultural heritage resources related to indirect effects outside of the rail corridor right-of-way will be limited to potential change in context. This is principally related increased rail transit traffic following construction. The contextual changes are not considered to be provincially significant. The rail corridor is representative of Toronto’s industrial and passenger rail history and this thematic and physical history will continue. As a result, no specific mitigation measures are proposed during operations and maintenance; however, mitigation measure identified in other parts of this report will assist in ensuring that the overall effects of operations and maintenance are minimize within the study corridor and that in turn will help to minimize potential indirect effect to cultural heritage resources.
	Archaeological Features	56. No adverse environmental effects to archaeological resources are anticipated during the operation and maintenance phase of the project as no additional land will be effected. As a result, no mitigation is warranted.
	Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons	57. Application of Best Management Practices identified for “Terrestrial Ecosystems”, “Fish and Fish Habitat” and “Archaeological Features”.
	Utilities - Pipelines	58. The construction of the project is not anticipated to result in any significant adverse effects to pipelines during operations and maintenance. Should any maintenance works in the vicinity of the pipeline crossings require approval from pipeline owners those permits will be obtained. Consultation with pipeline owners will occur as warranted throughout operation and maintenance.
	Accidents and Malfunctions	59. Any train/vehicle or train/pedestrian/passenger or train/train accidents that occur will be immediately reported by the train owner to the line operator, line owner, Transport Canada and local response services including police, ambulance and fire operator to the local police service (for most of the project that will be the Toronto Police Service). Formal reporting of the accident will follow the process predetermined by Transport Canada including Labour Canada, Ontario Ministry of Labour, Ontario

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		<p>Coroners Office and local police authority. The police will be responsible for investigating the incident and for producing a formal accident report. The train operators also have internal disciplinary procedures related to involvement in accidents or any other unsafe operational practice.</p> <p>60. Vehicular accidents present the possibility of fuel spills to the environment and fire. Potential adverse effects associated with fuel spills will be addressed in accordance with the Ontario <i>Environmental Protection Act</i> and any other applicable legislation. Spill response associated with GO Transit service along the rail corridor will also be completed in accordance with GO Transit's Spill Response Procedures (GO Transit November 2006). A copy of that document can be made available upon request. Potential adverse effects associated with fire will be address through the availability of fire suppressants, building sprinkler systems and rapid notification of, and response by, emergency services.</p> <p>61. All precautions will be taken to avoid spills during construction and during operation and maintenance. All spill responses will be completed in accordance with the Ontario <i>Environmental Protection Act</i> and any other applicable legislation. Spill response associated with GO Transit service along the rail corridor will also be completed in accordance with GO Transit's Spill Response Procedures (GO Transit November 2006). A copy of that document can be made available upon request. Incidents that may result in possible contraventions of a local storm sewer bylaw will referred to the appropriate City/Region staff for investigation.</p> <p>62. During construction, measures will be implemented to control the release of debris from construction activities from entering watercourses. All fuels, oils, lubricants, paints, solvents, chemicals, etc. will be stored in clearly marked areas that have spill contingency plans in place. Any vehicle maintenance and fuelling will be carried out in garages wherever possible. No petroleum products storage, maintenance or refuelling of equipment will be conducted within the Back Creek, Humber River, or Mimico Creek valleys. Refuelling will not be permitted within 30 metres of any watercourse. If refuelling of vehicles must occur on site, it will be carried out at a designated refuelling site where conditions will allow for the containment of any accidentally spilled fuel. Refuelling will only be carried out by trained personnel. All vehicles will be maintained to minimize leaks and if leaks are detected they will be repaired immediately.</p> <p>63. The Contractor(s) that complete the construction works will be required to have a suitable site specific health and safety plan, spills management plan, and be prepared to respond to spills in a timely and effective manner. The Contractor(s) will be required to complete all works and spill response in accordance with all applicable legislation.</p> <p>64. If a spill does occur, the owner of the material or in control of the material is responsible for the spill. This person will take reasonable action to stop the spread of the spilled materials by blocking catch basins, digging trenches, creating dikes, and / or spreading absorbent materials. In all cases the MOE Spill Action Centre (1-800-268-6060), and GO Transit and/or the Union-Pearson Rail Link operator (as</p>

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		<p>appropriate) will be notified. If the spill occurs during construction the Contract Administrator will also be notified. Depending upon the nature of the accident or spill, different agencies and stakeholders will also be contacted. It is recognized that spill response depends on the cooperation of various participating agencies. Staff from the authority operating the train service, and the Contractor and Contract Administrator if the incident occurs during construction, in conjunction with the Ministry of Environment, other agencies and City/Region staff may operate as a team in determining an appropriate level of response to a spill incident.</p> <p>65. Clean-up and disposal of spilled material is the responsibility of the owner or person having control of the material. If during construction another person does not take responsibility for clean-up, the Contract Administrator will be notified. Until determined otherwise, during construction the Contractor will assume the overall responsibility for coordinating the clean-up of spilled material.</p> <p>66. The following best management practices will be implemented to minimize effects of potential spills:</p> <ul style="list-style-type: none"> • Employee “Best Practices” for drainage design; • Control areas of used for refuelling; • Mandatory and immediate contact with the appropriate regulatory authorities (e.g. MOE Spills Action Centre) as appropriate; • Immediate contact with spill clean-up contractors; and • Monitor and record spill clean-up and submit all necessary reports/documents. <p>67. Workplace health and safety is addressed through provincial legislative requirements such as the <i>Occupational Health and Safety Act</i> and associated regulations.</p>
	Effects of the Environment on the Project	<p>68. During detailed design a detailed assessment of the proposed ditches along the rail corridor will be undertaken to ensure that there is sufficient capacity to convey flows from the rails and any outside contributing catchment areas. The effectiveness of those ditches with respect to water quality treatment will also be assessed. In addition, during detailed design a detailed Drainage and Stormwater Management Plan will be developed for the proposed Union-Pearson Rail Link Operations Management Centre (OMC). The Drainage and Stormwater Management Plan will include a number of on-site water quality protection procedures that will ensure contaminated water does not reach receiving water bodies. These could include, but are not necessarily limited to:</p> <ul style="list-style-type: none"> • exterior cleaning will occur in a cleaning shed (open at each end) with a serial cleaner: water application, soap (acid based) application, scrub brushing and rinsing with full fluid recovery; • the washing bays will include a grey water collection system (no discharge to surface runoff system); • fuelling by trucks from off-site supply depots will occur in a designated OMC location outfitted with an apron for fuel truck delivery and catch basins larger than individual vehicles; • catch basins or drip trays will be constructed for capture, retention and retrieval (self-recovery system for recycling residual petroleum products); and

Monitoring Plan Table 3 - Best Management Practices to be Implemented by the Proponent and the Contractor(s) during Project Construction, Operation and Maintenance		
Project Phase	Environmental Components	Best Management Practices
		<ul style="list-style-type: none"> • overall grading will be such that all other overland flows will be directed to oil-grit separators prior to release. <p>Many weather related events may potentially affect the project. Severe snowstorms have the potential to result in operational effects and damage to the facilities. Mitigation for snowfall is focused on effective snow removal. A snow removal program that maintains safe and efficient operation for vehicles and passengers will be developed and implemented by the facility operators. The snow removal plan will be developed with due consideration for potential effects to the surrounding environment (e.g. appropriate snow storage locations).</p> <p>In the event of a tornado in the study corridor some infrastructure damage may be incurred as well as focused damage to the local landscape and habitat (e.g. vegetation damage, increased dust, etc.). Tornado events are generally temporary and the likelihood of such an event affecting the project is remote. Accordingly, mitigation measures are limited to proper and regular maintenance programs. Although short-term operational effects may be realized, it is not anticipated that a tornado would result in any significant residual effects.</p> <p>Although the project is not located in an area prone to severe earthquake events, the possibility for a minor earthquake is always present. An earthquake has the potential to damage the facilities and affect operations (e.g. infrastructure damage and operational delays to allow for repairs). Mitigation measures are limited to proper and regular maintenance programs. Although short-term operational effects and facility damage may result from an earthquake, it is not anticipated that an earthquake would result in any significant residual effects.</p> <p>Additional potential environmental effects include: severe ice, watercourse flooding, heat waves, smog alerts, fog and fire. Operating procedures, including proper facility maintenance and consideration of weather conditions warranting service suspension, will be developed during the implementation phase to address any potential operational effects resulting from severe weather conditions.</p> <p>In all cases, the safe operations and implementation of appropriate measures to minimize/mitigate any adverse effects will be priorities. Necessary remedial actions (e.g. infrastructure repairs, re-vegetation of a disturbed slopes, etc.) will be undertaken in a timely manner and in accordance with all relevant legislation.</p>