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Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
Potential Contamination	Impacts to areas of high, moderate, and low potential for contamination present within the study area.	<p>As noted in the 2010 EPR, the overall Project will result in the displacement of approximately 1.8 million m³ of surplus excavated material generated by tunnelling and cut-and-cover construction at the portals, tunnel and stations. The extension of the underground section between Mount Dennis Station and the Jane Street portal will result in approximately 75,000 m³ of additional surplus excavated material. The Black Creek MSF will be designed to minimize the generation of surplus excavated material.</p> <p>On busy urban streets such as Eglinton Avenue and the major north-south arterials that already carry a large proportion of truck traffic, the addition of trucks to remove the excavated material is considered a negligible increase in truck traffic. Truck haul routes will be identified during detail design as part of traffic management plans.</p> <p>Contamination-related impacts associated with construction activities are limited to potential spills associated with</p>	<p>As documented in the 2010 EPR, excess soil will require waste classifications in accordance with applicable regulatory requirements. Regulatory requirements in place at the time of construction and excess materials management guidelines and specifications (e.g. OPSS 180) will be used when developing an excess materials management plan.</p> <p>A Soil and Groundwater Management Strategy will be developed prior to construction.</p> <p>Generally, where impacts are anticipated to all or portions of properties with high or moderate potential for contamination, further environmental investigations will be completed for these properties (or portions thereof) that would be directly impacted by construction activities (i.e. tunneling):</p> <ul style="list-style-type: none"> • Prior to construction, a Risk Assessment will be prepared covering the former Kodak lands (MSF lands) with regard to the handling of contaminated materials located at the site. The purpose of the Risk Assessment is to describe and estimate the likelihood of adverse effects to human health and the environment 	<p>A monitoring program will be included in the Soil and Groundwater Management Strategy which will be developed prior to construction. A contingency plan will be developed prior to construction where appropriate.</p> <p>Baseline monitoring will be undertaken as outlined in the 2010 EPR in accordance with the Ontario <i>Environmental Protection Act</i> and will be documented in the Geotechnical Baseline Report and other environmental reports, which will provide the necessary information for the handling and disposing of excess soil. The disposal of contaminated materials will be directed to an MOE approved soil treatment site or waste disposal site. The monitoring of these facilities is the jurisdiction of the MOE.</p> <p>Prior to construction, Metrolinx will require the contractor to submit the name, location and type of license of the designated soil disposal sites (as issued by MOE). The names of disposal sites, when known, will also be shared with the District Manager of the Toronto District Office of</p>

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		<p>construction equipment or during handling of contaminated materials.</p>	<p>resulting from exposure to contaminants and to develop property-specific environmental standards that will protect the people and the environment at the site. The Risk Assessment is intended to support the filing of a Record of Site Condition in accordance with O.Reg. 153/04, as amended;</p> <ul style="list-style-type: none"> • For other properties (or portions thereof) are to be acquired for the ECLRT construction, Phase I and Phase II Environmental Site Assessments will be conducted in accordance with O.Reg. 153/04 (i.e. to CSA standards), as amended. If a Record of Site Condition is required for a property the corresponding studies will be completed in accordance with O.Reg. 153/04, as amended; • For areas where spills were documented to have occurred within the study area, during construction of the ECLRT, soil testing for petroleum hydrocarbons (PHCs) will be completed along the road right-of-way where removal of soil from the road shoulders and road right of ways (i.e. excess materials) is required. If 	<p>the MOE.</p>

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
				<p>readings reach “alert” levels, (as to be defined on a structure-specific basis in the construction contract documents), Metrolinx site supervisory staff will order construction operations to cease and take necessary actions to mitigate unacceptable movements, including, but not limited to alternative construction methods or construction equipment and/or additional support/protection measures.</p> <p>In the event that a property owner submits a claim for property damage, Metrolinx will conduct further investigations and, if appropriate, will negotiate a settlement.</p>
Noise and Vibration	<p>Noise level increase during construction and operation of the ECLRT.</p> <p>Vibration impacts generated from the construction and operation of the ECLRT.</p>	<p><i>Noise</i></p> <p>Construction noise levels will vary over time, as the activities at the site change.</p> <p>Noise from ECLRT surface operations in the study area is predicted to meet the requirements of the applicable MOE/TTC guideline limits at all noise sensitive locations. No further investigation of operational noise mitigation is</p>	<p>The 2010 EPR lists the applicable provincial and municipal guidelines with regard to construction noise and vibration.</p> <p>Provincial guidelines restrict maximum allowable sound levels for equipment used in certain construction activities. Municipal bylaws place restrictions on the hours of operation for all construction activity: in particular, construction is limited from 7:00 AM to 11:00 PM on weekdays, with more stringent restrictions on</p>	<p>Once the design progresses to a sufficiently detailed point, an Environmental Compliance Approval (ECA) will need to be obtained from the MOE. A detailed Acoustic Assessment Report will be submitted at that time, which will include a more detailed assessment of maintenance noise and outline any additional required mitigation measures.</p> <p>Pre-construction consultation, vibration monitoring, and site</p>

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		<p>required.</p> <p><u>Ventilation Noise</u></p> <p>Based on the “generic” sound power emission data and silencer insertion loss data used in the Noise and Vibration Assessment (Appendix D), the emergency fire ventilation fans are predicted to meet the applicable MOE NPC-300 guideline limits at all noise sensitive locations. Should noise emissions or operations vary significantly from those outlined above, noise impacts should be reassessed to assure compliance with all relevant legislative requirements.</p> <p><u>Black Creek MSF Operations</u></p> <p>Based on the modelled noise impacts from MSF activity, noise impacts are not anticipated. However, it is recommended that HVAC equipment be chosen in order to minimize impacts at surrounding noise sensitive areas. HVAC selection recommendations are provided in Appendix D. There is the potential for wheel squeal to occur at some turns within the Black Creek MSF. If observed,</p>	<p>weekends and holidays. If construction activities occur outside the hours of operations, special exemptions need to be obtained from the City of Toronto and residents in the area must be notified several weeks in advance of the construction activities.</p> <p><u>Noise</u></p> <p>To minimize the potential for construction noise impacts associated with the new alignment in the east and west sections, the following provisions will be written into the contract documentation for the contractor:</p> <p>Construction will be limited to the time periods allowed by the locally applicable bylaws (7:00am to 11:00pm, except in the case of emergencies). If construction activities are required outside of these hours, the Contractor must seek permits / exemptions directly from the City of Toronto in advance.</p> <p>There will be explicit indication that Contractors are expected to comply with all applicable requirements of the contract and local noise by-laws. Enforcement of noise control by-laws is the responsibility of the Municipality for all work done by</p>	<p>inspections will likely be required. Monitoring will be required during construction.</p> <p>As indicated in the 2010 EPR, noise levels for nearby sensitive uses (such as residential or institutional) will have specific monitoring locations and maximum noise levels. These levels and construction activities that may generate exceedences will be determined prior to construction.</p> <p>Vibration resulting from construction will be monitored using seismographs. Vibrations will be monitored at locations at various distances from work operations and at critical structural (e.g. Kodak Building 9) or utility locations. As part of the baseline monitoring, a minimum of 3 consistent sets of readings will be taken prior to the start of work. Metrolinx will then continuously monitor ambient vibration levels during construction.</p> <p>The monitoring program for both noise and vibration will include review and alert levels. If instrument readings exceed “review” levels, Metrolinx and its contractor will jointly assess the</p>

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
Cultural Environment				
Archaeology	Potential loss of archaeological resources.	Given the findings of the Stage 1 and 2 Archaeological Assessments completed in support of the 2010 EPR (Archeoworks Inc. 2009a, Archeoworks Inc. 2009b) and the EPR Addendum (New Directions Archaeology 2013 [Appendix F]) no archaeological resources are anticipated to be impacted.	No mitigation measures are proposed since no archaeological resources are known to occur within the footprint of ECLRT facilities and the project is clear of any further archaeological concerns based on the identified footprint impacts. The Stage 1 and 2 Archaeological Assessment reports have been submitted to the Ministry of Tourism, Culture and Sport (MTCS) in compliance with Section 65 (1) of the <i>Ontario Heritage Act</i> .	<p>Should additional property be required outside of the current plan, an archaeological assessment will be required.</p> <p>Should previously unknown or unassessed deeply buried archaeological resources be uncovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the <i>Ontario Heritage Act</i>. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the <i>Ontario Heritage Act</i>.</p> <p>Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Consumer Services.</p> <p>Consultation with relevant stakeholders, including any applicable Aboriginal communities, will be initiated in</p>

- Building permits for the MSF site buildings, stations, Emergency Exit Buildings and traction power substations (through the City of Toronto);
 - Permit(s) to Take Water (from the Ministry of the Environment) (for locations where dewatering exceeds 50,000 litres per day);
 - Ontario Regulation 166/06 (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) permits (through TRCA) for work within regulated areas including Black Creek;
 - Stormwater management, in accordance with City of Toronto, TRCA and MOE requirements;
 - Sewer discharge approvals, in accordance with City of Toronto and TRCA requirements;
 - Railway Crossing Agreements at the Weston Subdivision and Mactier Subdivision (through CP Rail);
 - Pipeline Crossing Agreements, as required;
 - Environmental Compliance Approvals for Air Quality and Noise in accordance with the *Environmental Protection Act* (through MOE), including an Operational Air Quality Assessment and a detailed Acoustic Assessment for the MSF;
 - Permits for construction within the existing road allowances (through the City of Toronto);
 - Highway Alteration By-law approval for alterations to Eglinton Avenue (through the City of Toronto);
 - Permits and approvals for tree protection and removal/injury (through TRCA, and the City of Toronto as applicable);
 - Applicable Ontario Energy Board approvals are to be obtained for utility relocations; and
 - City of Toronto Ravine, Natural Feature Protection By-law, Private Tree By-Law, Street Tree By-Law, and Parks By-Law are to be complied with as applicable. Metrolinx will obtain all necessary permits from the City for tree protection/removal requirements upon confirmation of the impacts to applicable trees.
- **Noise and Vibration Protocols:** Metrolinx will conduct additional noise and vibration studies as required, in accordance with existing protocols.

Launch Shaft which is currently under construction. In order to provide appropriate clearance to Black Creek Drive, the LRT profile must be raised by approximately 6 metres above Black Creek Drive. Due to alignment constraint imposed by the location of the West Launch Shaft, Black Creek Drive may have to be slightly depressed by up to 1 metre. The horizontal alignment is constrained by the foundations for the existing rail bridges over Eglinton Avenue and Kodak Building #9 and adjacent private properties. Shifting the alignment further north of Eglinton Avenue to create retail frontage, results in additional property acquisition, extensive construction under Kodak Building #9, impact to the sports field east of Black Creek Drive and substandard vertical track profile for the yard connection tracks.

The Mount Dennis LRT Station would be in close proximity to the potential future Mount Dennis GO Rail Station, allowing a convenient passenger interchange with the GO Station and with a contemplated bus terminal. Jane Station would be the terminal station and would include significant lengths of cut and cover structures associated with the tail tracks and crossover. It was therefore placed at a shallow depth to reduce costs and to provide a reduced vertical circulation distance for the station users. The previously proposed Black Creek Drive LRT stop would be eliminated.

2.1.4 Evaluation

An initial screening was undertaken for the options, applying the following pass/fail criteria:

- Criterion 1: The option must have some clear advantages over the Base Case (i.e. the plan presented in the 2010 EPR);
- Criterion 2: The option must use the West Launch Shaft (at least its footprint), although the shaft may need to be modified to allow the option to be implemented;
- Criterion 3: The option must be constructible at reasonable cost and with reasonable risk;
- Criterion 4: The option must not impact Eglinton Avenue road traffic capacity on a permanent basis beyond the 4 lane cross section already approved;
- Criterion 5: The option must allow for a technically acceptable alignment (curves and grades) for the running line, the stations and the connection to the Black Creek MSF as well as a connection to both mainline directions without “switch back”;
- Criterion 6: The option must be suitable for phased implementation, with the first phase to Weston and the second to Jane; and
- Criterion 7: The option must minimize impacts on property outside of Eglinton Avenue right-of-way, particularly to the East and South of the Black Creek MSF site.

Options that did not meet the above-noted criteria to an acceptable level were screened from further analysis. The preliminary screening resulted in the following six short-listed alternatives:

- Option 1
- Option 6
- Option 9
- Option 9A
- Option 10
- Option 11

A subsequent comparative assessment of the short-listed options was undertaken to identify a preferred concept, based on the following assessment criteria:

- **Alignment and geometry of the mainline and stations:** qualitative assessment of the degree to which the alignment achieves desirable design criteria;
- **Anticipated environmental impacts:** qualitative assessment of the potential for impacts to the natural environment, and the potential to mitigate anticipated impacts;
- **Speed restrictions on main line:** estimate of the effect of geometric design on LRT operations on main line;
- **Geometry of MSF vertical connection:** estimate of the effect of vertical geometric design on LRT operations on the LRT connection from the main line to the proposed MSF;
- **Geometry of MSF horizontal connection:** estimate of the effect of horizontal geometric design on LRT operations on the LRT connection from the main line to the proposed MSF;
- **Station depth:** assessment of the constructability of the station and the ability to provide convenient passenger access and transfer connections;
- **Property impact:** qualitative assessment of the estimated amount of private property required to construct the LRT alignment and associated infrastructure;
- **Anticipated community impact:** qualitative assessment of the potential for impacts associated with noise, vibration, visual impacts, etc.;
- **Potential for connection to future rail services:** qualitative assessment of the ease with which future passenger connections to a potential Mount Dennis GO Rail Station could be implemented;
- **Construction duration:** estimate of the time required to construct the LRT alignment and associated infrastructure;

- **Maintenance requirements:** qualitative comparative assessment of the costs associated with the daily operation and maintenance of the alignment;
- **Cost for MSF connection (Phase 1):** high-level comparative cost estimate for the construction of the LRT alignment and associated infrastructure for Phase 1 of the ECLRT; and
- **Cost for ultimate configuration (i.e. Phase 2 of the ECLRT):** high-level comparative cost estimate for the construction of the LRT alignment and associated infrastructure for Phase 2 of the ECLRT.

The following table summarizes the comparative evaluation of the six short-listed options. All six options provide the full required functionality of the LRT, however, not to the same quality. In general, where quantifiable the evaluation ratings are presented in the table as:

- Excellent (Dark Green) – where an Option surpasses the minimum requirements by a notable margin.
- Good (Lime) – where an Option satisfies the minimum requirement.
- Poor (Coral) – where the solution is marginal and/or requires a design standards variation.

- **Property Impacts:** quantitative assessment of the amount of additional private property required to construct the bus terminal and associated access/egress infrastructure.
- **Bus Access:** Qualitative assessment of the internal station circulation requirements for buses. Long, circuitous routes would be less desirable than direct routes that afford buses less “out-of-way” travel.
- **Passenger Access/Pedestrian Circulation:** Comparison of the ease with which pedestrians could access the station from the street, or transfer between transit services, under each bus-terminal alternative.
- **Capital Cost:** Comparison of the order-of-magnitude capital cost implications associated with the alternatives.
- **Potential for Impacts to Natural Environmental Features:** Qualitative assessment of the potential for impacts to sensitive natural features, species of concern, designated Area of Scientific Interest (ANSI), or Environmentally Sensitive Area;
- **Potential for Impacts to Cultural / Heritage Resources:** Qualitative assessment of the potential for impacts to Kodak Building 9, either direct or indirect, due to either the construction of or proximity of the bus terminal to Building 9.
- **Operating Costs:** Costs associated with the daily operation and maintenance of the bus terminal.

The following table summarizes the assessment of the Mount Dennis Station Bus Terminal alternatives. The evaluation ratings are presented in the table according to the following colour-coding:

- Best performing: Dark Green
- Fair: Lime
- Poor: Coral

2.2.5 Recommendation

On balance of the benefits and drawbacks of each of the alternatives, it was concluded that **Alternative 1a: MSF Site** was preferred and will be reflected in the revised plan for the LRT system and Black Creek MSF site. Despite the higher cost, **Alternative 1a** presents an advantage over the other options in that it does not require the acquisition of additional property, and provides the best passenger connection between the proposed bus terminal, LRT station, and GO rail station at Mount Dennis.

Table 4-3: Identified Cultural Heritage Landscapes (CHL) and Built Heritage Resources (BHR) (rev)

Site #	Resource	Type	Location	Description	Heritage Recognition
1.	BHR	Educational	2690-2694 Eglinton Avenue West, north side	York Memorial Collegiate Institute (C.I.)	Municipally designated under the <i>Ontario Heritage Act</i> and included on the City of Toronto <i>Inventory of Heritage Properties</i> . There is a commemorative plaque from the Township of York set on the front lawn.
2.	CHL	Recreational	Eglinton Avenue West at Black Creek Drive	Coronation Park	Not included on the City of Toronto Inventory of Heritage Properties.
3.	CHL	Recreational	Eglinton Avenue West at Black Creek Drive	Keelesdale Park	Not included on the City of Toronto Inventory of Heritage Properties.
4.	BHR	Transportation	Black Creek at Eglinton Avenue West, east of Black Creek Drive	Black Creek Bridge	Not included on the City of Toronto Inventory of Heritage Properties.
5.	BHR	Transportation	Eglinton Avenue West at former Kodak site	Retaining wall 1966.	Not included on the City of Toronto Inventory of Heritage Properties. A Cultural Heritage Evaluation Report (CHER) has been completed and recommended that this resource has cultural heritage value under Ontario Regulation 9/06 and not under Ontario Regulation 10/06. The CHER recommendations are subject to review by the Metrolinx Heritage Committee.
6.	BHR	Transportation	Eglinton Avenue West at former Kodak site	Road Bridge, 1965	Not included on the City of Toronto Inventory of Heritage Properties. A CHER has been completed and recommended that this resource has cultural heritage value under Ontario Regulation 9/06 and not under Ontario Regulation 10/06. The CHER recommendations are subject to review by

Site #	Resource	Type	Location	Description	Heritage Recognition
					the Metrolinx Heritage Committee.
7.	BHR	Transportation	Eglinton Avenue West at former Kodak site	Railway Subway, c1965	Not included on the City of Toronto Inventory of Heritage Properties.
8.	BHR	Industrial	3500 Eglinton Avenue West	Kodak Building No. 9	The Cultural Heritage Evaluation Report (CHER) completed in July 2012 under the requirements of the Standards and Guidelines for the conservation of provincial heritage properties (July 2010) determined that Building No. 9 is of heritage value based on Ont. Reg 9/06 of the <i>Ontario Heritage Act</i> ; however, it not considered to be of provincial heritage value under Ont. Reg. 10/06 for provincially owned properties.
9.	BHR	Commercial	1151 Weston Road at Eglinton Avenue West	Bank of Nova Scotia	Not included on the City of Toronto Inventory of Heritage Properties. A CHER has been completed and recommended that this resource has cultural heritage value under Ontario Regulation 9/06 and not under Ontario Regulation 10/06. The CHER recommendations are subject to review by the Metrolinx Heritage Committee.
10.	CHL	Historical Community	Eglinton and Weston Road	Mount Dennis	Mount Dennis buildings not included on the City of Toronto Inventory of Heritage Properties
11.	CHL	Recreational	3601 Eglinton Avenue West at Jane Street	Eglinton Flats Park	Not included on the City of Toronto Inventory of Heritage Properties.
12.	CHL	Recreational	3700 Eglinton Avenue West at Jane Street	Fergy Brown Park	Not included on the City of Toronto Inventory of Heritage Properties.

Table 5-1: Interactions Matrix

Environmental Factors Facilities/Activities		Natural Environment							Socio-Economic Environment			Cultural Environment		Transportation			
		Groundwater	Surface Water	Fish and Fish Habitat	Vegetation and Vegetation Communities	Wildlife and Wildlife Habitat	Designated Natural Areas and Parks	Air Quality	Potential Contamination	Noise and Vibration	Land Use	Utilities	Archaeology	Built Heritage and Cultural Heritage Landscapes	Transit System	Pedestrian and Cycling Network	Road Network
Footprint Impacts	LRT Runningway		S								S						
	New Bridges		S	W	M	M					S						
	Bridge/Culvert Improvements		S	S	S	S	S						S				
	Intersection Improvements		S		S	S				S	S						
	Road Improvements		S		S	S					S						
	Stations	S			S	S				S	S		S				
	Stops		W								S						
	Traction Power Substation		W		S	S				W	S						
	Ventilation Shafts		W							W							
	Portal	S															
	Maintenance and Storage Facility	M	S		S	S				W			M				
	Tunnel	S									S						
Bus Terminal		S		S	S					S		M					
Construction Impacts	Tunneling / Work Yards	S	W				S	M	M/S	W		S					
	Cut and Cover Construction	S						M	M	S	S			S	S	S	
	Surface Excavation	S	S					M	M/S	S							

5.3.8.2 Construction Impacts

Potential Impacts

Contamination-related impacts associated with construction activities are limited to potential spills associated with construction equipment or during handling of contaminated materials.

Mitigation Measures

Response to any spills will be addressed in accordance with the measures identified in **Section 5.3.2**.

An excess materials management plan will be implemented in accordance to regulatory requirements during construction. Management of contaminated material encountered will follow MOE Standards, Ontario Regulation 153/04 and Ontario Provincial Standards Specification 180 – General Specification for the Management and Disposal of Excess Material.

Monitoring and Contingency

Baseline monitoring will be undertaken as outlined in the 2010 EPR in accordance with the Ontario *Environmental Protection Act* and will be documented in the Geotechnical Baseline Report and other environmental reports, which will provide the necessary information for the handling and disposing of excess soil. The disposal of contaminated materials will be directed to an MOE approved soil treatment site or waste disposal site. The monitoring of these facilities is the jurisdiction of the MOE.

Prior to construction, Metrolinx will require the contractor to submit the name, location and type of license of the designated soil disposal sites (as issued by MOE). **The names of disposal sites, when known, will also be shared with the District Manager of the Toronto District Office of the MOE.**

5.3.8.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any additional operations and maintenance-related impacts to potential contamination. Response to any spills will be addressed in accordance with the measures identified in **Section 5.3.2**.

5.4 Socio-Economic Environment

5.4.1 Property

5.4.1.1 Footprint Impacts

Potential Impacts

The following table (**Table 5-2**) summarizes the properties required to construct the proposed ECLRT within the Addendum study area, as well as the change in status of properties identified in the 2010 EPR. The preliminary property

Vibration

Under the terms of the City Vibration By-law, a vibration control form will be provided with a Building Permit or Demolition Permit application.

Monitoring and Contingency

Pre-construction consultation, vibration monitoring, and site inspections will likely be required. Monitoring will be required during construction.

As indicated in the 2010 EPR, noise levels for nearby sensitive uses (such as residential or institutional) will have specific monitoring locations and maximum noise levels. These levels and construction activities that may generate exceedences will be determined prior to construction.

Vibration resulting from construction will be monitored using seismographs. Vibrations will be monitored at locations at various distances from work operations and at critical structural or utility locations. As part of the baseline monitoring, a minimum of 3 consistent sets of readings will be taken prior to the start of work. Metrolinx will then continuously monitor ambient vibration levels during construction.

The monitoring program for both noise and vibration will include review and alert levels. If instrument readings exceed “review” levels, Metrolinx and its contractor will jointly assess the necessity of altering the method, rate or sequence of construction. At “alert” levels, Metrolinx can order construction operations to cease until the necessary mitigation measures are undertaken.

Similarly, vibration during the tunnelling process will require monitoring.

In the event that instrument readings reach “alert” levels, (as to be defined on a structure-specific basis in the construction contract documents), Metrolinx site supervisory staff will order construction operations to cease and take necessary actions to mitigate unacceptable movements, including, but not limited to alternative construction methods or construction equipment.

5.4.2.3 Operations and Maintenance Impacts

Potential Impacts

Surface Operations

Noise from ECLRT surface operations in the study area is predicted to meet the requirements of the applicable MOE/TTC guideline limits at all noise sensitive locations. No further investigation of operational noise mitigation is required.

Ventilation Noise

Based on the “generic” sound power emission data and silencer insertion loss data used in the Noise and Vibration Assessment (**Appendix D**), the emergency fire ventilation fans are predicted to meet the applicable MOE NPC-300 guideline limits at all noise sensitive locations. Should noise emissions or operations vary

significantly from those outlined above, noise impacts should be reassessed to assure compliance with all relevant legislative requirements.

Black Creek MSF Operations

The noise assessment was undertaken for the representative Black Creek MSF layout. This facility is in an early stage of design, and a detailed assessment of potential noise impacts will be undertaken in the detailed design phase. Regardless, the design of the facility includes features which minimize the potential for noise from these sources to affect surrounding residences. For example:

- Air conditioning for maintenance buildings is planned, and the bay doors will generally be kept closed. While doors may be briefly open for vehicle movements, for the majority of the time they will provide screening of indoor noise levels; and
- Strategic building placement to minimize noise impacts.

As a result, maintenance activity noise radiated from bay doors is anticipated to be insignificant compared to noise from LTR vehicles moving outdoors.

Based on the modelled noise impacts from MSF activity, noise impacts are not anticipated. However, it is recommended that Heating, Ventilation, and Air Conditioning (HVAC) equipment be chosen in order to minimize impacts at surrounding noise sensitive areas. HVAC selection recommendations are provided in **Appendix D**. There is the potential for wheel squeal to occur at some turns within the Black Creek MSF. If observed, wheel squeal will be addressed through mitigation measures as outlined in **Appendix D**.

Bus Station and PPUDO

Bus activity at the proposed Bus Station is anticipated to lead to noise levels exceeding guideline limits at some locations (see additional detail in **Appendix D**). Mitigation is recommended to deal with noise impacts from bus activity.

Vibration

A review of the surrounding land uses indicates no particularly vibration sensitive uses in the area. The MOE/TTC guideline limit is predicted to be met (see **Appendix D**), and as a result, no adverse vibration impacts from normal operations are anticipated.

Mitigation Measures

Noise and vibration mitigation measures for sections of the ECLRT outside of this Addendum's study area are provided in the 2010 EPR.

Black Creek MSF

Once the design progresses to a sufficiently detailed point, an Environmental Compliance Approval (ECA) will need to be obtained from the MOE. A detailed Acoustic Assessment Report will be submitted at that time, which will include a

more detailed assessment of maintenance noise and outline any additional required mitigation measures.

Bus Station and PPUDO

Potential options for mitigating stationary source noise impacts include the installation of noise barriers surrounding the Bus Station, and/or upgrading the currently planned noise barriers to the west of the existing CP Rail / GO Transit rail line. Two potential mitigation options are:

- Option 1: 3 barriers surrounding the proposed Bus Station (7.0 m, 4.5 m, and 5.0 m)
- Option 2: 1 barrier to the northwest of the proposed Bus Station (7.0 m), and 1 upgraded GO Transit barrier to south of Eglinton Avenue

Either of the above mitigation options will lead to compliance at surrounding noise sensitive receptors. However, the specific design of mitigation will be considered in detail during the detailed design phase of the project.

Monitoring and Contingency

As warranted, a contingency plan will be developed prior to maintenance activities.

5.4.3 Land Use

5.4.3.1 Footprint Impacts

The proposed changes to the 2010 EPR are not expected to result in any footprint-related impacts to land use designations.

The ECLRT alignment will be situated on the north side of Eglinton Avenue; lands now currently designated as parks and employment lands. The areas affected east of the former Kodak lands are being used as park/open space, and offer little opportunity for redevelopment. Therefore, minimal impacts on the potential to redevelop those lands are expected to result from the implementation of the proposed LRT.

The former Kodak lands themselves – now owned by Metrolinx – have been the subject of a number of meetings between the community and Metrolinx. The community has expressed a desire to see significant employment-focused redevelopment on the site. However, as part of Metrolinx' Mount Dennis Mobility Hub Study (2013), real estate specialists Cushman and Wakefield had indicated that the potential for the site to attract new development is minimal and will remain so for the foreseeable future, given the presence of more attractive, accessible developable properties in the ECLRT corridor. All proposed buildings, both on the former Kodak property and the Mount Dennis LRT Station, will be subject to the City's Building Permit requirements.

As discussed earlier, however, this EPR Addendum addresses the potential impacts and mitigating measures associated with an ultimate 162-vehicle

subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of **Government Consumer Services**.

Consultation with relevant stakeholders, including any applicable Aboriginal communities, will be initiated in the event that archaeological resources or human remains are discovered.

5.5.2 Built Heritage and Cultural Landscapes

5.5.2.1 Footprint Impacts

Potential Impacts

Changes due to transit infrastructure projects have the potential to adversely affect cultural heritage landscapes and built heritage resources by displacement and/or disruption during and after construction. Built heritage and/or cultural heritage landscapes may experience displacement, i.e., removal, or direct effects if they are located within the rights-of-way of the undertaking. There may also be potential for disruption or indirect impacts to cultural heritage resources by the introduction of physical, visual, audible or atmospheric elements that are not in keeping with their character and, or setting. Both direct and indirect effects will occur as a result of the ECLRT.

The potential impacts of the ECLRT on cultural heritage resources were documented in the 2010 EPR and corresponding Cultural Heritage Assessment Report.

Additional potential impacts resulting from the proposed new alignment of the ECLRT are presented in **Table 5-3: Impacts and Mitigation for Built Heritage Resources and Cultural Heritage Landscapes**.

Mitigation Measures

Transit improvements will be managed in such a way that the impact is sympathetic with the value of the resources. When the nature of the undertaking is such that adverse impacts are unavoidable it may be necessary to implement management or mitigation strategies that alleviate the deleterious effects to cultural heritage resource. Mitigation is the process of lessening or negating anticipated adverse impacts to cultural heritage resources; it may include such actions as avoidance, monitoring, protection, relocation, documentation, salvage, remedial landscaping, etc., and may be a temporary or permanent action.

The measures identified to mitigate potential impacts of the ECLRT on cultural heritage resources are presented in the 2010 EPR. Documentation through the use of historical mapping and photography of the affected buildings will be

Site #	Location and Potential Impact	Resource	Mitigation
			brief historical background of the bridge.
7.	<p>Kodak Building No. 9, 3500 Eglinton Avenue West</p> <p>Indirect Impact: Visual and physical change to the setting of Building No. 9 due to the introduction of a proposed new structure in front of Building No. 9, thus affecting its visibility and landmark qualities from Eglinton Avenue West. Potential for vibration impacts related to construction activities.</p>	BHR	<p>A Heritage Impact Assessment Report (HIA) and a Cultural Heritage Evaluation Report (CHER) have been completed for Building No. 9. It has been determined that Building No. 9 is of heritage value based on Ont. Reg. 9/06 of the <i>Ontario Heritage Act</i>; however, it not considered to be of provincial heritage value under Ont. Reg. 10/06 for provincially owned properties.</p> <p>Notify and consult with City Heritage Preservation Services regarding long-term impacts to Building No. 9.</p>
8.	<p>Bank of Nova Scotia, 1151 Weston Road at Eglinton Avenue West</p> <p>The building will be conserved. Potential for vibration impacts related to construction activities.</p>	BHR	<p>A Cultural Heritage Evaluation Report (CHER) has been completed in accordance with the <i>Standards and Guidelines for the conservation of provincial heritage properties</i> (July 2010). The CHER included evaluation of heritage value based on Ont. Reg. 9/06 of the <i>Ontario Heritage Act</i> and provincial heritage value under Ont. Reg. 10/06. The CHER has recommended the Bank has cultural heritage value based on Ont. Reg. 9/06 of the <i>Ontario Heritage Act</i>; however, report recommendations are subject to review by the Metrolinx Heritage Committee. The property is not considered to be of provincial heritage value under Ont. Reg. 10/06 for provincially owned properties.</p>

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

5.5.2.2 Construction Impacts

Potential Impacts

Transit infrastructure projects have the potential to adversely affect cultural heritage landscapes and built heritage resources during construction. **Table 5-4** outlines the sites of potential impact for built heritage resources and cultural heritage landscapes in the study area.

Mitigation Measures

Mitigation measures to protect built heritage resources and cultural heritage landscapes in the east and west study areas during construction are outlined in **Table 5-4**.

Table 5-4: Construction Impacts and Mitigation for Built Heritage Resources (BHRs) and Cultural Heritage Landscapes (CHLs)

Site #	Location and Potential Impact	Resource	Mitigation ²
7.	Kodak Building No. 9, 3500 Eglinton Avenue West Indirect Impact: Potential for vibration impacts related to construction activities.	BHR	Prepare a plan to lessen vibration impacts related to construction.
8.	Bank of Nova Scotia, 1151 Weston Road at Eglinton Avenue West Indirect Impact: Potential for vibration impacts related to construction activities.	BHR	Prepare a plan to lessen vibration impacts related to construction.
9.	Mount Dennis, Eglinton and Weston Road Indirect impact: Potential for vibration impacts related to construction activities.	CHL	Prepare a plan to lessen the vibration impacts related to construction activities for buildings located adjacent the area of construction, i.e., residences on north side of Eglinton Avenue, Church of the Good Shepherd (1149 Weston Road), and Mount Dennis Community Centre and adjacent residences on Hollis Street.

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

² Vibration related impacts and associated mitigation are identified through the Noise and Vibration Report prepared by Novus Environmental Inc (**Appendix D**). For details regarding vibration impacts and mitigation please refer to **Section 5.4.2 (Noise and Vibration)**.

Table 5-5: Summary of Potential Impacts, Mitigation Measures, Future Work, and Contingencies (rev)

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
Natural Environment				
Groundwater	Impacts to groundwater during construction and operation of the ECLRT.	It is anticipated that ECLRT facilities will not interrupt existing groundwater migration pathways and permanent groundwater dewatering systems will not be used.	<p>Groundwater will be managed in accordance with provincial legislation and regulations including Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the <i>Environmental Protection Act</i>, dated April 15, 2011. This may include management within the right-of-way depending on circumstances</p> <p>Further investigation to determine the radius of influence of any required dewatering will be necessary to fully consider the impacts to nearby structures and infrastructure. These studies are also needed to support the Ministry of the Environment's Permit to Take Water (PTTW) applications Further mitigation plans will be developed prior to construction.</p>	<p>A Soil and Groundwater Management Strategy will be developed prior to construction. Groundwater monitoring wells will be installed prior to construction.</p> <p>For excavations or property acquisitions in areas of known or high potential for environmental impacts, additional environmental investigations will be conducted in accordance with provincial regulatory requirements.</p> <p>Contaminated groundwater will be managed in accordance with provincial legislation and regulations including MOE Guidelines for Use at Contaminated Sites in Ontario (1997).</p> <p>Obtain PTTW from MOE and water disposal permit from the City of Toronto, where appropriate, as determined in the</p>

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		<p>negligible increase in truck traffic. Truck haul routes will be identified during detail design as part of traffic management plans.</p> <p>Contamination-related impacts associated with construction activities are limited to potential spills associated with construction equipment or during handling of contaminated materials.</p>	<p>covering the former Kodak lands (MSF lands) with regard to the handling of contaminated materials located at the site. The purpose of the Risk Assessment is to describe and estimate the likelihood of adverse effects to human health and the environment resulting from exposure to contaminants and to develop property-specific environmental standards that will protect the people and the environment at the site. The Risk Assessment is intended to support the filing of a Record of Site Condition in accordance with O.Reg. 153/04, as amended;</p> <ul style="list-style-type: none"> • For other properties (or portions thereof) are to be acquired for the ECLRT construction, Phase I and Phase II Environmental Site Assessments will be conducted in accordance with O.Reg. 153/04 (i.e. to CSA standards), as amended. If a Record of Site Condition is required for a property the corresponding studies will be completed in accordance with O.Reg. 153/04, as amended; • For areas where spills were 	<p>of the MOE.</p> <p>Prior to construction, Metrolinx will require the contractor to submit the name, location and type of license of the designated soil disposal sites (as issued by MOE). The names of disposal sites, when known, will also be shared with the District Manager of the Toronto District Office of the MOE.</p>

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
				<p>inspection of buildings/structures and utilities with the respective Owners. The results of these surveys will be compared with the pre-construction surveys.</p> <p>Metrolinx will monitor horizontal and vertical movements and tilt of adjacent structures and utilities on a daily basis during active excavation or backfilling. In the event that instrument readings reach “alert” levels, (as to be defined on a structure-specific basis in the construction contract documents), Metrolinx site supervisory staff will order construction operations to cease and take necessary actions to mitigate unacceptable movements, including, but not limited to alternative construction methods or construction equipment and/or additional support/protection measures.</p> <p>In the event that a property owner submits a claim for property damage, Metrolinx will conduct further investigations and, if appropriate, will negotiate a settlement.</p>
Noise and	Noise level increase during construction and	<i>Noise</i>	The 2010 EPR lists the applicable provincial and municipal guidelines	Once the design progresses to a sufficiently detailed point, an

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
Vibration	<p>operation of the ECLRT.</p> <p>Vibration impacts generated from the construction and operation of the ECLRT.</p>	<p>Construction noise levels will vary over time, as the activities at the site change.</p> <p>Noise from ECLRT surface operations in the study area is predicted to meet the requirements of the applicable MOE/TTC guideline limits at all noise sensitive locations. No further investigation of operational noise mitigation is required.</p> <p><u>Ventilation Noise</u></p> <p>Based on the “generic” sound power emission data and silencer insertion loss data used in the Noise and Vibration Assessment (Appendix D), the emergency fire ventilation fans are predicted to meet the applicable MOE NPC-300 guideline limits at all noise sensitive locations. Should noise emissions or operations vary significantly from those outlined above, noise impacts should be reassessed to assure compliance with all relevant legislative requirements.</p> <p><u>Black Creek MSF Operations</u></p> <p>Based on the modelled noise</p>	<p>with regard to construction noise and vibration.</p> <p>Provincial guidelines restrict maximum allowable sound levels for equipment used in certain construction activities. Municipal bylaws place restrictions on the hours of operation for all construction activity: in particular, construction is limited from 7:00 AM to 11:00 PM on weekdays, with more stringent restrictions on weekends and holidays. If construction activities occur outside the hours of operations, special exemptions need to be obtained from the City of Toronto and residents in the area must be notified several weeks in advance of the construction activities.</p> <p><u>Noise</u></p> <p>To minimize the potential for construction noise impacts associated with the new alignment in the east and west sections, the following provisions will be written into the contract documentation for the contractor:</p> <p>Construction will be limited to the time periods allowed by the locally applicable bylaws (7:00am to 11:00pm, except in the case of</p>	<p>Environmental Compliance Approval (ECA) will need to be obtained from the MOE. A detailed Acoustic Assessment Report will be submitted at that time, which will include a more detailed assessment of maintenance noise and outline any additional required mitigation measures.</p> <p>Pre-construction consultation, vibration monitoring, and site inspections will likely be required. Monitoring will be required during construction.</p> <p>As indicated in the 2010 EPR, noise levels for nearby sensitive uses (such as residential or institutional) will have specific monitoring locations and maximum noise levels. These levels and construction activities that may generate exceedences will be determined prior to construction.</p> <p>Vibration resulting from construction will be monitored using seismographs. Vibrations will be monitored at locations at various distances from work operations and at critical structural (e.g. Kodak Building 9) or utility locations. As part of the</p>

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
				<p>out archaeological fieldwork, in compliance with Section 48 (1) of the <i>Ontario Heritage Act</i>.</p> <p>Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Consumer Services.</p> <p>Consultation with relevant stakeholders, including any applicable Aboriginal communities, will be initiated in the event that archaeological resources or human remains are discovered.</p>
<p>Built Heritage and Cultural Landscapes</p>	<p>Potential for displacement and/or disruption of cultural heritage landscapes and built heritage resources during and after construction.</p> <p>Potential for indirect impacts by the introduction of physical, visual, audible or atmospheric elements not in keeping with their existing character and, or setting.</p>	<p>Direct and indirect impacts to built heritage resources and cultural heritage landscapes as outlined in Tables 5-3 and 5-4.</p>	<p>Mitigation as outlined in Tables 5-3 and 5-4.</p> <p>Conservation options for properties determined to be of heritage value by the Metrolinx Heritage Committee will be investigated through the completion of Heritage Impact Assessments (HIAs).</p> <p>Each HIA will evaluate the impact of the proposed activities on the cultural heritage value and the heritage attributes and propose measures to mitigate impacts. It will be completed in consultation with the City of Toronto, MTCS and other</p>	<p>A contingency plan will be developed prior to construction where appropriate.</p>

Elected Official(s)	Meeting Date	Purpose
		December 12, 2012.
Councillor Frances Nunziata, York South-Weston, Ward 11	June 10, 2013	Meeting arranged to discuss 1151 Weston Road (Scotiabank) as follow-up to the June 3, 2013 meeting with community representatives.

In addition to the focused meetings discussed above, Toronto City Council reviewed the draft EPR Addendum in advance of the May 7-10 2013 Council Meetings. At the City Council meeting, seven motions regarding the EPR Addendum were passed. The motions are presented, along with Metrolinx responses, in **Table 6-10**.

Table 6-10: Toronto City Council Motions and Responses

City Council Decision City Council on May 7, 8, 9 and 10, 2013, adopted the following:	Response
1. City Council support the alignment changes contained in the Metrolinx Environmental Project Report Addendum (April 2013) from the Eglinton Crosstown Light Rail Transit project (Jane Street to Keele Road).	Noted. No response required.
2. City Council request that Metrolinx defer consideration of the Maintenance Storage Facility described in the Metrolinx Environmental Project Report Addendum (April 2013) Sections 2.2 and 3.5 .	Metrolinx has carried out additional community meetings with the Mount Dennis community, City of Toronto staff, and Councillors to identify the feasibility of protecting for development on the site, per discussion in Section 6.4 .
3. City Council request that Metrolinx agree to further public consultation on the Maintenance Storage Facility regarding whether there is a need to use the full site for the maintenance facility, and that the City Manager report back to the Executive Committee.	
4. City Council request that Metrolinx establish, in consultation with the local councillors and as part of this consultation process, a community working group to continue discussions on the Maintenance Storage Facility with a view to identify additional space for other uses and/or possible phasing of the yard construction.	
5. City Council request that Metrolinx construct a sidewalk on the east side Black Creek Drive, between Photography Drive and Weston Road.	Black Creek Drive, south of Photography Drive, is not part of the study area, nor is it directly impacted by the changes proposed in this EPR Addendum. Metrolinx will, however, pursue the implementation of a sidewalk on the east side of Black Creek Drive between Photography Drive and Weston Road through a separate planning study (either

- The disposal of contaminated materials will be directed to an MOE approved soil treatment site or waste disposal site. The monitoring of these facilities is the jurisdiction of the MOE; and
- Should previously unknown or unassessed deeply buried archaeological resources be uncovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of **Government Consumer** Services.

7.5 Permits and Approvals

As indicated in Section 7.5 of the 2010 EPR, Metrolinx will secure necessary permits and approvals for the implementation of the ECLRT, including, but not limited to:

- Planning approvals (including Site Plan Approval) for all above-grade structures and facilities (through the City of Toronto);
- Park access permits (through the City of Toronto) for access to parks for construction and staging activities;
- Building permits for the stations, Emergency Exit Buildings and traction power substations (through the City of Toronto). Additionally, as a result of this EPR Addendum, building permits will also be required for new buildings proposed as part of the MSF development;
- Permit(s) to Take Water (from the Ministry of the Environment) (for locations where dewatering exceeds 50,000 litres per day);
- Ontario Regulation 166/06 (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) permits (through TRCA) for work within regulated areas including Black Creek;
- Stormwater management, in accordance with City of Toronto, TRCA and MOE requirements;
- Sewer discharge approvals, in accordance with City of Toronto and TRCA requirements;
- Railway Crossing Agreements at the Weston Subdivision and Mactier Subdivision (through CP Rail);
- Pipeline Crossing Agreements, as required;
- Environmental Compliance Approvals for Air Quality **and Noise** in accordance with the *Environmental Protection Act* (through MOE), including **an** Operational Air Quality Assessment **and a detailed Acoustic Assessment** for the MSF;